

Clearcut

Political Economies of Deforestation

Markus Kröger



CLEARCUT

Regionally dominant extractive sectors – including Brazilian cattle ranching, Amazonian narco-gold mining, and Finnish paper pulping – provide the foundation for this book’s analysis of the range of motivations for deforestation. This framing allows for a discussion of the global political economy and ecology in general, and for an in-depth examination of the varieties of extractivisms that define land and resource use. The chapters take an interdisciplinary approach, drawing on political ethnography and world systems analyses across the Global North–South divide. The book develops and applies a new theory that identifies regionally dominant political-economic systems as the driving forces behind deforestation. This book is essential reading for advanced students, researchers, and policymakers working in (de)forestation, environmental studies, environmental law, economics, conservation, climate change, and sustainability, leading to a deeper understanding of why our planet’s forests are under threat. This title is also available as Open Access on Cambridge Core.

MARKUS KRÖGER is Professor of Global Development Studies at the University of Helsinki. He has focused on the politics of extraction and resistance amid global climatic-ecological crises. He has published four books and many articles on forestry, mining, agriculture, and agroforestry dynamics, focusing especially on South America, India, and the Arctic.

CLEARCUT

Political Economies of Deforestation

MARKUS KRÖGER

University of Helsinki





Shaftesbury Road, Cambridge CB2 8EA, United Kingdom
One Liberty Plaza, 20th Floor, New York, NY 10006, USA
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi – 110025, India
103 Penang Road, #05–06/07, Visioncrest Commercial, Singapore 238467

Cambridge University Press is part of Cambridge University Press & Assessment,
a department of the University of Cambridge.

We share the University's mission to contribute to society through the pursuit of
education, learning and research at the highest international levels of excellence.

www.cambridge.org

Information on this title: www.cambridge.org/9781009389549

DOI: [10.1017/9781009389556](https://doi.org/10.1017/9781009389556)

© Markus Kröger 2025

This publication is in copyright. Subject to statutory exception and to the provisions
of relevant collective licensing agreements, with the exception of the Creative Commons
version the link for which is provided below, no reproduction of any part may take
place without the written permission of Cambridge University Press & Assessment.

An online version of this work is published at doi.org/10.1017/9781009389556 under a Creative
Commons Open Access license CC-BY-NC-ND 4.0 which permits re-use, distribution and reproduction
in any medium for non-commercial purposes providing appropriate credit to the original work is
given. You may not distribute derivative works without permission. To view a copy of this license,
visit <https://creativecommons.org/licenses/by-nc-nd/4.0>

When citing this work, please include a reference to the DOI [10.1017/9781009389556](https://doi.org/10.1017/9781009389556)

First published 2025

A catalogue record for this publication is available from the British Library

A Cataloguing-in-Publication data record for this book is available from the Library of Congress

ISBN 978-1-009-38954-9 Hardback

Cambridge University Press & Assessment has no responsibility for the persistence
or accuracy of URLs for external or third-party internet websites referred to in this
publication and does not guarantee that any content on such websites is, or will
remain, accurate or appropriate.

For EU product safety concerns, contact us at Calle de José Abascal, 56, 1º, 28003 Madrid, Spain, or
email eugpsr@cambridge.org

For all the trees

Contents

<i>Acknowledgments</i>	<i>page</i>	ix
<i>List of Abbreviations</i>		xi

Part I Introduction

1	Theorizing Regionally Dominant Political and Moral Economies as Causes of Deforestation	3
---	---	---

Part II Ranching-Grabbing Brazil

2	Ranching the Amazon	33
3	Land-Grabbing Mafias in the Brazilian Amazon	58
4	The Brazilian State and Resistance to Amazon Deforestation	76

Part III Narco-Gold Mining in the Amazon

5	Gold Mining, Illegality, and Deforestation in the Amazon	101
6	Gold Mining and Indigenous Conflicts in Madre de Dios, Peru	117
7	Tracking the Rising Role of Organized Crime in Gold Mining: Southwestern Pará, Brazil	140

Part IV Pulping Finland

8	Finland's Clearcutting Forestry	163
9	Consolidating the Pulping Economy in Finland	191

10	New Resistance to Clearcutting in Finland	220
----	---	-----

Part V Global Deforestation

11	The International System, Global Crises, and Deforestation	241
----	--	-----

12	Conclusions	256
----	-------------	-----

	Epilogue	266
--	----------	-----

	<i>Glossary</i>	271
--	-----------------	-----

	<i>References</i>	273
--	-------------------	-----

	<i>Index</i>	302
--	--------------	-----

Acknowledgments

The research and writing for this book would not have been possible without the extensive assistance given to the project by many people, especially in Brazil, Peru, and Finland. I am extremely grateful and indebted to all of them for their time and help – from discussions with my colleagues, to the numerous people who spent time with me during the hundreds of interviews, and those who helped with the logistics and other aspects that facilitated my fieldwork.

I am especially grateful to Sophia Hagolani-Albov for once again providing excellent help with text editing and managing a team of research assistants to help bring this book over the finish line. I owe many thanks to Saana Hokkanen for the extensive, in-depth, and insightful help in reviewing the literature – a crucial part of this project.

In the field, Claudio Souza offered his friendship and support in the Amazon and, in Brazil, Adriana Margutti helped me in a myriad of ways. I would also like to express thanks to my other colleagues in Brazil, including Biancca Castro, Sergio Sauer, and all the experts to whom I talked and who are cited in the book. I would like to especially thank Cristina Silva, Ivete Bastos, Anselmo Silva, Pablo Carrasco, Paulo Barreto, Igor Silva, Felicio Pontes, Livaldo Sarmento, Manoel Edivaldo Peixe, Caio Vilela, and Mika Mäkeläinen for their help in conducting the research in the Amazon, or for extensive discussions with me on topics related to the book. A special thanks to Bruno Borges for especially intensive transcriptions and other research assistance. For the fieldwork in Peru, Madre de Dios, I would like to thank Luciano Ávila and Matti Salo for the logistical tips and aid. It is also extremely important that I highlight the vital contributions of several people who need to remain anonymous due to treats to their safety or jobs but were still willing and open to discuss important and delicate topics with me.

In Finland, I am grateful to my colleagues in Global Development Studies, especially Barry Gills and Ossi Ollinaho, for many insightful discussions and their reflections. Big thanks also go to the many research assistants who have helped

with transcriptions, designing graphics, commenting, and many other aspects – Sanna Komi, Guilherme Varro, Ida Korhonen, Leo Valkama, Tiina Raasakka, Melisa Yasav, and Aleksi Salmela. I would also like to thank the many experts and others with whom I spoke about Finland’s forests.

I would also like to extend my thanks to those who anonymously reviewed my initial proposal for their excellent suggestions, and the Cambridge University Press editors and staff, especially Matt Lloyd and Maya Zakrzewska-Pim, for always giving me wonderful support. Deep appreciation also to Tara Mendola for commenting on and editing the book proposal.

In the process of this book coming together, I received good feedback when I presented the work in progress in many institutions and conferences. I am grateful to the Center for International Forestry Research personnel, especially Amy Duchelle, in Bogor, Indonesia, for inviting me to give a talk on the book project and offering their comments. Thanks also to the International Institute of Social Studies in The Hague, and especially to Jun Borras, Julia Quaedvlieg, and Daniela Calmon for their comments on the project. It was also a pleasure to present the project at the International Studies Association conference and receive comments from Benjamin Cashore and the other panel members. Likewise, thanks go to the commentators at my panel presentation during the 2024 Land Deal Politics Initiative conference in Bogotá.

Last, but certainly not least, it would not have been possible to write this book without the immense help and care from my partner Jenni and our family – thank you for the support and for giving me the time.

Funding from the Research Council of Finland and the Faculty of Social Sciences at the University of Helsinki made it possible for this book to be published open access, making the digital version freely available for anyone to read under a Creative Commons licence.

Abbreviations

AMOC	Atlantic meridional overturning circulation
APA	environmental protection area (<i>área de proteção ambiental</i>)
ASGM	artisanal and small-scale gold mining
BNDES	Brazil's National Development Bank
BRF	Brazil Foods
BRICs	Brazil, Russia, India, China
C	commodity capital
CAN	National Confederation of Agriculture and Livestock
CAR	Rural Environmental Registry system (Cadastro Ambiental Rural)
CCF	continuous cover silviculture
CDB	China Development Bank
CEO	chief operating officer
CIFOR	Center for International Forestry Research
CMA	Environment Commission
CMER	Chico Mendes Extractive Reserve
CNS	National Council of Extractive Populations
CPI	Comissão Pró-Índio
CPT	Pastoral Land Commission
DTVM	jewelry and gold shops and securities distributors
ELN	National Liberation Army
ERDRBE	Regional Strategy for Low Emission Rural Development (Estrategia Regional de Desarrollo Rural Bajo en Emisiones)
EU	European Union
FAO	Food and Agricultural Organization of the United Nations
FARC	Revolutionary Armed Forces of Colombia
FENAMAD	Madre de Dios Native Federation (Federación Nativa del Río Madre de Dios y Afluentes)

FLONA	national forests
FPND	non-destined public forests
FSC	Forest Stewardship Council
FUNAI	National Indian Foundation
GDP	gross domestic product
GEG	global environmental governance
GIS	geographical information systems
GPS	geographic positioning system
HCV	high conservation value
HNV	high nature value
IBAMA	Brazilian Institute of the Environment and Renewable Natural Resources
ICMBio	Chico Mendes Institute for Biodiversity Conservation
ICMS	lowest value-added tax rate
IDB	Inter-American Development Bank
IFC	International Finance Corporation
IIRSA	Initiative for the Integration of the Regional Infrastructure of South America
ILO	International Labour Organization
INCRA	National Institute for Colonization and Agrarian Reform (Instituto Nacional de Colonização e Reforma Agrária)
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
JBIC	Japan Bank for International Cooperation
KP–UNFCCC	Kyoto Protocol – United Nations Framework Convention on Climate Change
Luke	Natural Resources Institute Finland (Luonnonvarakeskus)
LULUCF	EU Regulation on Land Use, Land-Use Change, and Forestry
M	money capital
M'	increased money capital
m ³	cubic meters
MATOPIBA	Maranhão, Tocantins, Piauí, and Bahia
MCM	million cubic meters
MERA	forest improvement program
Metla	Finnish Forest Research Institute
MHY	Forest Management Associations (Metsähoidtoyhdistykset)
MMM	Ministry of Agriculture and Forestry
MPF	Federal Prosecution Service
MST	Brazilian Landless Movement
MTK	Central Union of Agricultural Producers and Forest Owners

MWh	megawatt hour
NATO	North Atlantic Treaty Organization
NGO	nongovernmental organization
NIB	Nordic Development Bank
NWFP	nonwood forest products
PCC	First Capital Command (Primeiro Comando da Capital)
PEFC	Programme for the Endorsement of Forest Certification
PT	Workers' Party
QCA	qualitative comparative analysis
RDPE	regionally dominant political economy
RESEX	extractive reserve
RFM	rotation forest management
SEK	Swedish Export Credit Corporation
SERFOR	Peru's Forest Service
SITRA	Finnish Innovation Fund
SLL	The Finnish Association for Nature Conservation (Suomen luonnonsuojeluliitto)
STTR	Rural Workers' Union
SUDAM	Superintendency for the Development of the Amazon
TI	Terras Indígenas (Reservations)
UC	conservation units
UDR	Democratic Association of Ruralists (União Democrática Ruralista)
USD	United States dollar
WWF	World Wide Fund for Nature
WWII	Second World War
XR	Extinction Rebellion
YLE	Yleisradio Oy

Part I

Introduction

1

Theorizing Regionally Dominant Political and Moral Economies as Causes of Deforestation

Why Study Deforestation?

In May 2017, I took the bus along the highway, paved only in 2011, from Cusco to Puerto Maldonado in Peru's Amazon, as I was curious to learn more about the impacts of gold mining in the Amazon. What amazed me was the striking difference between the deforested areas on the Peruvian and Brazilian sides of the border, even though both countries shared the same Interoceanic Highway. I later found that the differences were not only along the roadsides, but also in satellite images. There was much more pastureland and vast deforested areas in Acre in comparison to Peru. Why was this? Why did the deforestation mostly stop at the border of Peru? I started to explore this more in detail, as I felt that something crucial was missing from the explanations of deforestation that I had usually encountered. I visited sites of gold extraction and ranching to explore how these economic activities, and sectors held power locally and nationally, and thus explore how they explained the deforestation patterns in this border area. The days were long, as I scoped how cattle ranching was expanding inside conservation areas, displacing the magnificent 50-meter-tall canopy of thick trees. I wanted to explore how and where these transformations were still taking place, and why. This experience is part of what led me to embark on this journey to uncover the deeper causes and locals' responses, including resistance, to forest removals (see Figure 1.1).

Deforestation – replacing natural forests with pastures, mines, tree plantations, or other human-centered activities – has been on the increase in different parts of the world, including in high forest cover countries such as Brazil, Peru, and Finland.¹ The recent resource and forest policies at the regional and national

¹ The existing definitions vary of what constitutes a forest and what is considered deforestation. The variation depends on politics and onto-epistemological differences. For example, the FAO (Food and Agriculture Organization) and KP-UNFCCC (Kyoto Protocol – United Nations Framework Convention on Climate Change) have several problems in the dominant forms of classifying and defining forests and deforestation,



Figure 1.1 A soybean businessman on his plantation in Nova Mutum, Mato Grosso. Soybean plantations directly and indirectly drive the deforestation happening in the Amazon and elsewhere. November 2019. Photo by author.

levels in all these countries suggest that there will continue to be increases in deforestation.

Building on my earlier work, which began in 2004 on natural resource politics, I started the intense field research for this book in 2017, as it became clear that deforestation rates, which previously had decreased, were once again increasing. Many policymakers and even scholars thought that the problem of deforestation in the Amazon had mostly been solved (e.g. Thaler, 2017). In the Brazilian Amazon in 2012, a record low of 4,571 square kilometers were deforested, but in 2016 the figure had already jumped to 7,989 square kilometers (Spera et al., 2016) and surpassed 10,000 square kilometers in 2019 and 2020 (Hecht et al., 2021; Pereira & Viola, 2021). The low figures in 2012 could be argued to have largely been a result of a long sociopolitical process, which was no longer operating in the same way as it had between 1990 and 2010. The post-2010 Brazilian Amazon development phase has been characterized as “post-environmentalism,” while the 1990–2009

which flows from dominance of Western definitions and ignorance of Indigenous onto-epistemological approaches and knowledges (González & Kröger, 2020).

period was more of a “socioenvironmentalism” phase. This means that the earlier period’s valorization of biodiversity and sustainable forest-based livelihoods has been replaced by a strong support given to agribusiness, creation of land markets, and assigning monetary value to environmental services (Toledo et al., 2018). This creation of deeper capitalism is having major impacts on forest cover and the ability of people to protect their forests. Unfortunately, this is not an isolated trend happening only in Brazil as similar situations are also experienced elsewhere.

Studies of deforestation have found that the dynamics are so complex that single-factor causation models, broad-scale statistical models, and remote models are unable to capture the causalities (Geist & Lambin, 2002). Nevertheless, based on reviewing a large set of rich local case studies, Geist and Lambin (2002) identified agricultural expansion, wood extraction, and infrastructure extension as the most frequent proximate causes, while the key underlying driving forces of deforestation appear to be economic factors, institutions, national policies, and remote influences. Their synthesis was an advance over the prior views, which held population growth and shifting cultivation as the primary causes of deforestation. Still, it is typical for deforestation studies to be either review studies, studies that use a macro lens that is too broad and quantitative, or studies that use a micro lens, which only considers very specific local case studies. It is rare to find broader-scale systematic regional comparisons based on detailed field research. There is also a lot of research that is dedicated to trying to find the silver bullet of how to best avoid deforestation (Nolte et al., 2017), which, paradoxically, might yield fewer results about the actual problematic processes causing deforestation. However, the theoretical-methodological approach suggested herein can be helpful in uncovering the deep causalities of deforestation, which have been given too little attention in most studies.

Contributing to Prior Studies on Global Deforestation with the Regionally Dominant Political Economy Theory

A series of recent books have discussed global deforestation (e.g. Runyan & D’Odorico, 2016), its governance (e.g. Dehm, 2021; Nikolakis & Innes, 2020), and grassroots resistance (e.g. Juniper, 2019). There is also a large literature discussing at least tangentially deforestation dynamics from various viewpoints, and the accounts in these can be related to analysis of deforestation causes as including neodevelopmentalist state policies (e.g. Bratman, 2019), violent land privatization and speculation along infrastructural expansion (e.g. Campbell, 2015), and onto-epistemic underpinnings of how forests are (not) considered, in practice, to include an array of life by the powerful actors, such as soybean plantation expanders, radically regulating or restructuring life (e.g. Hetherington, 2020; Kröger,

2022). There is also a very large number of older books on deforestation and forest degradation in different contexts, especially from the 1980s and 1990s, and I will relate my theorizing and findings to them in the different parts of this book. The situation has changed dramatically in the past few years, due to the worsening of the climatic-ecological crisis and looming tipping points, which now need to be used to frame studies, for example, Amazon deforestation as not merely a study of deforestation, but more as a study of a global climate tipping point.

Yet very few books on global deforestation explicitly tackle or frame the key issue around global climate tipping points. The work by Pereira and Viola (2021) is an exception. They provide an international relations perspective that compares the differing politics of four Amazonian countries related to the creation of biodiversity policies through 2019. This book makes a major contribution by introducing the concept of the Amazon tipping point to a broader audience. With my work, I have deepened the focus on specific economic sectors, their political economy, and the role of enabling and resisting moral economies.

The comparisons in this book can explain, for example, why the deforestation of the Amazon has followed very different paths in Brazil and Peru, even though these countries are neighbors with similar road networks. Scholars who attempt to identify the most efficient anti-deforestation policies have found that such policies will vary depending on the commodity frontier in question (Nolte et al., 2017), but they have not gone deeper into explaining why this is. However, their results do hint at the importance of studying the type of extractive capitalist system that is in operation. In all three countries, Peru, Brazil, and Finland, there are important regional divergences in deforestation drivers, which allowed me to study and understand some of the complex reasons for contemporary global deforestation. To increase the understanding about how deforestation takes place, I make a detailed comparison of several regions within these countries to illustrate the links between their respective dominant economic models and different varieties of extractivist capitalism (Dunlap & Jakobsen, 2020; Gudynas, 2020; Kröger, 2022; Ye et al., 2020). I explain deforestation from the viewpoint of political economy, wherein the key drivers and ultimate causes of deforestation can be found within the core of the dominant economic groups in each country and region. The aim is to contribute toward a new theory about the causes of deforestation, which could improve the accuracy of causal claims in several fields of study.

I argue that deforestation can be explained by the character and dynamics of the current international system and regionally dominant political economies (RDPEs). Of key importance are extractivist sectors (see Durante et al., 2021; Nygren et al., 2022) which both cause and rely on deforestation; these sectors include ranching, plantation, mining, and forestry, all of which have specific political economies and, thus, specific causal links to deforestation. The observation of these mining,

agrarian, and forestry extractivisms (Kröger, 2020a; Kröger & Ehrnström-Fuentes, 2021; McKay et al., 2021; Petras & Veltmeyer, 2014) can help to deepen understandings of the ultimate drivers of contemporary deforestation. These are rooted in the historical context of long-term, world-systemic capital accumulations of specific extractive operations.

The interstate system, with its competition for power and the resulting wars, has been a key cause (or even the main cause) for explaining why forests have been so wantonly destroyed, as I will explain in the end of this book. For approximately 5,000 years as the world system has expanded (Frank & Gills, 1994) civilizations have eaten away at forests (Perlin, 2005) – whole empires have even collapsed after depleting their forests (Chew, 2001). These processes have intensified during the past 550 years' capitalist world-ecology (Braudel, 1992; Moore, 2003). The histories of forests and logging show a clear picture of how huge natural forest areas were destroyed primarily through the process of interstate competition and the wars of the emerging European colonial powers (Moore, 2015; Perlin, 2005). For example, the demands for masts for imperial ships, tar, and planks for building sailing vessels ate entire forests in the Eastern United States (Perlin, 2005). The Caribbean monoculture plantations required cutting down trees for firewood; wood was brought quickly from outside of the colonial islands to the plantation operations, to enrich the warmaking modern states. In sum, the violence and quest for power by European elites was in essence a war on forests. This was in no way a rational or enlightened process. Countless warship fleets, and other items made from wood and other elements stripped from living nature, were sunk, wasted, burned, pillaged, ravaged, forgotten, and used thoughtlessly. This state of affairs continues, as can be seen in the enormous bootprints of modern military machineries, as Belcher et al. (2020) call the weight of militaries within the global geopolitics of ecology. Analyses of geopolitical ecology also need to consider the way armed forces of different types are related to the expansion or resistance of extractivisms and the existences of beings (Kröger, 2022). Their role in today's world is certainly key, as, among many others, the Bolsonaro regime in Brazil was in essence a military-composed government, which used its own logics to deepen extractivisms and disregard life (Penido & da Gama Janot, 2021). Therefore, if the ultimate causes of extractivisms are sought, they must include the international system and its dynamics, laws, and key actors, which are not the same as governments or states, but include more specific actor categories such as the armed forces. Besides this, the specific economic sectors affecting politics in the inter-penetrated capital-state system need to be analyzed.

My analysis challenges prior notions on nation-state centrality, offering regionally dominant extractivist sectors as the key units of explanation. This is in line with the recent focus on the Capitalocene and the Plantationocene (instead of the

Anthropocene) as an explanation of the planetary havoc currently being caused by large-scale monocultural plantations. Extractivist frontiers are central for the capitalist world-ecology, as Wolford (2021: 1628), drawing on Moore (2017, 2018), argues: “The boundary of the nation-state was not the national border; rather, the boundary was the commodity frontier that nations laid claim to and protected with an ever-more elaborate set of rules.” I make the claim that these commodity frontiers are also often frontiers of deforestation. These commodity frontiers take varying forms, from mining to ranching and forestry, but whatever their form, they lead to the decimation of natural and seminatural forests. These forests are replaced with extractivist spaces and enclaves, which are hard or even impossible to revert to forests. These violences are hidden by justifying discourses, which frame forestry corporations as forest companies while they are actually anti-forest companies, basing their business on the destruction of forests. The international system of rivalling nation-states, or states which retain a system of free trade of commodities to enrich themselves, their elites, and companies, explains at the global level why these extractivisms can continue. I will study these international dynamics at the end of this book.

My analysis draws from extensive fieldwork, including hundreds of interviews (in local languages) and dozens of field research visits since 2005 to different parts of the Amazon and Finland. While I conducted field research and participant observation in the forest areas of all the locales in this book, my field research in Brazil is the most extensive. It should also be noted that many of the citations and quotes from existing research publications, interviews, and other documents were originally published in Spanish, Portuguese, and Finnish and have been translated by me into English. Next, I will more explicitly explain some of the extensive fieldwork that underlies the analyses presented herein.

In 2005, I started doing research in Pará, Brazil, focusing on the Santarém region and extractive reserves and other conservation areas further south along the BR-163 highway. I also conducted research in this region in 2007, 2011, 2018, 2019, and 2023–2024 (see [Figures 1.2](#) and [2.1](#)). In November and December 2019, I traveled from Brazil’s Cuiabá to Santarém, covering 2,500 kilometers of Amazon roads, while doing field research on the causes of deforestation under the Bolsonaro regime and how locals experience this. In March and April 2022, I did multisited political ethnography on deforestation dynamics in Bahia and Acre’s Rio Branco and Cruzeiro do Sul regions, next to the border with Peru. In November 2023 to January 2024, I did further field research in the Santarém and Belém regions of the Brazilian Amazon. I have also previously studied mining and industrial forestry in the Carajás region of the eastern Amazon in Brazil.

In addition to the mentioned work done in the border region with Peru, between May and June in 2017 I did field research in Peru’s Madre de Dios province

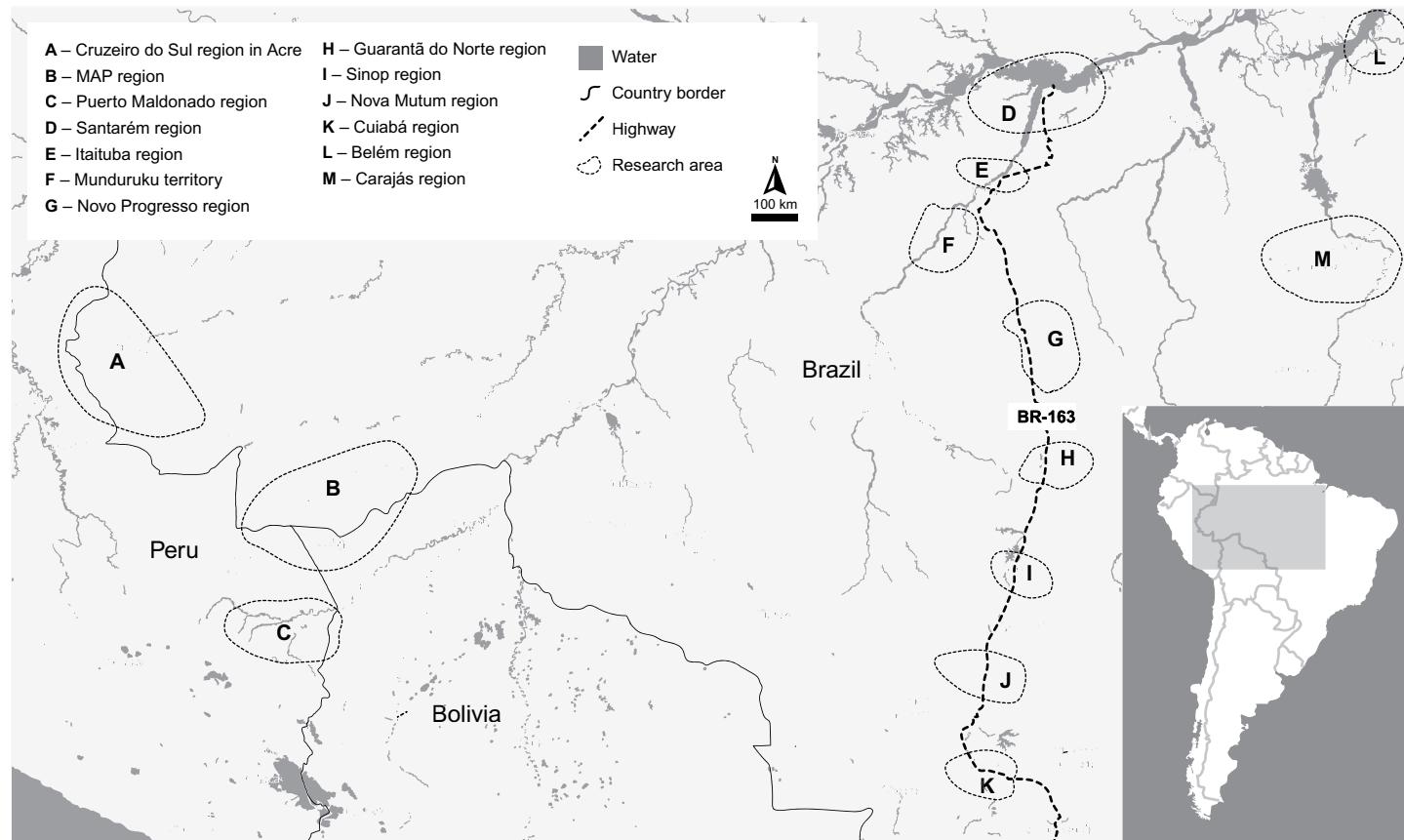


Figure 1.2 Field visits in the Amazon, from 2005 onward. Base map data from [openstreetmap.org](https://www.openstreetmap.org).



Figure 1.3 An illegal gold mine east of Castelo dos Sonhos in the Novo Progresso region of Brazil. Gold mining causes mercury, silt, and other pollution, and deforestation and degradation in the Amazon. November 2019. Photo by author.

and the Andean-Amazonian region there, and in Brazil's Acre, alongside the Interoceanic Highway and the differentiated landscapes and territories close to it (see Figure 1.3).

While my analysis of Finland is based on having lived in the Finnish countryside for most of my life, more recently I have also embarked on more focused field research in different parts of Finland, especially on the rise of Arctic pulp investments and clearcutting for so-called bioeconomy (see Figure 1.4).

Through multisited political ethnography (Kröger, 2021; Schatz, 2009), I will provide three interlinked case studies of different global, yet regionally territorialized, extractive sectors. This will provide a synergy benefit, as one can only truly start to understand the nature and working dynamics, effects, and politics of sectors and their differing regionally situated world-ecologies (i.e. contexts) through a detailed understanding and comparison of various sectors. The case studies in the book are studies of different sectors and systems, but these analyses are rooted to specific places and territories, as these extractivist sectors draw their power from the dynamics in place. It is not common to have a detailed multisectorial understanding, which allows for a comparative political economy



Figure 1.4 A clearcut old spruce forest in South Karelia, Finland. Clearcutting is the dominant method of forestry in Finland, driven by a hegemonic paper and pulp industry and an increasing demand for energywood. Old-growth and natural forests are removed, completely transforming the landscape and ecology for decades, even centuries. September 2022. Photo by author.

that is also ethnographically informed. Initially, I studied the global industrial forestry in detail, especially in its Nordic and Latin American variations, developing an understanding of how Finland and Finnish industrial forestry function as cores of the global forestry system (Kröger, 2013a). After my forestry studies, I then started to analyze global mining, specializing in the mining politics in Brazil and India (Kröger, 2020a, 2021). It is essential to have sectorial and subsectorial expertise to create sufficiently robust and nuanced explanations of political economies. For example, for this book, I have made a detailed study that examines the interlinked ranching, plantation, mining, dam-building, and land speculation sectors in Brazil.

The power of deforesters becomes visible in satellite images when comparing Acre and Madre de Dios (see Figure 1.5). Brazil shows much more deforestation than Peru. I argue that this is caused primarily by the dominance of ranching-grabbing. In January 2024, I asked Augusto Molanovich, who is working for Peru's Forest Service on deforestation regulation, why there is far less ranching-based deforestation in Peru. He explained that there is far more state support – in all senses – for ranching in Brazil than in Peru. States are birthing extractivisms by several means

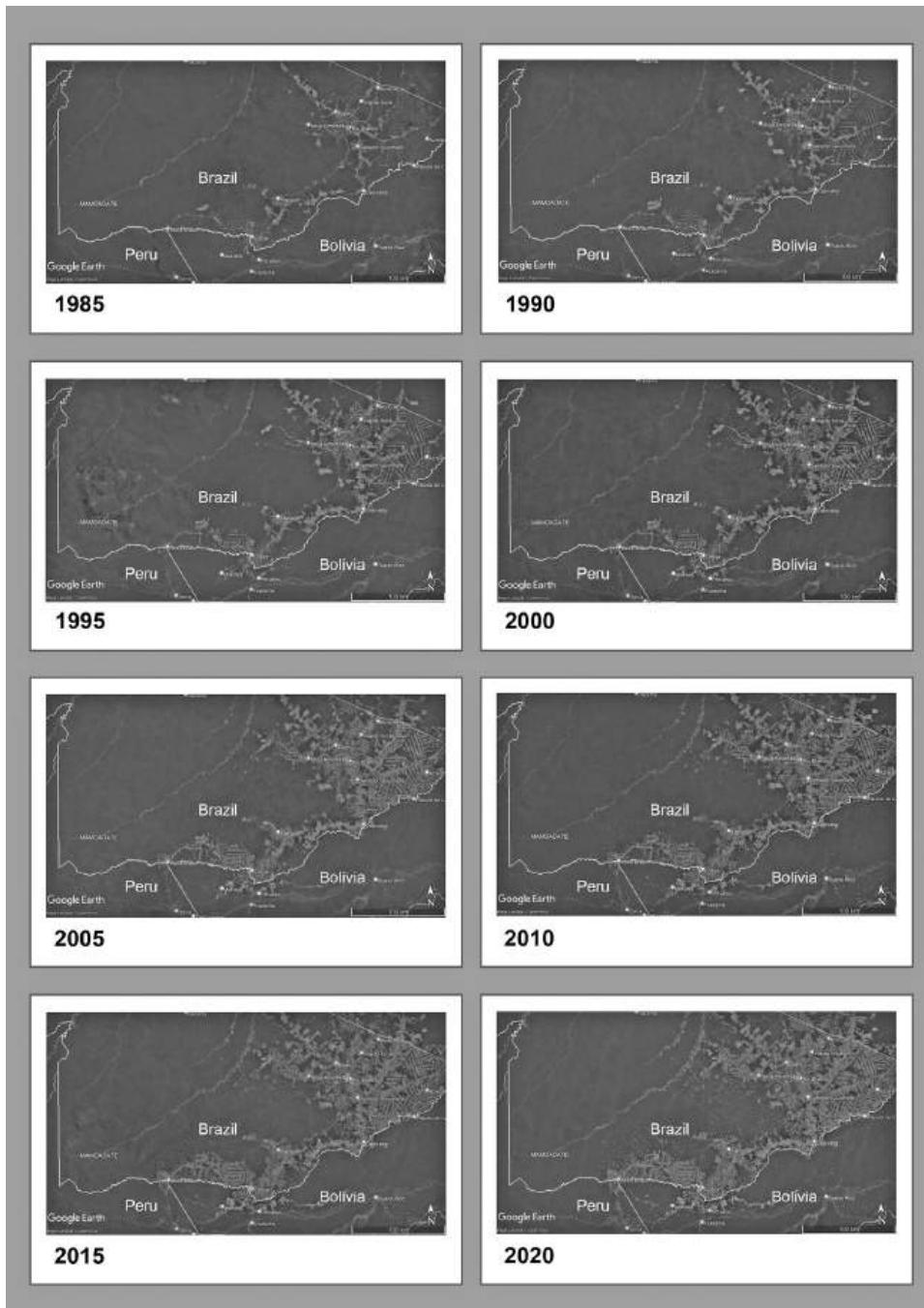


Figure 1.5 A series of satellite images showing the border between Peru, Brazil, and Bolivia. Note the extensive deforestation on the Brazilian side of the border in the state of Acre over the same period. Satellite photos from GoogleEarthPro.

(Ehrnström-Fuentes & Kröger, 2018). For Molanovich, the crucial part was the state technical support for ranching in Brazil, while in Peru there is much more support for gold mining.

Deforestation at Tipping Points

The focus on forests is timely for both theory and practice. The traditional and modern uses of forests are deserving topics, given the current hype and reality of the bioeconomy (Pütlz et al., 2014) and the multiplying industrial-scale uses of wood (Radkau, 2012), as well as the rise in deforestation and related conflicts. The situation is particularly pertinent in Brazil and Peru, but also in Finland, where there is intense debate, as researchers and the general public are largely excluded from the decision-making processes that keep clearcutting at a high level (see e.g. BIOS, 2017). Deforestation can have huge socioenvironmental impacts, especially given the direct link of these territorial and landscape changes to development and sustainability, as well as to politics, ideology, culture, and – most importantly – to what exists, where, and how (Kröger, 2022). In other words, the so-called lived environments (Taylor, 2020) or socionatures (Hecht, 2012) of multiple species. In looking at deforestation, it is essential to have a nonanthropocentric vision. In other words, the whole assemblage of beings and relations in the global web of life should be taken into consideration.

Currently the world is rapidly losing so much forest that there are now major constraints and economic risks to the actors and sectors, such as the soybean-feed-fuel complex, logging, and ranching, which cause the demise of the world's forests (see Dietz et al., 2021). The Amazon is at the brink of a tipping point, where further deforestation most likely means large swathes of the rainforest will irreversibly turn into grassland (Lovejoy & Nobre, 2018). The combination of fragmentation and degradation by turning huge areas of forest into pastures, dams, roads, logging sites, and plantations has meant that there is an increase in heat and droughts as rains are becoming scarcer (Staal et al., 2020).

Yet, this epochal moment has not slowed down deforestation, but, quite the contrary, it has led to deeper extractivist drives that take many different forms. Post-2019, the increased deforestation around the world has targeted protected and Indigenous territories. The regimes of the Amazon, including the so-called populist leftist powers such as Venezuela, Bolivia, and Ecuador, have driven deforesting activities deeper into forests, which has sparked major social conflicts between the outsider extractors and local Indigenous and other forest populations, who are calling out these “progressive” governments as authoritarian (Ebus & Martinelli, 2022; Ranta, 2024; Tilzey, 2021). This situation intensified during the pandemic, as illegal miners and others entered unguarded Indigenous areas, also spreading

COVID-19, to which Indigenous people were the most vulnerable in Latin America (Praeli, 2020). It is important to emphasize the increased and systemic socioenvironmental attacks by the Bolsonaro regime and other actors on the Amazon and its people during the pandemic (Ferrante & Fearnside, 2020) to understand why and how deforestation is now on the rise. This deforestation is also targeting protected and Indigenous territories (de Belmont, 2024; Gimenez, 2023). Indigenous peoples have been shown to be by far the best protectors of forest cover, with demarcation of traditional lands delivering forest protection much better than the creation of national parks which keep people from living directly on the land (Dawson et al., 2021; Qin et al., 2023; Tran et al., 2020).

The current world-ecology, with its periodically occurring epochal moments, provides incentives and guidelines for decision-makers not to tackle deforestation. Instead, when commodity prices rise due to a war or pandemic, it is easy to overlook the forest and see just the trees that can be cut for profit. For example, the pandemic, and the prior epochal moments during major wars, show how such events make governments blind to forests, lustful toward them, or both. Commodity prices rise with both the preparations for war and the infrastructure repair required after war. The COVID-19 pandemic, the 2022 Russian invasion of Ukraine, and the 2023 Israeli invasion of Gaza have seen the prices of lumber, beef, and gold reach record highs. This has huge impacts in terms of deforestation, yet often these impacts are not noted as more important events are occurring in the human world – as with the epochal moments of war. The international system of rival nation-states, or states that retain a system of free trade of commodities to enrich themselves, their elites, and companies, explains how and why this state of affairs continues at the level of global extractivisms.

However, changes might be forthcoming, as the world, and especially those nations whose elites' existence, stability, and strength rely on continued raw material production, start to face the new realities that excessive deforestation brings. For example, Brazil is highly reliant on rainfall and stable climatic conditions to maintain its agroextractivist plantations. In some places changes may start to take place that would cause forests to gain more importance in the popular consciousness, while in other places it might already be too late to reverse negative impacts to forests due to the dynamics of tipping points. However, a change in the role given to forests would suggest a challenge to the old and established dynamics that dictate how forests are treated within the current international system. To change the relation to forests and deforestation poses fundamental questions and might require fundamental changes in the global system. For example, what happens when a country going to war can no longer rely on being able to tap into forests as a source of cheap or good-quality raw materials?

There is a need for more detailed political economic analyses to be able to answer such questions, and better understand the international system, with

its many different subsystems composed of sectors that are partly interlinked and partly compete for same land areas. These need to be regionally situated, world-ecological analyses (Moore, 2015), which consider the power that specific sectors have in causing the loss of forests, such as mining in Peru, ranching in Brazil, and forestry in Finland. There is a need to more deeply understand the role of these forces that drive deforestation. Additionally, there is a need to understand the local-level enabling factors, such as local forest-dwellers allowing deforestation on their lands, which is a phenomenon currently gaining traction in different parts of the world. The different forms of resistance against deforestation also need to be studied and incorporated into an overall model, which incorporates the comparison of regional dynamics within the global system. I will analyze these political economies of deforestation. I do this by a transdisciplinary reading of the current knowledge on deforestation drivers, enablers, and resistance. This is based on an analysis of different contextual reasons for deforestation, across countries, which is then linked to an analysis on the qualities of the international system as drivers of deforestation.

Theorizing the Political and Moral Economies Underlying Deforestation

The analytical premise in my work on RDPEs is that political economies can form systems that define the use of territory. Some sectors – political economies (in my view, economic sectors are always embedded in politics) – can become dominant in certain regions. These systems are varieties of extractive capitalism that can be seen as RDPEs, which are inextricably linked to the key processes that drive tipping points, including the loss of natural environments. A key feature of an RDPE is that there are only a limited number of logistical actors and corporations who are involved in this sector, and each is tied to specific governments, states, funds, and persons that have their own interests for pursuing profit by expanding the established system. I argue that if an RDPE has taken hold of a particular polity and territory, it can have a dominant role in defining how the land is used in that territory. I study these territory-controlling systems as necessary – possibly even sufficient – factors to explain where and why extractivism continues, and why global (financial) capitalism is insufficient to solely explain the root causes of why these systems continue to expand even at the peril of climactic-ecological tipping points.

One reason why I suggest this new theory on the crucial importance of RDPEs is that analysis of the developments in the Amazon Rainforest throughout the decades has typically failed to provide accurate future prognoses of deforestation trends. For example, leading analysts argued in the early 1990s that the resource frontier of deforesting the Amazon had collapsed (e.g. Cleary, 1993). However, in the late 1990s and early 2000s there was resurgence of this deforesting frontier, which

included peak forest loss figures. Similarly, the 2004–2011 period showed a major curbing of Amazon deforestation (Hecht et al., 2021) and analysts hypothesized that the problem of deforestation was then mostly solved (e.g. Hecht, 2012). Yet again, against expectations, post-2012 Brazil has expanded Amazon deforestation due to the RDPE of ranching, agribusiness, mining, and illegal land grabbing.

The suggested theory on RDPEs challenges claims that emphasize the centrality of free-flowing global financial capitalism and capital, which could supposedly freely flow from one place to another as regulations or resistance increase (e.g. Silver, 2003). My new theory builds around the concepts and notions of territorially vested interests and sunk costs, where it is hard – if not impossible – to move heavy productive facilities to other contexts (e.g. the soybean–corn complexes in Brazil). These are also not just any form of “capitalism,” but specific sectors, which require their own detailed analysis – as the sectors of so-called capitalism have their own sublogics that cannot be understood by a more general account. I build on the notions of technological lock-ins (Carrillo-Hermosilla, 2006; Foxon, 2013; Helmrich et al., 2023) and path dependency (Atkinson, 2014; Browder, 1986; Chavez & Perz, 2013; Ferrer Velasco et al., 2020; Mahoney, 2000) to lay out the functioning mechanisms and type of ecological power that are created within the sectors that use these resources. This adds to world-ecology’s more abstract work on capitalism-in-nature and historical natures (Moore, 2015), using that holistic and nondualist approach to lay out how particular territorial and physical terrain shifts make it hard to pursue neoliberal or Ricardian accounts of supposedly freely moving and adjusting (commodity) markets (Ricardo, 1821).

In many disciplines, there is still a belief that polluting production can move quite freely to a new context due to changes in regulations. For example, in a panel discussion I spoke in on the state of Finland’s forests, a forestry scholar expressed a wish he and others in the industry held (many forestry departments seem to be part of the global system or a sector themselves within industrial forestry). He indicated that he wanted to have a 1,000-kilometer perimeter of monoculture eucalyptus plantations to avert deforestation elsewhere. He would have placed this colossal plantation and pulp mill in Brazil – this very notion a sign of not understanding the impossibility and violence, colonial and imperialist thinking included in such an imagination of supposed empty spaces, wherein a particular political economy could be imposed (see Scott, 2020). In another example, a prominent climate change writer in Finland argued that oil palm plantations should be expanded globally as they are the best solution to create biofuels, given their energy efficiency in comparison to soy, corn, or sugarcane-based fuels. Once again, this misses the implications for imposing these political economies. Additionally, my theory helps to explain why this is unlikely due to the already vested interests in place of particular industrial sectors, who profit on the already existing land

use and would see something like oil palm as a competitor. Thus, the land use is locked in. In this manner, the theory established in *Clearcut* will be helpful in making more realistic assessments of the political, economic, and socioterritorial constraints of (commodity) markets.

The theorizing here is new in several ways. I seek to specifically answer the need for a more grounded, empirically based explanation of the deeper, systemic causes of deforestation. Thus, this work goes beyond proximate explanations, remote-sensing-based explanations, and economic-type analyses, which have dominated the overall deforestation discussion.

There has been a substantial political ecology work on deforestation, and I will build on this (e.g. by Susanna Hecht, Nancy Peluso, Tania Li, and Anja Nygren). That said, I call my work political economy rather than political ecology, due to my greater focus on the sectors involved and their systemic role as RDPEs that form a whole; thus, having intersectorial impacts on deforestation. I will link my ethnographic work across multiple sites to broader discussions on global ecology and the international system, as my book falls more firmly within the field of global development studies and global climate and environmental studies. Thus, it contributes to these fields a detailed assessment of how varying and distinct economic sectors compose what is known as global capitalism.

First, the new theory relates to and builds on political ecology and economy work. I strive to provide a more direct focus on political economic dynamics, broadly understood, especially through the new literature on extractivisms. The concept of extractivism, which surfaced in the 2010s and has grown, especially since the early 2020s, is a key concept to assess why governments have embarked on new commodity boom-based development strategies. Different types of extractivisms, such as agroextractivism, mining, oil, and forestry extractivism, are supported in Latin America and elsewhere by a wide variety of governments (Gudynas, 2015; McKay et al., 2021; Petras & Veltmeyer, 2014; Svampa, 2019). Within studies on the politics of extraction, the concept of extractivism is also important in challenging the underlying drivers and onto-epistemologies of the extraction–development nexus (Kröger, 2020b). For example, instead of assuming that the addition of value-adding resource-based industrialization at a particular place would be a preferable outcome rather than mere raw material export, new studies on extractivisms (e.g. Dunlap & Jakobsen, 2020; Shapiro & McNeish, 2021; Willow, 2020) have started to challenge the modern, Western, and – given the global climate tipping points – clearly perilous accounts in the prior resource-development literature.

Second, a lot of the current discussion on the development–climate catastrophe interface is too abstract, revolving around the concept of the Anthropocene (e.g. Crutzen, 2006) or global capitalism, which can be seen as totalizing concepts. How do you stop or regulate global capitalism or the Anthropocene in reality? Many

people in the broad political left have a vague conception of revolution, a rhetoric to overthrow capitalism. Thus, I suggest the theory of RDPEs as a corrective to “global capitalism” (e.g. Gilpin, 2018) and other abstract concepts. I concretize the theory through the key drivers and extractive sectors, such as Brazil’s deforesting capitalisms, the Amazon’s gold miners’, and Finnish forestry industry pushes toward mining capitalism and bioeconomy, respectively. Each sector typically has singular studies, for example, some scholars of extraction focus just on mining (see Kröger, 2020a, for a review of literature). I focus on several forms of extractivism, developing a comparison that includes ranching and agroextractivism, mining and forestry with their crucial and specific financial and asset speculation aspects. For example, in the case of Amazon gold mining I learned that, to understand the sector, one must also understand the dynamics of international money laundering, which is linked to rising drug trafficking and organized crime.

Meanwhile, the current key role of a clearcutting and tree plantation-expansion-based pulp and paper industry in designating the use and future of Finnish forests is due to the dominant and hegemonic position of pulping as an RDPE in Finland. Pulp, with its attendant side and by-products, serves as a key potential raw material for increasing the multiple and flexible uses of trees (Kröger, 2016). In Finland thus far the promise of new fossil-fuel substituting wood products has been mostly an anticipated, marketed, and imagined future, used for gaining support and financing for new mega pulp mills marketed as bioproduct refineries, for example the Äänekoski and Kemi mills of Metsä Group. However, despite the promises, in practice these so-called biorefineries are still just massive pulp mills and the diversification away from pulp has not been realized. Pulp is a bulk commodity, so it can be produced from low-quality wood and the production volumes are flexible and can change to follow global market fluctuations. Besides noting this particularity of pulp, which explains its dominance versus less tangible and malleable wood commodities, Kellokumpu and Säynäjäkangas (2022: 39) note that capitalistic economies and production processes in general have the tendency to become “attached to particular resources,” a characteristic I explore when studying deforesting RDPEs. It is hard for RDPE members to let go of their favored commodity and production methods, be these cattle and land grabbing in Brazil’s cattle capitalism, mercury and money laundering linked to gold mining in the Amazon, or clearcut wood pulping in Finland. Therefore, capital and the economy are much less fluid, malleable, or transforming than David Ricardo-type theorists see these – as being able to move quickly anywhere based on “comparative advantage” or production costs.

Another key concept is the influence of regional moral economies. Through this concept, I study the daily territorial use practices and decisions that affect forests. The concept of “moral economy” (Thompson, 1963, 1971) refers to the importance of the underlying regional customs, contexts, and cultures that explain

why certain political economic changes and policies fail, encounter opposition, or succeed (see Wolford, 2010). “Moral economy” is used as the basis for a systemic analysis of what happens at the social level within a process of conflictive extractivism. I assess how moral economies have formed historically and how they currently affect the forests in the Amazon (Brazil and Peru) and Finland. Regional moral economies are hypothesized to be key in explaining where the thrust of deforesting extractivism is allowed or resisted. These moral economic transformations (Kröger, 2020c) – working in concert with the RDPEs – are essential to explain the return of authoritarian populism (Scoones et al., 2017), nationalism, and other ideologies that drive extractivism and tipping points.

The comparisons presented allow a more concrete observation of the different local, regional, national, and global dynamics present in each place. It is rare to combine examination of industrial forestry (such as tree plantations) and natural forests (such as the Amazon) under the same study, or to compare the tropics and the northern forests. Yet, these comparisons can broaden understandings about where and how landscape changes occur and what are the multiple determinants behind forest politics and policy. This can help with renewing theories by bringing to light the key role of underlying extractivist political economies and varieties of capitalism in deforestation. This is possible due to methodological innovation, as the research is based on a rare depth of analysis accrued through long-term participant observation in the regions studied, compared concordantly via multisited political ethnography and systematic analysis that focus on the process of deforestation. The approach is transdisciplinary, with a focus on the political analysis of developmental processes and agency.

Political Ecology Underpinnings

In my assessment of ranching-land grabbing, mining, and forestry as particular systems, I will be in engage with several theorists of critical agrarian studies and political ecology. Tania Li’s work on oil palm plantations helps when reflecting on the differences of deforesting systems and their dynamics (such as the need for more workers in oil palm plantations than in many other forms of agroextractivism). I intend to add to the theorizing in Li and Semedi (2021), for example by explaining why the palm oil business has not expanded strongly in Brazil. Their book *Plantation Life* focuses on detailed ethnographic accounts of corporate-controlled life in Indonesia’s new oil palm plantations. Their take on the topic illustrates how oil palm has become the key RDPE in Indonesia, with the country producing half of all global supply of oil palm. The key difference to Brazil is that the ranches, and the other deforesting plantations (e.g. soybean, corn, cotton, eucalyptus), employ far less people than the 15 million people



Figure 1.6 Pesticide spreading in Nova Mutum, Brazil, on a soybean plantation. RDPEs, such as the soybean sector, can dominate what can exist and how in a given region. Other life-forms are removed in places that used to have rich webs of forest life and biodiversity by the frequent application of agrotoxics that occurs on monoculture plantations. Only the soybean is allowed to remain in place. November 2019. Photo by author.

involved in the oil palm plantations in Indonesia, there being way less “labor life” in this sense in the Brazilian equation. Brazil’s soybean lobby, Aprosoja, claims that soybeans would generate 7.5 million direct and indirect jobs, which is likely a gross overestimation that does not consider the far greater number of peasants dispossessed to expand vast monocultures (see Aprosoja Brasil, *n.d.*; Kröger, 2022). In fact, I argue that a key reason for this discrepancy can be found in the fact that Brazil’s deforesting land grabbing is driven primarily by an old system and group of mafia-style land actors who make profit principally not via labor exploitation, but by usurping land and then selling it at a higher price, in an illegal and violent process (see Kröger, 2024). While Li and Semedi (2021) focus on a post-frontier setting (see also Kröger & Nygren, 2020), I discuss how the deforesting systems expand by extending different types of extractivist frontiers over forests and their people. An important theoretical take by Li and Semedi (2021: 9) is their conceptualization of corporations as “occupying force[s]” that use military-like power yet try to convince people of the developmental benefits of their methods. I will explore both these aspects by studying the dominance and hegemony attempts of RDPEs (see Figure 1.6).

Power inequalities, and how power works, are key foci of political ecology. Gramsci (1971) argued that dominance refers particularly to the use of tools of

coercion, while hegemony refers to partial willingness or persuasion of the subjects to be governed by the hegemon. I use this distinction to study both aspects, looking in detail at the violence, coercion, and cajoling by the extractivist RDPEs and the state forces that are linked to these RDPEs. By dominant and dominance, I also refer to a particular RDPE becoming so central and powerful in a bounded setting that other sectors of the economy, other political manifestations, become underdogs. I observe such machinations of dominant and hegemonic power, as scholars of anticolonial struggles such as Guha and Fanon have done in general, utilizing the notions of Gramsci (Ali, 2015). I discuss the focus on trying to attain and maintain consent that is crucial for hegemony, by looking at moral economic transformations supporting and resisting deforesting extractivist sectors.

My theorizing is also linked to the approaches of violence and political ecology put forward by Peluso and Watts (2001), which show how the victims (and in some cases proximate agents) of deforestation, such as local rural populations, can be considered by many to be the key culprits of devastation. Instead, my focus on political economic systems shows the deeper structural and systemic roots that push cattle, mining capitalism, and forestry to delimit the agency space of peasant and Indigenous populations. *Clearcut* will dedicate attention to understanding the dilemmas I encountered in my case contexts, including: (1) how former rubber tappers are now cutting down their own forests and becoming cowboys in Brazil's Chico Mendes Extractive Reserve (CMER); (2) how some Indigenous populations have started to dig for gold in Peru's Amazon; and (3) how many Finnish small-holder forest owners are very hostile to forest conservation, preferring to clearcut their old-growth forests rather than getting an equal or greater amount of monetary compensation for conserving their forests. These cases show that we cannot speak throughout of a victim perspective or paint the underdogs as mere victims, since moral economies have shifted drastically, which explains why, in many places, deforesting RDPEs have been able to consolidate and expand. This goes beyond the generalizing claims that are present in many of the global environmental justice discussions or the romanticized accounts put forward by socioenvironmental movements. A stark example of this is how, in Acre, Brazil, against logic, most people, and especially in the multiple-use conservation areas, for example, RESEX (Extractive Reserve) Chico Mendes, voted for Bolsonaro in the October 2022 elections – thus, this dramatic shift needs to be examined through a critical lens (G1, 2022). People's actions need to be understood as linked to moral economies, whether RDPEs are in place or not.

I also relate my new theory to work done on deforestation in the North American context, including W. Scott Prudham's (2004) *Knock on Wood* and Roger Hayter's (2007) *Flexible Crossroads*. I update and complement the findings on boreal forests' politics that were included in these books. Prudham (2004) details the 150

years during which a Douglas fir-based wood products industry was consolidated in the Pacific Northwest of the United States but collapsed in the 1990s due to rapidly rising protection of the last remaining, majestic old-growth forests and species of the region by scientists, environmentalists, concerned locals, and state actors, a protection that was resisted by those wanting to continue logging. This logging RDPE was more akin to a mining economy, the large trunks being mostly removed by the 1990s, leading to the company's inevitable collapse, as the key commodity source was no more, which led to rising grievances. Meanwhile, the British Columbian forestry sector has been trying to refashion its appetite away from depleting, pest-struck, and contentious old-growth logging toward so-called managed forests; this difficult political economic restructuring being discussed by Hayter (2007). Simard (2021) provides a biological and forest ecology in-depth criticism of the clearcutting–plantation nexus in these North American contexts, challenging the established views on forests as consisting of competing trees, and therefore arguing that it is not just old-growth forest-depleting logging systems (which caused companies' own collapses) but misplaced modern forestry practices that need to change. A similar fate may be waiting for the ranching and soybean complexes in the Amazon if the Amazon tipping point is breached and droughts turn the land unproductive. Soils are being extracted and poisoned by agribusiness, but even more worrisome are the possibly irreversible regional and global climate disruptions being caused. In Finland, logging increase has also reached its upper limit, but as the RDPE is focused on pulp and energywood, the depletion of old-growth forests has not led to a natural collapse of the system, which makes that boreal forest struggle more complex. The pulping system hovering over Finnish forest land decision-making has been developed and consolidated for decades, while there are other forest-based RDPEs (such as log overextraction-based ones) in the planet's other forests, which have different ecological and economic dynamics.

My theorizing challenges the staples thesis of export-led growth (see Watkins, 1963) as too determinist and simplistic, suggesting that instead of the nature of the endowment (type, quantity, and accessibility of a natural resource) at a place, more important are the politics and moral economic struggles around extractive systems. The staples theory purported that in Canadian development and state formation, regional differences could be explained by the key commodity type in the region (for example, wheat and fur produce different political economies). The staples export approach was claimed to be favorable for development, while in later discussions the focus shifted to core–periphery relations where cities aimed to extract these commodities from peripheries, for example in British Columbia (Hutton, 1997). Similar to the staples approach, I provide an in-depth look at how particular economic systems mold nature to produce their key commodity, creating wealth, accumulation, and power by extraction and export of beef, land titles, gold, and

pulp. However, the key here is not these commodities themselves, but the systems that are formed around them and their grip on the locality. Thus, I contribute to the key goals of political ecology, delving deeply into the politics and power relations – systemic sectorial qualities of what Blaikie and Brookfield (1987) called regional political ecology – linked to global capitalist changes. Their work focused especially on land degradation; forest removal being definitively one such instance of political ecology.

Current studies of global deforestation need to understand the focus is no longer deforestation (as it was decades ago), but the potentially imminent breach of global or regional climate tipping points. This requires a new research agenda or framing of “what is this a case of,” which was a key question in my research.

From the Study of Deforestation to Cases of Breaching Climatic-Ecological Tipping Points

I challenge conventional understandings of resource-based development by bringing tipping points into my analysis. People in policy circles need to understand what is at stake with current deforestation practices. The theoretical take in this book – related to the deeper causes of deforestation and tipping points approach – can shed light on the durable, hard-to-change, and systemic aspects of forest, climate, and land policymaking. *Clearcut* goes beyond analyses that suppose a new solution was found when deforestation momentarily slowed down, or that all is solved when a new policy is established (as often policies can be reversed more easily than the power of RDPEs or the lingering effects of established moral economies).

New science is refashioning the understanding of what forests and trees are and how they relate to each other via fungus, which in and of itself shows how little we understand of forest ecology. The old views affect the key reasoning and scientific-backing attempts by agribusiness, forestry, and other pro-production scholars. Suzanne Simard’s (2021) pioneering work on forest ecology and the symbiosis between trees and fungus has challenged prior accounts and claims by the forest industry about productivity. This includes discussions on what forests and clearcutting are, and what do they do, ecologically and how they produce profits for and tie particular forest uses into specific sectors. This approach puts my book in conversation with ecology and biology, and studies on political ontology and world-ecology, which allows me to merge the question of existences (that is, who or what has the right to exist and how) to political economic analysis. This makes the theorizing I suggest different from other political ecology or economy works that I have come across. I will include notes on the varying types of effects on existences that are caused by differing deforesting extractivisms being in place. I

explore how these shifts are related to changing power relations and – ultimately – to tipping point approaches. Such approaches have already started to affect the productivity of the business systems by exposing their lack of robustness. While *Clearcut* is rooted in a world-ecology-type understanding of the longue durée of these sectors – regionally and internationally – the purpose is to provide a theory that can be used to make solid prognoses or claims about the future of commodity markets and politics, especially as they relate to forests and their international climate-related politics and policymaking.

The peculiarity and significance of an RDPE becomes evident when it is understood as a regime and system of power that can determine how extraction and climate-related politics play out. Once an RDPE is in place, I hypothesize that there are such big sunk costs that it is hard to change the course or direction of deforesting activities even though that is what is needed to curb the approaching tipping points. These sunk costs include the technologies of extraction, logistical networks, social channels, investment, and debt arrangements, as well as accrued social, symbolic, and physical capital, which is entrenched in the habitus, identities, ideologies, feelings, thoughts, and attitudes of the territory (Bourdieu, 1991; Kröger, 2020a). I suggest that theorizing the role of extractivist RDPEs will help to uncover the systemic, ultimate causes of deforestation and the other proximate ecological changes that can trigger tipping points. This hypothesis is systematically compared in the book, which is built on incorporated comparisons – which, where applicable, follow the methodological work of Philip McMichael (2000) and qualitative comparative analysis (QCA) thinking to draw out the complexities of differing causal condition complexes.²

When useful to explain the relation of particular social actors and their power to deforestation, I also utilize conceptual tools that I have built based on theorizing by Pierre Bourdieu (1986, 1991) and inspired by him (see also Wacquant, 2023) on the character and linkages between different types of capital, mainly economic, cultural, social, physical, and symbolic capital. I see these as located in and operated by social, physical, and symbolic spaces (see Wacquant, 2022), whose changes affect the power relations that capital differences and relations within and between those spaces denote (Kröger 2016, 2020c). I explore how fluctuations in different capital and spaces can explain the power and expansion and contraction of deforesting extractivisms in the Amazon and Finland.

I chose the Amazon and Finland, with their agricultural, mining, and forestry sectors, as foci of attention for several reasons. The broad setting of this book

² I used the QCA methodological approach to explain and test how various causal paths, caused by multiple, simultaneous causal factors, lead to deforestation, presenting in the book not QCA truth tables, but a more readable, flowing analysis, based on my methodological guidebook on how to use QCA for multisited ethnographic materials to study complex causalities (Kröger, 2021).

differs from prior books on deforestation or political economy because all the selected case locations are approaching or surpassing global or regional climate tipping points. The Amazon Rainforest and the boreal forests, such as those in Finland, have been identified by earth system scientists McKay et al. (2022) as key global (Amazon) or regional (boreal, taiga forests – comprising 40 percent of world's forests) climate tipping points. The deforestation dynamics have more acute global and regional ramifications, given the climate tipping point status of these forests. In comparison, the smaller, discontinuous, and already ravaged Southeast Asian and African forests are not listed as global climate tipping points. It is the higher tipping element status of the Amazon and boreal forests which merit focusing on them.

My cases revolve around key global extractivist sectors. They provide a synchronic analysis of dispersed yet globally connected parts of a whole. For example, in the chapter that focuses on gold mining, I will not only draw from Peruvian cases, but I will provide an overall take on the Amazon gold-mining boom, based on my field research at open-pit gold-mining/clearcutting hotspots in Peru and Brazil. I then link these cases with corresponding situations in the Bolivian and Venezuelan contexts, thus drawing out an overall picture of the rampant gold mining across varying Amazonian contexts and how these relate to organized crime expansion in the Amazon. Gold has become a key tool for the money laundering needed by the illicit drug trade. Currently, illegal gold exports are bigger than drug exports as drug trafficking becomes more closely intertwined with so-called artisanal (but in practice highly mechanized) gold mining, which is intensely damaging to the Amazon and its people. Brazil is by far the most important country to study now, as it holds most of the Amazon Rainforest, which is the most important forest-based global climate tipping point. Finland is a progenitor case, where future wood-based bioeconomy technologies and value webs are being tested and created, to possibly be extended globally later – as happened before with pulp mill technologies. Finland is also a curious case of a China-led reprimarization (focusing on the primary sector of commodity production) of the economy, where new mega pulp mills are expanded at the cost of factories that use less wood and produce value-added products. These two trajectories are taking place more strongly in Finland than in the other possible boreal forestry case study locations, such as Sweden or Canada (Finland is also the location of far more multinational forestry corporations). This book takes a critical look at the current practices of forestry, where boreal forests are being replaced by tree plantations – mostly spruce in Finland – even though clearcutting is likely to exacerbate beetle outbreaks and fires. In Finland, most attention is placed on the pulping–energywood complex. This is linked to the European Union (EU) and global carbon-capture markets and agreements, wherein Finnish taxpayers now stand to pay billions of euros to the

EU due to overlogging in forests, which has caused increased emissions, which need to be compensated in the national accounts.

Ecological and climatic considerations need to be woven into the analysis of deforesting economic systems, whose profit-making logics are rapidly changing, deteriorating – even collapsing – due to their own hyper-extractivist logics and impacts. The Amazon beef/soy-tipping point relation illustrates this. The paradox where rampant Amazon deforestation is shown to linearly decrease agribusiness profits and productivity has been dubbed the “agro-suicide,” as agribusiness would need to conserve the Amazon and Cerrado to avoid deadly heatwaves (Flach et al., 2021) and to ensure rainfall and thus revenues (Leite-Filho et al., 2021). This linearity is now turning into even more abrupt, nonlinear possibilities, due to the possibility of properties of the Amazon Rainforest tipping element changing when 20–25 percent is deforested. After that point of no return, irreversible (at least during the span of a single human lifetime) savannization and desertification can expand faster over much of the Amazon.

Hypotheses on Causalities of Deforestation

We already have ample evidence that where territorial land use is defined by nonmarket-based valuations of the forest, the forest cover is much better retained than where it is not. This situation is found, for example, in Indigenous lands and conservation units that host traditional forest-dwelling populations who rely mostly on forest product sustenance rather than on producing for outside markets (Blackman et al., 2017). These areas still manage to remain mostly outside the reach of extractivist capitalisms (see Gudynas 2016, 2017) and their underlying conceptualizations of nature (see Moore, 2015; see also Figure 1.7).

However, this situation is prone to change and therefore I compared conservation areas where cattle capitalism is causing serious deforestation (such as the CMER in Acre) (Kröger, 2020c) and those where it is not (such as RESEX Tapajós-Arapiuns in Pará). The theoretical-methodological underpinning of this approach is that multisited political ethnography and in-depth tracing of political economic processes across local–global scales, along with the scales of valuation (logics and worldviews) sustaining them, is essential to grasp the causes of (and thus solutions for) the renewed rise in deforestation. In the beginning of this research project, I laid out a series of hypotheses to guide the analysis. These were based on my prior research and existing literature on the causes of deforestation and were the starting point over a several-year period as a basis for inquiry, interviews, field visits, comparisons, and building the theory. For the sake of the book’s readability, I will not explicitly refer to these hypotheses throughout the book, although I do discuss them and provide answers to these initial, working hypotheses.



Figure 1.7 Ancient, massive, and tall trees can still be found in many parts of the Amazon conservation areas. FLONA Tapajós, Brazil, December 2023. Photo by author.

Hypothesis 1: The regionally dominant natural resource sectors are the key explanatory factors in how, where, when, and if deforestation occurs, despite the type of government, official land titling (e.g. conservation areas), or social actor deforesting.

Subhypotheses:

- (1a) There is a significant causality running between the type of extractivism – the regionally dominant form of resource capitalism – and forest land use. The dominant political economy is the ultimate cause and driver of deforestation.
- (1b) There are significant subvariations between extractive sectors and deforestation impacts. For example, different types of mining, ranching–land speculation, and industrial forestry portray different dynamics of forest land use, which are also visible physically (e.g. in satellite imagery).
- (1c) Government policies and state structures directing forest uses flow from the extractivist system in power. Brazil is primarily (but not only) a case of cattle–land speculation, Peru is a case of mining extractivism, and Finland is a case of forestry capitalism.

(1d) Infrastructure, such as road-building policies, or actions by local deforestation agents (such as rural inhabitants), may be proximate or even necessary causes, but cannot alone explain deforestation (i.e. they are not the ultimate or even sufficient causes).

Hypothesis 2: The current interstate system values the free flow of commodities more than retaining primary forests.

Subhypotheses:

- (2a) Interstate rivalry, geopolitics, and building nation-state power are key explanations for why deforesting activities are perpetuated.
- (2b) Epochal international moments, such as wars and pandemics, create important opportunities to accumulate capital faster through deforesting activities for a short period of time, which leads to major deforestation drives, with long-lasting deforesting impacts.
- (2c) Political economic sectors, corporations, and linked nation-states whose models of power and capital accumulation are premised on clearcutting forests work actively to retain the flow of commodities from deforested areas, despite rising global crises this causes.

The following alternative hypotheses were used to test the primary hypotheses and to enrich the findings:

Alternative Hypothesis 3: It does not matter what type of extractive capitalism is dominant in each region – deforestation politics are defined more significantly by other factors – there is no major difference between cattle ranching, mining, or industrial forestry; rather, it is the demographics, geography, endowments, and the activities of social and political-economic actors, other than those in the dominant extractive sector, which are sufficient to explain when, where, and how deforestation occurs.

Alternative Hypothesis 4: Concerted political actions by governments, civil society, and alternative economic sectors can significantly counter deforestation. Deforestation – the power of extractive capitalisms – can be seriously curbed by fostering:

- (4a) Embeddedness between progressive state authorities and forest-dwellers, which retains their autonomy yet results in effective forest management that can counter the power of extractivism – political force can counter deforestation.
- (4b) Nondeforesting economic activities, which increase the value of standing (semi)natural forests – alternative economies can counter deforestation.
- (4c) Alternative, marginal, or noneconomic forest values and scales of valuation – changes in worldviews, forest ontologies, and ideology can counter deforestation.

As Alternative Hypothesis 4 indicates, I will also assess the power relations and boundaries of deforesting political economies via analysis of resistance to them, as such research is especially helpful in understanding how political rather than economic processes may be dominant. Many causes have been given for deforestation in the Brazilian Amazon and these hypotheses constitute an add-on to those of past studies. The classic political economies emphasize how the integration of the region into the national economy pushed the pioneer/resource frontier to the Amazon (Foweraker, 1981). The common way to ensure land tenure has been to deforest and make the land “productive,” typically via cattle pastures, and this activity is still semilegal, or at least practiced without any efficient environmental monitoring or licensing (Fearnside, 2008). This being the state of affairs, or the political economic structure, it is understandable that analyses by economists, such as Ferreira and Coelho (2015), whose goal has been to identify the key explanatory variables, have argued that agricultural commodity prices and public policies are the two key independent variables. However, this type of analysis does not cast light on the political-economic power through which deforestation takes place, or how this happens. In other words, it does not uncover the complex political economic and international dynamics that the hypotheses address.

Furthermore, the intersectorial and multisited research design adopted here can provide a rare analysis of the important determinants of deforestation at a scale above the local; for example, the expansion of soybean plantations has pushed the cattle frontier deeper into the Amazon (Domingues & Bermann, 2012), but tree plantation expansion has had similar effects (which makes analysis of the forest sector’s indirect role in deforestation also important; see Kröger, 2013a). Yet, despite this, these dynamics are not often compared. The comparison of neighboring Peru and Brazil in the Amazon through these hypotheses offers a viewpoint into how and why cattle ranching has not (yet) expanded into Peru along the new Pacific Highway. Meanwhile, in other regions neighboring Brazil, such as Paraguay and Bolivia, Brazilian soybean farmers have radically expanded their soy capitalism (McKay, 2018). This offers support for the notion that different extractive systems have different operating logics and thus different territorial reaches. I go even further to suggest that these varieties of extractivism (see Gudynas, 2016) are also tied to different political power groups and pushed by states and governments operating according to different principles, which explains when and where they expand, as the power balance between these groups fluctuates. Thus, this type of take on deforestation assesses how different political economic systems explain deforestation.

Many of the theories and the hypotheses being tested in this book challenge the prevailing understandings of causalities and could help in the pursuit of truly sustainable forest governance. A typical argument used by forest scientists or

economists is that deforestation would be best curbed if forests were made to produce more profits than those accrued through their destruction (see, e.g. Ignatius, 2017). However, such arguments assume that the solutions to our problems can be found within modernity, without major changes to the scales of valuation that dominate in modern development (i.e. capital's commensurability project, wherein life is quantifiable and tradable as a commodity). World-ecology has convincingly argued that the solutions cannot be found there, as capitalism is a commodity frontier and class relation relying on the continued appropriation of natural resources (Moore, 2015) and destruction of lived environments (Kröger, 2022). What is needed is to not only equalize power and class relations, but also to change the scales of valuation, to offer new kinds of valuations, where life and natural forests have intrinsic value. The recent (and largely failed) attempts to create ecosocialism by leftist governments in Latin America attest to the need to go beyond extractivisms and developmentalisms in all their varieties if a solution is to be found (Gudynas, 2017; Warnecke-Berger et al., 2023). The solutions must be found in molding the key processes causing deforestation, which requires deeper knowledge about them. The understanding of "development" needs to be questioned, to accommodate for forest existences.

I will first assess, in **Part II**, Brazil's land-grabbing cattle capitalism and soy agribusiness roles and linkages. I then study state actions as an enabler of and a barrier to deforestation. I also look at the role resistance has played in deforesting contexts. Similarly, in **Part III**, the gold mining–organized crime nexus across the Amazon is explored for its drivers, enabling factors, and resistance, both from civil society and the state. I compare the situations and links between the three most important illegal gold-mining areas in the Amazon – Peru's Madre de Dios Province, the middle Tapajós River area in southwestern Pará in Brazil, and the triple frontier between Venezuela, Colombia, and Brazil. **Part III** ends the study of the Amazon by analyzing several suggested solutions to curbing the power of deforesting actors and avoiding future deforestation. **Part IV** explores the pulping of Finland by clearcutting and growing resistance to this trend. This part serves as an exploration of how a sector becomes dominant and hegemonic, retaining its hegemony in the society and moral economy despite waning importance and power. In **Part V**, I delve briefly into the international and global setting, still characterized by interstate rivalry and the looming global climate tipping points. I make some notes on the current deforestation in the world-ecology, based on an understanding of long-term deforestation being driven by interstate rivalry and competition, where the free flow of commodities is retained, although some attempts are being made to curb global deforestation by certification and regional regulatory schemes, such as the EU anti-deforestation law, which are critically explored. The conclusions summarize the key arguments across the book.

Part II

Ranching-Grabbing Brazil

2

Ranching the Amazon

In March 2022, I was in Acre again visiting farms along the Pacific Highway, southwest from Rio Branco, the state capital. The leading agribusiness consultant, who was key in developing expanding soybean and corn plantations, was showing me his working areas. He proudly told me he had planted most of the incipient soy/corn plantations in the state, somewhere between 20,000 and 30,000 hectares at the time, but that was just a fraction of the future growth potential. He boasted, “Acre has an agricultural potential [meaning, for GM soy/corn plantations] of 400,000 hectares.” However, he thought those hectares would never be completely planted as long as there were elite landowners who preferred the cowboy lifestyle of a rancher in Brazil.

Yet, a hectare of soybean and corn rotation would yield about 2,300 reais per year per hectare, while a good ranching hectare would yield only about 800 reais of profit. Thus, even with the lionization of the cowboy culture, soybean plantations were steadily expanding over ranches and pushing ranching deeper into the forests. Simultaneously, both the ranchers and the soybean planters were eyeing the large conservation areas for their flat and fertile soils. All in all, it is a no-win situation fueled by money and power and interests coming from ranching and planting that compete with the interests of the forest.

Establishing Ranching as the Regionally Dominant Political Economy in the Brazilian Amazon

What is the key driving process behind deforestation? Looking from the satellite perspective, ranching and the expansion of pasture land, which cover over 85 percent of deforested areas in the Brazilian Amazon, could be argued to be the key drivers (see [Figure 2.2](#)).

Currently, about 20 percent of the Amazon is deforested and about 40 percent is degraded (Rodrigues, [2023](#)). Ranching and soybean/corn plantations in the Amazon



Figure 2.1 Map showing the most significant places in Brazil that are discussed in this book. The Pará region is detailed in Figure 2.2 due to the density of different sites. Basemap data from openstreetmap.org.



Figure 2.2 A herd of cattle in a large landholder's pasture in the Brazilian Amazon. Acre, near BR-371 between Rio Branco and Xapuri, March 19, 2022. Brazil has about 160 million hectares of mostly very inefficiently used and extensive pasture land. The nondistribution and ineffective use of these pastures, and their expansion across Brazil, directly drives the Amazon, Cerrado, Atlantic Rainforest, and Pantanal deforestation, as ranchers, for example, move to the Amazon from Bahia. Deforestation is indirectly driven by their claiming land and keeping it from being used more effectively outside of the Amazon. Photo by author.

forests have been shown to be pushed or driven by the overall expansion and actions of Brazil's ranching and plantation agribusiness (Picoli et al., 2020), which by 2019 had already deforested most of Brazil's other forests, as only 19–20 percent of the Cerrado and 8–11 percent of the Atlantic Rainforest remain (Ferrante & Fearnside, 2019). Instead of contending with these land claims made at the expense of Cerrado and other forests and their countless human and other inhabitants, the agroextractivist system, which is capitalist in its character as it continues to seek growth and profit for national and international financiers, has increased its expanse.

A primitive, predatory form of cattle capitalism in the Amazon creates its own logic of hyperextractivism, in the sense that soils are extracted of their vitality and forests of their life (see Figure 2.3). The system drives a general pulling from nature to feed itself as a ranching extractivist system causes widespread degradation. This ranching



Figure 2.3 Ranching in the Amazon has expanded very deep into the rainforest and is not an effective use of the space. Acre, near BR-371 between Rio Branco and Xapuri, March 19, 2022. Photo by author.

extractivism was described to me in November 2019 by Carlos, who works for the Kaiapó Indigenous peoples' association in Novo Progresso, as we drove to the shoreline of the closest river to do an interview:

A person comes, takes away the forest, the wood. After taking out the principal wood, the thickest, he clearcuts the forest and plants pasture. Then the farmer stays on the pasture for five six years, that cattle eating all that pasture which weakens. That land, when degraded by cattle, the farmer does not reform, does not put fertilizer, calcium, does not do any work to retain the water, to recuperate that land. He moves to another region, forest, where he will take away the wood, pull out the forest, and plant again grass.

Pasture-based and inefficient cattle ranching appears to be the primary proximate driver of deforestation in the Amazon (Barbosa et al., 2015). It is present throughout the region, due to the low level of capital required, little need for preparing the soil, and easy extension to steep areas and recently deforested lands (Rivero et al., 2009). However, behind the proximate causes of pasture land and cattle production, which are driven by the price of meat internationally and nationally, is a deeper mechanism. There are systemic features of the Brazilian political economy wherein land value rise, land speculation and rentierism, illegal land grabbing and clearcutting, can be argued to be as important, or even more important, than the ineffective current Brazilian model of one-cow-per-hectare ranching. The rise in land prices produces more profits and possibilities for capital accumulation than ranching itself. However, fencing, planting grass, and placing

cattle on the land are key tools to secure land holdings in deforested areas. For this reason, I suggest calling the key cause of deforestation the creation, expansion, and consolidation of the ranching-grabbing RDPE. Since 2000s, the expansion of deforestation following the parameters of this system has been largely premised on the pushing factor of another RDPE, the soybean, corn, and other monoculture plantations stemming from the south and pushing the frontier of the ranching-grabbing deeper. The presence of these monocultural plantations makes it possible for the land grabbers to gain revenues from increased land valuation, as the soybean planters continue to buy the land. While specificities apply to which land is valued more, the general valuation in the economic sense drives and explains the bulk of where deforestation takes place. These valuations are based especially on the political decisions that accompany major developmental decisions about infrastructure and land tenure regularization schemes.

Forest policies flow from the larger world system of global capitalism, which assigns particular, lower value-adding roles to countries in the Global South, particularly by means of a mix of subsidies and loans, to form regionally dominant, yet developmentally misguided sectors within the primary sectors (see Bunker, 1988). The Brazilian state in the 1960s and 1970s – like many other states guided by the policies of the World Bank, FAO, and other international development cooperation agencies and businesses – had strongly supported the tropical livestock sector installed as a means to “develop” the country (Simmons, 2004). In the Amazon, the subsidized credit lines and political pressure to ranch led to major deforestation (Hecht, 2005; Nepstad et al., 2006) and the consolidation of power for an elite group of landholders.

Initially in the 1970s and 1980s, large areas were deforested in the Pará and Mato Grosso states, driven by the expansion of ranching to the Amazon (see Figure 2.4). The speculation practices of large ranchers – backed by state political and economic support (Hecht, 1993; Hoelle, 2011; Mahar, 1989; Schmink & Wood, 1992) – created a foothold for a ranching-grabbing RDPE to develop in the Amazon. The Brazilian state created (or was pushed by the rural elites and international financiers to create) the foundations of RDPEs of ranching in several Amazon regions (e.g. in Acre, in the 1970–1990 period) by vast subsidies and political support for land grabs by rural elites from southeastern Brazilian estates. In the Brazilian case ranching did not and does not expand endogenously; rather, its economic prowess was and is created by strong state and international policies that favor the expansion of this system at the cost of other systems. State and international policies provide the infrastructure and promote an overall developmental framing for this key activity (Taravella & Arnauld de Sartre, 2012).

The deforesting expansion of the ranching RDPE is partially based on the ample federal-level subsidized credits for Amazon producers and the race to the lowest

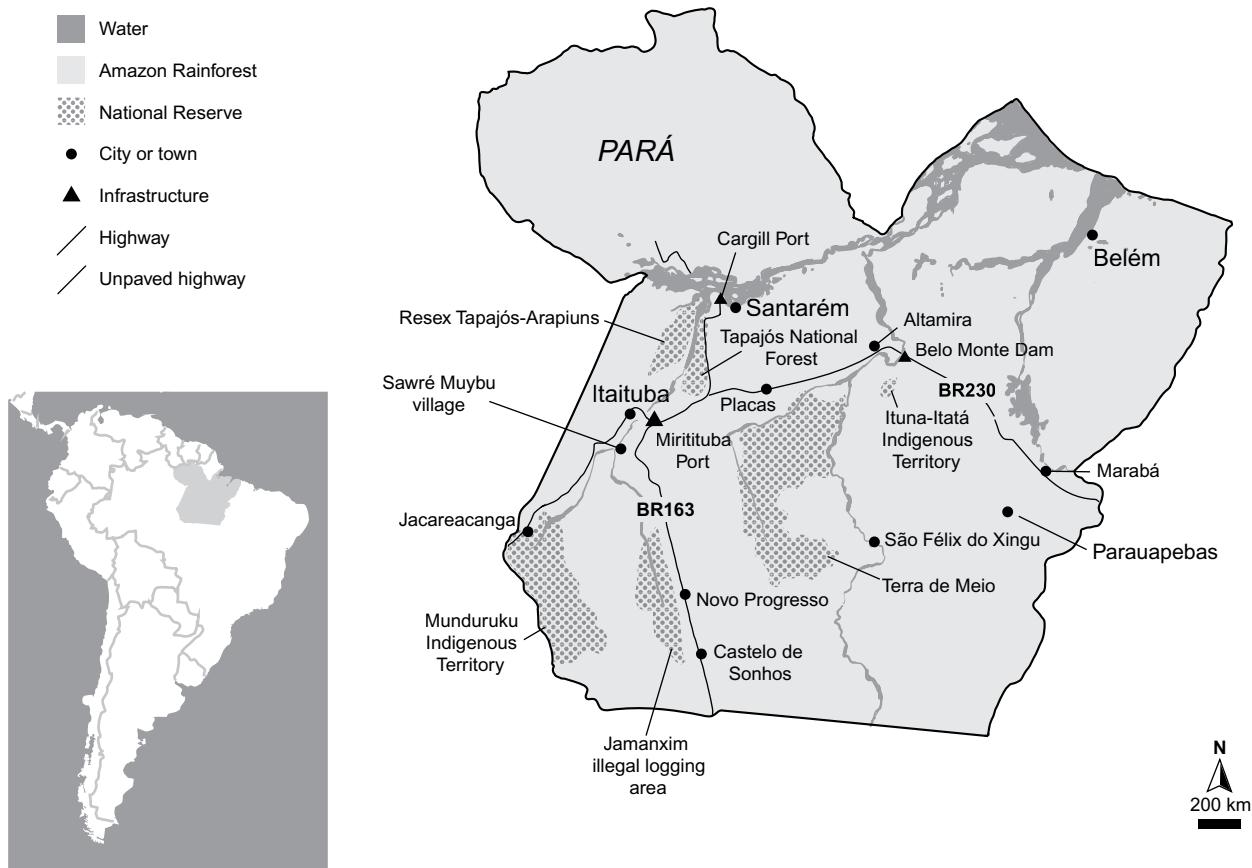


Figure 2.4 Map showing the most significant places in Pará that are discussed in this book. Basemap data from openstreetmap.org.

value-added (ICMS) tax rates for cattle raising, commerce, slaughterhouse, and sales activities between Brazilian states. In the state of Pará, for example, this crucial tax rate was cut from 17 percent in 1989 to only 1.8 percent in 1999. Taravella and Arnauld de Sartre (2012) cite this as a key reason for the profitability and expansion of ranching in the Amazon. However, the economic subsidies for ranching do not solely explain its continued expansion. For example, Hecht (1993) depicts how ranching continued deforesting activities even when state subsidies were lower. I argue that this is principally because most profits and capital gains come from the speculation and rentierism of those utilizing the ranching/land-grabbing mechanism. Establishing ranches is an effective means to gain access to other benefits, such as taking over conjoining properties or gaining subsidies, credit, tax breaks, and financial gains from land sales (Hecht, 1993). For these reasons, I do not refer to only the ranching alone as the RDPE, but rather the wider system, which I call ranching-grabbing. In the following chapters, I will discuss both ranching and the grabbing separately and as an intermingled system, which constitutes an RDPE.

A key here is to understand the lock-in and path-dependency systemic qualities of RDPE sectors. Once an extractivist RDPE has been set into motion by extensive subsidies like those given to the SUDAM's (Superintendency of Development for the Amazon, the federal state-created local authority to finance Amazon "development") mega-ranching projects in the Brazilian Amazon in the 1970s and 1980s, it is hard to reverse the deforestation trend, for example, by withdrawing the subsidies. Hecht (1993) notes how when the extensive state subsidies were withdrawn in early 1990s from the SUDAM ranching expansion, deforestation increased as the ranching economy had already taken root. Furthermore, the ranching economy was promoted by a series of local economic factors and dynamics and, to a large extent, it was no longer governable by the World Bank and others, despite global changes in attitude toward pasture subsidizing as a form of development cooperation. This example supports my argument on the importance of analyzing RDPEs as key components of global and regional economies.

A key hotspot and example of a regional ranching RDPE is the São Félix do Xingu region, which has been extensively studied by scholars of Amazon ranching (e.g. Schmink & Wood, 1992; Schmink et al., 2019; Taravella & Arnauld de Sartre, 2012). Taravella and Arnauld de Sartre (2012: 5) emphasize that the cattle sector, more precisely, the large ranchers, easily becomes "dominant" in the local economic, societal, and political systems, which is what happened in São Félix do Xingu. The large ranchers in the area worked together to create an exclusive class association to drive their interests. This move was motivated by rumors of a growing thrust toward the establishment of conservation areas in Terra do Meio where the ranchers wanted to extend their ranching-grabbing

activities. These kinds of lobbying associations are powerful and generate dominance and hegemony locally and are also linked to the national Rural Caucus in the Congress. Taravella and Arnauld de Sartre (2012) identify a key feature of ranching power through the São Félix do Xingu case, which is helpful as it details how the “regional” and local aspects of RDPE systems operate by spreading the notion that they provide a local development function. A large ranchers’ association, called Xinguri, frames the local scale where they operate as “powerless and legitimate” and the broader national and international scale as “powerful and illegitimate.” To keep their power, it is important for Xinguri to delegitimize this broader scale because it frames them as Amazon deforesters, a framing that would undermine their status at the local level if it was accepted. Taravella and Arnauld de Sartre (2012: 12) show how the large ranchers strategically use these discourses to frame themselves as the harbingers of “local development,” when in fact they are not even “local,” as in most cases they do not live in or even near the region. In addition, the source of their regional power is derived by policies made outside the region, such as national-level subsidies attained through legislative lobbying to further the “pastoralization of the Amazon.” By their locality discourses, the Xinguri can further consolidate their grip on their distant territorial locations while creating autonomous space for continuing to dominate and expand. For a long time, the discourse pushed by the large ranchers has had a grip on the highest political and judicial systems in Brazil (Taravella & Arnauld de Sartre, 2012). This can be clearly seen in the efficient vertical organization of the local dominant agroextractivist systems under the National Confederation of Agriculture and Livestock (CNA).

This system is kept afloat due to ample available financing from banks, which support cattle due to their liquidity and relatively secure quick returns. Cattle are considered “money on [in] the hand,” as they can be sold easily, thus the capital investment has little risk in that sense. This kind of money-making cycle is supported by the world’s dominant political economy – the financialized capitalist world-ecology. In the Amazon, due to strong initial support by dictatorship governments and international lenders, ranching has been turned into the most liquid available form of capital formation, as it can quickly turn money capital (M) into an increased amount of money capital (M') through a commodity capital (C) cycle, which follows a Marxian M-C-M' profit-making logic. The rancher “knows that he will finance the opening of that area in a short while, the guy puts there about 100 heads of cattle, and after a while the guy has three hundred, and can pay the bank back.” This logic was explained by Carlos from the Kaiapó Institute. On top of this already profitable cattle system comes the much higher potential of increased land prices and rents, especially in key frontier expansion areas.

Land-Grabbing, Ranching, and Agribusiness Expansion: Speculative Land Value Rise

The degree to which a land area is clearcut, and its proximity to major highways, explain about half the reasons a particular piece of land is valuable. A detailed analysis in Novo Progresso found out that the more clearcut and the closer to the highway, the more the land was valued. Other significant factors that affect land valuations were also identified by Macul (2019). These are, in order of importance, proximity to urban areas, proximity to other roads, the size of the area, and the number of certified farms; these factors, in conjunction with the earlier observations, explain over 80 percent of land value. In 2019, in this key resource and commodity frontier area, I witnessed agribusinessmen planting soybean in clearcut areas even directly beside the BR-163 highway. Clearcutting an area, and building highways and roads, are essential to explaining how land value is created in the Amazon deforestation frontier areas. These RDPEs, based on ranching-grabbing, yield high rents for land value speculation, which are realized especially when a soybean RDPE arrives to the region or the land grabs gain the status of *de jure* ownership (e.g. by state legalization) or *de facto* control (e.g. by selling the false title). These acts fortify the existing RDPE of ranching-grabbing, which gains profits and can move deeper into new frontier areas, thus increasing the clout and accumulated economic and social capital of the deforesting extractivists.

In the 2000s, the ranching-grabbing frontier expanded further, as soybean/corn/cotton monocultures, sugarcane ethanol, and eucalyptus plantations took over pasture land and pushed ranchers deeper into previously forested areas. This happened especially in areas adjacent to these commodity frontiers and states, with deforestation spreading to adjacent areas like Rondônia, and to the Mato Grosso and southeastern and southern parts of Pará. In addition, the deforestation also leapfrogged to the Santarém region in western-mid Pará by the Amazon River. The reasons deforestation came to this area also was due primarily to the building permits given, irregularly, to Cargill in 1999 for a soybean export port in Santarém (Schramm et al., 2021). In parts of Pará and Roraima, oil palm plantation expansion has been the sector driving ranching deeper into Indigenous and other protected lands. However, the plantation agribusiness push for the spread of ranching-speculative deforestation was not the only reason for this expansion. The 2000s especially saw the rise of Amazon ranching as a key global economic source of beef and leather, due in part to the overall global commodity boom, where land and commodity prices increased dramatically before and especially after the 2008 financial crisis (Borras et al., 2012). In this setting, Amazonian land prices were lower than elsewhere, which meant land could be more easily grabbed, by buying or violence or a mix. The climatic conditions were also suitable for pasture-based production, which supported the choice to rear cattle. Moreover, the proliferation of hoof and mouth

disease in many countries, which affected their exports of meat, also contributed to the perception that Amazon beef was a safe source of meat (Hoelle, 2011).

However, the issue is still more complex, and the proximate evidence of pasture land can hide deeper processes that are not directly or even necessarily linked to ranching. In addition, there are regionally differing sectorial as well as intersectorial and complex pushing factors for deforestation. A key deeper process is the speculative, mostly illegal, and violent land grabbing, which is done for the sake of seeking rising land value. Amazonian ranching should be considered as a component, or a subset, of the speculative Brazilian grabbing-ranching system. Brazil's ranching is a particularly unproductive form of capitalism (see Dowbor, 2018) and more of a rentier and speculative system. As Hecht (1993: 689) elucidates, the Amazon livestock investment is a form of "land use that produces few calories, little protein, and little direct monetary returns compared with other forms of agriculture while producing maximal environmental degradation," a description that continues to apply to most regions of Brazil today (see Ollinaho & Kröger, 2021; 2023). Yet, big exporting ranchers are making very large profits, especially in the past few years.

Key Actors Driving and Curtailing Ranching-Grabbing

Who are the concrete key actors within this RDPE of ranching-grabbing? Several of them are large landowners who are also leading politicians; thus, accumulating both political and economic capital. There are crucial international buyers and companies such as China and Cargill, respectively. The actors who are working to resist deforestation, at the state and grassroots levels, are also important factors in determining how deforestation plays out. In the Brazilian Amazon, ranching has become by far the biggest cause of deforestation, at least by the number of hectares that have been deforested. As an official from the Chico Mendes Institute for Biodiversity Conservation (ICMBio)¹ explained to me in Itaituba in 2019, "the biggest clearcuts we saw this year were for ranching, by the pattern of clearcut, these are sharply rectangular areas forming and you see a great devastation." Many argued that the biggest rancher in the Itaituba region is its mayor, Valmir Climaco, whom I interviewed in November 2019. The discussions with him revealed the crucial importance of the link the Amazon has to the broader world system. These links are visible in the tightening import rules in the EU and boycotts by several Western companies, which are due to Bolsonaro's deforesting policies. However,

¹ ICMBio, named for the environmental activist Chico Mendes, focuses on the protection of conservation areas, while the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA), another federal environmental agency, focuses on private and Indigenous land protection and anti-deforestation in the Amazon.

this has not slowed the export of materials too drastically as the beef and leather are now sold to China. This international flow of commodities is a key factor to explain the continued devastation caused by ranching, although a substantial part of the meat is consumed in Brazil and the Amazon itself. During my interview with the mayor, I asked if exports are important for this business, to which Climaco responded, “That is the best business, a success, we are eyeing [for further exports, as it is] much better remunerated. Very interesting.” He argued that the international market is yielding 40 percent more profits, “and we are smiling!” I asked if the price was good: “Very good! The price doubled.” He said that in 2019, 70 percent of cattle were raised for international export and the other 30 percent for internal markets. However, in 2020, 100 percent were intended for the international market, all sold to buyers in China who had recently visited his farm. He said that it takes 39 days for the boat to take the meat from Manaus to China. “I ordered to make a raft that carries 500 oxen” by the rivers. Thus far, he had been selling the cattle to French company Carrefour in Manaus but was shifting to sell through Belém’s Santana port to the Chinese company Okusan.

In December 2023, I interviewed Felicio Pontes, a federal prosecutor at the Federal Prosecution Service (MPF), who was responsible for safeguarding the rights of Amazonian populations against threats by large investment projects. During our interview, I asked who the grileiros are, he explained, “In general, today in Brazil the grileiros are large farmers, those who need all the time more land for cattle. These illegally grabbed lands have been used primarily for cattle.” Their presence is visible in key deforestation frontiers inside Indigenous lands. For example, Senator Zequinha Marinho (Liberal Party, PL) from Pará has tried for a long time to help large ranchers grab lands in the Ituna-Itatá Indigenous Territory, where isolated Indigenous people live (Bispo, 2022). In 2022, I talked with agents from the National Indian Foundation (FUNAI) who had documented – during their several weeks-long expeditions to the area – the presence of the Indigenous people who wanted to remain in voluntary isolation. The problem was very thorny and the agents asked to remain unnamed, which was also required in 2022 under the Bolsonaro regime. Even the FUNAI director himself would not listen to the technical reports, but rather tried to help the senator and his ranching speculators. In January 2022, after demands by the federal public prosecutors, a court ordered that FUNAI needed to reinstate the prohibition of outsiders entering the Indigenous land and they needed to drive out the grileiros. Even though entry by outsiders to the Ituna-Itatá Indigenous Territory has been officially restricted since 2011, the area has become one of the most deforested Indigenous lands in the Amazon. The grileiros took note of the weak resistance organization and used clearcutting to turn the area into an unliveable space for the Indigenous groups, as they are dependent on the forests for their livelihood. Between 2016 and 2022,

over 21,000 hectares were opened for pasture using fire and illegal logging. Since the area is not yet officially approved, despite the longstanding ban on outsider use, there is still a theoretical chance for regularization of the illegally grabbed lands. Bolsonaro-appointed FUNAI president Marcelo Xavier made a decision in 2020 that took away the protection and allowed legalized privatization of non-approved Indigenous lands. Subsequently, several courts have deemed this decision illegal (Bispo, 2022). Nearly the entire Ituna-Itatá Indigenous Territory has been self-declared private property in the Rural Environmental Registry system (CAR: Cadastro Ambiental Rural), which shows the extent and extension of illegal land grabbing in Brazil. This example also clearly shows the links between deforestation activities and the highest levels of government, including electoral and institutional politics. A tremendous amount of work is required for progressive state actors to try to resist and overcome judicial and institutional politics. This case shows the complex politics in places where states do not functionally mean the same thing as governments, but are more complex, internally battling sites or arenas (Baker & Eckerberg, 2014). Even under authoritarian governments, some space tends to remain for resistance from within and outside of the state.

As Brazil's 39th president, Luiz Inácio Lula da Silva (hereafter Lula), regained power in 2023, and the MPF kept defending the rule of law, in September 2023 the Federal Police started entering the Ituna-Itatá reserve and removing the land-grabbing ranchers. As Federal Prosecutor Felicio Pontes from MPF explained in December 2023, "We have now managed [to push] the government to do the disinrusion, right? The removal of the farmers for the Indigenous land, they are right now doing this." That area was selected as a key site for intervention due to the critical situation of fast deforestation and land grabbing. Pontes saw that now, as FUNAI will be given time to process the Ituna-Itatá studies, Indigenous land will officially be approved, no longer remaining in the study phase. There are currently about 400 Indigenous lands in the study phase, while the number of staff at FUNAI is "very small" and today the institution is "very weak," which explained for Pontes why "they do not manage to do [the studies] at the speed we want." The MPF is responsible for defending the rights of Indigenous and other populations, as a state ombudsman. One important function of the MPF is assisting local resistance when they request help in class action suits. Pontes explained that when both local resistance and the federal or state-level prosecutors are active, they have won in 80 percent of the cases in court. Thus, MPF is highly effective in helping to secure the rights of especially the active forest peoples in the Amazon. For example, even during Bolsonaro's tenure, the MPF brought a case to court against the Bolsonaro-named FUNAI president, who also was a Federal Police officer, because he wanted to remove the consideration of Ituna-Itatá as an Indigenous land. The MPF won that court case, but often they do not even need

to go to court, as simple recommendations given to authorities are enough, especially during periods of more lenient governments. In 2023, Lula appointed an Indigenous FUNAI president, Joênia Wapichana, which is a radical transformation in FUNAI politics. The MPF is also involved in trying to improve the legal setting, their analysts (working under prosecutors), such as Rodrigo Oliveira (interviewed in December 2023), have authored new law projects (such as PL 3025/2023, to make money laundering more difficult and ease the tracking of illegal gold chains).

In addition to the MPF, another key actor group is composed of Federal Police investigators, who specialize in targeting environmental crime. In Santarém in December 2019, I interviewed Gustavo Geiser, a forensics expert on forests at the Federal Police forensics department. He explained that it is more important to burn or destroy the deforestation-causing machinery and equipment than to catch the small operators of deforestation. During Lula's first terms (2003–2010) there was a major police operation and task force targeting and closing small-scale illegal loggers and sawmills in Pará, as detailed in the book *Arco do Fogo* written by Federal Police officers active in the operation, which had the same name as the book (de Souza & Borda, 2019). However, since the operation, new sawmills and operations have taken their place, because focusing on these smaller players brings shorter-term results. In the long run, targeting the large sawmills that export wood was more efficient based on Geiser's experience in the Belém area, where the effects of this kind of work that targeted the large sawmills could still be seen in 2019, even under Bolsonaro. Geiser argued that the focus should be on tracking, detecting, and exposing illegal documents, instead of running around the forests. The chief of Manaus, another Federal Policeperson, explains in his book how it is essential to detain illegal wood at ports (Saraiva, 2023). According to Saraiva (2023), establishing Command and Control in the Amazon, especially through the Federal Police actions between 2008 and 2017 in the Arc of Deforestation Operation, was not sufficient. The actions became isolated, and thus lost in the vastness of the Amazon, and were "not enough to break the economic motor of the criminals." This refers also to the crucial importance of first combating the economic and political power, instead of taking an isolated, modern, neoliberal governance approach to criminality. This is because, "when the police, inspectors, and military steps to the region, the loggers are already more than alerted." As a chief Federal Policeperson operating in various regions of the Amazon, Saraiva focused on causing economic and financial losses to the organized crime by destroying machinery and making it harder to launder money. He found it was most important to hit the already processed, value-added deforesting commodities, such as planks in ports, rather than the unprocessed logs in the middle of the forest, of which about 75 percent are wasted anyway. Therefore, hitting further up in the value chain is more impactful, as "the wood arrives at port after investments also in logistics and transport and, of course, it was already negotiated, has a

buyer" (Saraiva, 2023: 160–161). This strategy makes the damages multifold for the whole chain of illegality in the economic, social, and political senses.

Using the approach of tracking illegal documents, among other projects, Geiser did a satellite report on the Jamanxim illegal logging area on Munduruku lands. I had visited this area on a trip before our 2019 interview, so I was interested to ask him about his experiences there. In 2019, under Bolsonaro, he tried to enter an area of logging he had detected, but he did not get the support of the Army for providing a helicopter as had previously been the case. The Workers' Party (PT) governments had offered logistical and armed forces support for the police forces targeting environmental crime. During Bolsonaro's regime, last-minute cancellations of these resources were the rule rather than the exception. This was due to exceptional orders from Bolsonaro to not allow helicopters to be used in such environmental crime situations. In addition, the Minister of the Environment, Ricardo Salles, who was forced to resign in June 2021 when US and Brazilian courts started investigating him and his staff for money laundering and illegal export of wood from Amazon (*The Guardian*, 2021), had forbidden the IBAMA to use helicopters or to burn equipment used in illegal deforestation.

In August 2023, the Federal Prosecutor's Office moved the case to court, where Salles was accused of four crimes: including being a key constitutor of organized crime, facilitating illegal trade, advancing personal gain while in public office, and obstructing inspection by public officials while in office. At the same time, Bolsonaro-appointed president of IBAMA, Eduardo Bim, was charged in this scheme for criminal acts of illegal wood exports (Peres, 2024). This case shows the depth of government capture by criminally minded entities during the Bolsonaro regime.

Having now covered the key actors and dynamics, I will delve deeper into the RDPE.

Land Value Rise for Ranch Holders

I will now explore the rise of ranch land value caused primarily by agroextractivist plantation expansion as the key cause of deforestation. In April 2022, I did a series of extensive interviews with a rancher and agricultural engineer whose lands were located in the southeastern fringes of the Amazon. He explained how the value of his 2,260-hectare ranch had more than doubled in a year, as soybean planters started to look for land in the area where his ranch is located. He did not want to be identified by name as he was living in tense rural areas, where shootings and even killings take place between ranchers grabbing lands from each other and nonranchers. However, he assured me he was not involved in this activity, which was corroborated by some of my other veritable sources. I will refer to him here

as the “modern rancher,” as he stands in comparison to the trope of a “predatory” or “primitive” rancher.

This modern rancher I interviewed explained how it would be much easier and more profitable for him to just rent his land to soybean planters, instead of continuing with ranching. In fact, most of the neighboring ranchers were already renting out their pastures. Ranchers are calculating how much they earn per hectare for cows, and compare this with how much they would earn by renting out the land, also including the value of land in the equation, since they can get more and better loans for expansion as the value of their land increases. They also consider the role of fertilizers, improvement of cow genetics, and other factors and expenses they would have to take care of themselves if they did not rent out the land:

My cost per head [of cattle] was 84 reais per head per month. That gave me a 14 percent profit margin. And I earned 250 thousand reais, that was the farm’s profit last harvest. Which, divided by 1,718 [the number of cattle he has], gives 145 [reais]. This is absolutely horrible because the farm is worth 60 million reais [in the preceding year the value was 30 million reais, about 6 million USD (United States dollars)]. She [the farm] gave 200 thousand. It’s kind of like that, it’s really bad [the profit rate]. It’s just not a total disaster because the area itself [its value increase] corrects itself. So those 60 million that the farm is worth correct themselves because it is the value of the land. So, the farm, what saves it is the real estate issue. The herd is worth 10 million. 10 million to get 200,000 [reais]. (Author’s translation from a 2022 interview in Portuguese with the modern rancher)

It is important to focus on these intersectorial processes to understand the drivers of deforestation. I will first focus on the land value and speculation issues since they seem to move much more money than ranching itself. The modern rancher explained that ranching is a poor but secure business for his region. The main utility comes from ranching’s ability to “occupy land.” He explained, “This is a business that produces very little, but it is very safe, it will always give those 200 thousand [reais]. So, it gives only a little bit, but it does serve to occupy the land very well.” This is precisely the issue in Brazil, in the RDPE that I call ranching-grabbing, with an emphasis on land value speculation. One can earn more with very little effort, due to the rising land values. Thus, ranches serve their owners very well and are the most accepted and *de facto* functioning judicial-political means of holding onto land and being able to claim proper compensation if one is compelled to give up one’s land to establish land reform settlements or conservation areas. In addition, the laws of the National Institute for Colonialization and Agrarian Reform have favored deforestation, both for large landowners and smallholders. Land clearing has been a legally backed way to secure not only the cleared land, normally for pasture, but an area six times the size of the clearing (Hecht, 1993), which is considered to be the legal reserve required by law. In the Amazon, 20 percent can be deforested, while the other 80 percent should be protected; however, this is not

respected in practice and one can legally do logging activity on the “protected” 80 percent, provided it is not clearcut. The 1988 constitution defends land clearers from expropriation that make “effective use of land,” which in practice means they deforest the land and then put cattle on it. Therefore, for a long time deforestation has made sense in this legal setting, as it helps to secure land access, control, and capital accumulation.

Land grabbers are looking for the most lucrative speculative futures where land buyers will enter the area and they can realize their earlier grabs on land, whose legality is usually doubtful. Yet, the potential-seeming legality is reinforced by acts of selling the lands several times, which produces legal-looking papers for these sales, while gaining support from notary officers, politicians, police, and other elite powerholders, at all levels of the state. Therefore, to understand why large swathes of forest are still being clearcut in the Amazon, it is extremely important to understand the presence and push of the soybean/corn plantation frontiers inside and next to the Amazon. The soybean process ensures continued interest by the professionalized sector of land grabbers (called grileiros in Brazil) specializing in the violence needed to dispossess people and retain the lands obtained through land title frauds. These frauds allow grileiros to continue their work to undermine the rule of law and clear forests for the purpose of creating salable commodities, usually in the form of forged land titles. This process was ongoing in 2022 in the Amazon–Cerrado transition forest area where the modern rancher’s farm was located. It was often the case that landholders in the area had inherited their land from a prior generation of pioneering land grabbers from southern Brazil. He explained to me the kind of thinking these landholders were faced with, “Soybeans make much more money, each hectare of soybeans gives 1,500 reais. Look at the difference. Today I earn 145 reais per hectare [with ranching]. If I leased it for soybeans, starting tomorrow, I would earn 1,500 reais without doing anything and the guy was still fertilizing my land [fertilizing he now must pay for himself, when ranching].” However, the modern rancher was not going to rent out his land, unlike the others, as he explained that he likes the ranching business and intended to intensify it with rotational pastures and fertilizing and breeding cattle with good genetics. This affinity for cattle capitalism, ranching, and cowboy culture as a lifestyle, is an important topic I will discuss later in this chapter. Typically, many ranchers, who might be living elsewhere in Brazil or abroad, are on the lookout exactly for the opportunity to not have to worry about production while receiving monthly payments to their accounts for rental agreements. The ranch itself, even if highly valued, does not produce significant yearly earnings if holders continue to ranch in the typical style for Brazil. The modern rancher explained that there is a sectorial joke among the ranchers in Brazil that “*A fazendeiro* [large farmer] lives poor to die rich.” This joke helps to expose the cost calculating logic that is driving

the expansion of plantations, which drives deforesting land grabbing deeper in the Amazon. The modern rancher laid out these dynamics clearly in our conversation:

The business is like this. Just last year, because soybeans arrived, the land doubled in price. It doubled in a year. Now, I'm not going to sell my land, so it's money I don't see, but the equity has doubled. The farm was worth 30 million and is now worth 60 million. If you have a forest area in the Amazon, anywhere in Brazil, if you cut it down and plant grass, it will be worth more. Deforested land ready for production is worth much more than an area that must be deforested because deforesting costs a fortune, it is very expensive. So, it's the same with soybeans. Soybeans arrived and increased the land value. Grass arrives and values the land. It's a ladder: grass is cheaper and less valuable, but it values it, and soybeans are more technological, much more expensive, and more valuable. And finally, it's as if it were damage [in the profit-calculation process], the forest is a bad thing in real estate business, right?

Ranching in the Amazon is often not economically viable without major economic and political incentives, with the largest part of revenue increase coming from rising land prices and rents (Carrero & Fearnside, 2011; Hecht, 1993). In 2019, I interviewed the manager of Bela Vista Farm, which is an 80-hectare intensive showcase farm with feedlots and 350 oxen that is located by the Transamazônica Highway west from Itaituba. During our interview he explained that they need to spread fertilizer and calcium every year, as well as replant the grass in several places where the soil is weaker or the oxen step more often. He shared that pesticides are “needed twice a year … due to the forest, since the forest will trouble the grass and the grass lowers.” This was the only farm in Itaituba that had rotational lots, which was rare due to the cost, yet did provide benefits, since, “if left at large, all open, ox will stomp a lot. Stomping, stomping, and not eating. So having fences he goes there and return.” However, this kind of rotational system, which allows for keeping more cattle than possible on the open area, is not in the interests of ranchers in the Amazon or Brazil. This is because the overarching system is not “modern ranching,” but instead it is a system of ranching-grabbing, wherein speculation is more important than anything. In this ranching-grabbing system, cattle serve more as placeholders than being the commodity through which most value is created. According to the Bela Vista manager, most ranchers do not have the money to put the rotational system into practice, but in some cases, money is not the only limiting factor. Most ranchers also do not have the proper knowledge, so they do not know how to do these kinds of rotations in practice. Based on this, a basic characteristic of an *extractivist* RDPE is that it locks in wasteful and/or unproductive methods of production and it is not set up to incentivize effecting change.

In Amazon ranching, most returns typically come from financial speculation, not from meat sales. This dynamic of rapidly rising five- to tenfold increases in



Figure 2.5 Freshly deforested and burned rainforest next to the main highway leading to Belterra, Pará, which will be turned directly into a soybean plantation. The area was still smoking as I passed it. This is becoming a more and more common sight as direct deforestation for soybean plantations increases next to main roads. Brazil, December 18, 2023. Photo by author.

land prices, prompting ranchers to expand further in the Amazon, after land sales or leases to soybean farmers, has been in operation in the Cerrado–Amazon region, especially since the early 2000s rapidly expanded soybean boom (Nepstad et al., 2006). This is a particular setting with strong extractivist and capitalist transformations where forests are seen as obstacles (see Figure 2.5). The excerpts given from frontier ranchers expose the kind of mentality and business logic within which are situated the key powerholders who are territorialized into key positions in the Amazon. Very few of them take climatic-ecologic crises seriously into consideration in their actions, although, based on my interviews, increasing droughts, fires, floods, and other volatilities in production conditions are known and felt by practically all of them.

Soybean-Pushing and Ranching-Pulling Dynamics in the Amazon

While especially the soybean frontier pushes the ranching frontier deeper into the Amazon, the ranching, as conducted in the Amazon, creates a need to resituate itself. In the internal logic of Brazil's typical cattle capitalism, it takes about 10 years to generate a good genetic quality for the herd, which often coincides with the need for major new investments in the form of fertilizing and turning to intensive ranching instead of extensive ranching. Yet many ranchers do not have

the money or knowledge to institute this intensive ranching. Therefore, when soybean farming becomes an option, the ranchers have the “tendency … to look for cheaper land,” which is the logic of the dominant system. In 2022, I interviewed a rancher in northern Goiás, in the Amazon–Cerrado transition area, who explained to me:

My own *peão de gado*, my ranch manager, said: “Why don’t you rent everything here and go to Tocantins and buy another farm? You keep earning your income from here and I’ll go there with you, we raise cattle there in Tocantins.” I said: “Because I don’t want to go to Tocantins, I’ve already come to Goiás, I’m from São Paulo, it took 10 years for me to meet everyone here.” I don’t want to, like, like … but the logic would be … it’s not logical to raise cattle in one place, because soybeans make ten times more money.

A further driving factor from within cattle capitalism itself is the ways in which it causes soil degradation. A modern rancher explained that 20–25 percent of his area is exhausted due to erosion and cannot be used without buying fertilizers, seeds, terraforming, and replanting new grass. It is more aligned with the logic of cattle capitalism – where “ranching gives only little money, so one does not want to invest” – to just go to a new area instead of making the necessary investments. The modern rancher explained that in Brazil, ranching offers on average 100 to 300 reais per hectare, while with soybeans one earns between 2,000 and 3,000 reais per hectare. Due to this reason, he saw that soybean planting is a more important process than ranching even though pastures cover over 160 million hectares and soybean plantations around 45 million hectares. However, due to the enormous difference between the profit rates, the 160 million hectares of pasture in total is less profitable than the soybean areas. For this reason, he saw the soybean sector as one of the key movers of development and more powerful politically than ranching, as it is “richer and better organized” (see [Figure 2.6](#)).

The ranching and soybean sectors also differ in their demands for technology and infrastructure needed for the volume of production. The modern rancher calculated that he produces about 90 kilograms of meat per hectare per year, while soybeans would produce about 4,000 kilograms of beans (approximately 8,818 pounds) per hectare. This radical difference in volume means that even before the soybeans themselves are planted, the expansion of the soybean sector pushes massive infrastructural expansions, especially ports, paved roads, railroads, canals, electricity, and other major changes in the physical space. However, these pushes would not be possible without having the fundamental requirements fulfilled, which are land availability, access, and control. The resource frontier – where nature is turned into extractable “resources” both physically and mentally – comes before or during the expansion of the commodity frontier (Kröger & Nygren, [2020](#)). Ranching in Brazil is a sector that primarily engages in land grabbing, holding, and transferring. Through these processes it creates and expands resource frontiers. The recurrent



Figure 2.6 Monoculture soy/corn plantations are being expanded over pasture land, in places that used to be rainforest, thereby expanding the soybean frontier deeper in the Amazon. Acre, near BR-371 between Rio Branco and Xapuri, March 19, 2022. Photo by author.

amnesties offered by Brazilian parliaments to illegal land grabbers incentivize the continuation of the practice of *grilagem* (the falsification of documents), especially in the so-called arc of deforestation, which currently runs from the western state of Acre to Southern Amazonas, from the state of Pará until Santarém at the confluence of the Tapajós and Amazon Rivers, and then east from there, and in places even hopping over to the northern bank of the river.

Ranchers have also been typically less dependent on banks and other outside entities than soybean cultivators, since they do not need to take such large loans. The modern rancher called the plantation holders “super dependent” on banks in comparison to ranchers. He explained that the banks continually pushed him to take out more loans, but his personal rule was to have no more than a maximum of 25 percent of the value of his herd in loans. At the time of our interview, he only had about 15 percent of the value in loans. Typically, ranchers take loans that equal about 50 percent of their herd value, while soybean producers have several times the value of their crops. As a rancher, he could get loans at an interest rate of about 10 percent per year, while normal Brazilian public sector retirees would need to pay about 30 percent. Ranchers would take this cheap money even if they did not need it, as they could easily invest the money borrowed at 10 percent to gain 15 percent, while pocketing the 5 percent. This was described as “working with the money of the bank as this is cheap.” The modern rancher explained that these comparatively low

interest rates are a “privilege that no other sector has,” not to speak of common people. This cheap money makes it possible for the rancher “to be bigger than he is” and grow the herd even if he does not need to. This difference in terms of access to cheap money is a key element when trying to explain the centrality and growth of the ranching-agricultural sector in Brazil in comparison to other sectors. This access to relatively cheap money also helps to explain the consolidation of its territorial dominance. There continues to be a push for deforestation due to the preferential access to low-interest rate loans for ranchers, guaranteed by the aggressive rural lobby. This arrangement also helps the expanding soybean frontier, since the debt generation makes it more likely for low-producing pasture land to be transmitted to soybean producers if the rancher cannot pay the loans. Ranchers get the loans cheaply, since they have the large landholdings registered at the bank as collateral, which the bank can seize.²

I discussed these issues related to interest rates and loans with other actors involved with ranching and soybean cultivation in different parts of Brazil. One of them was an agricultural expert, a consultant-company owner called André, who was the key operator expanding nascent soybean and corn plantations in Acre. I traveled in Acre with the consultant in March–April 2022, through the new soybean fields at the westernmost frontier of the soybean expansion in Brazil. André had deep, actual knowledge of the entire chain of operations, in both ranching and field cultivation, and was advising the largest landowners, those who had been resisted by the rubber tappers such as Chico Mendes in the 1980s in Acre. André advised these landowners on how to improve the productivity of their ranching and how to turn their land into soybean/corn plantations and expand deeper in the state. He even walked them through making plans for expanding inside conservation areas, such as the CMER. I traveled with him in the countryside, visiting farms and their owner-patrons, getting to know the way of life, thinking, and talking about these issues. André explained that he, or the large farmer, can get loans with an approximately 5 percent interest rate, which is a factor that helps to explain why soybean production expands and becomes gradually more dominant than ranching. For example, against a farm worth 80 million real, a 50-million real loan normally is taken, with the farm serving as the collateral. With the loan, farmholders can buy the needed capital goods for the ranching–soybean plantation transformation, including harvesters that cost 2 million, tractors that cost 200 thousand, silos that

² The modern rancher explained that in February 2022 the access ranchers had to easy money changed and banks did not want to loan anymore even sums as low as 200,000 reais (in comparison to prior norms of millions) due to the pandemic and other crises. In February 2024, there seemed to be more loans available, with Bank of Brazil even announcing on its website interest rates of 12 percent and sums up to 3 million reais per year for ranching and plantation operations (Banco do Brasil, n.d.). Brazil’s National Development Bank was offering ever bigger lines of credit, albeit with a slightly higher interest rate.

cost 6 million reais, and other smaller things. This is framed as the “modernization” of the business, and consultants, like him, take care of everything. When I was in Acre in 2022, time and again I saw new, but still unused harvesters – which I had never seen in this area previously – that were ready to be deployed to harvest the first crop of corn and soybeans.

Since the 1990s, the value of land has risen dramatically in Acre, which was due at first to the expansion potential and expectation of soybeans and later was related to their actual expansion. André explained how in the late 1990s and early 2000s a hectare of Acre’s best agricultural-potential lands, next to the Interoceanic Highway running to Bolivia and Peru from Rio Branco, cost about 100 reais, while later in 2012, when he started to work in the state, the price was up to 1,000 reais per hectare. In April 2022, the price was 20,000 reais or more per hectare, which is an impressive rise from 100 reais. While the value of land does vary, even land next to the rural *ramal* access roads has increased significantly. These *ramal* roads are typically not even paved, but rife with mud and bumps, running sometimes legally and often illegally across conservation areas in the Amazon, especially in many parts of Acre. André explained that even in 2002 one could buy land 4–6 kilometers away from this type of road for 500 reais per hectare, but now the same land costs more than 15,000 reais per hectare.

The most marked growth in land prices per hectare started in 2012, which was spurred by legislative changes when the new Forest Code was approved in Brazil. The approval of this Code led to extensive new deforestation due to environmental protection standards being lowered (Kröger, 2017). At the same time, ranches and plantations were expanding, which was a process that had already started at least five years earlier with widespread deforestation, even within conservation areas. On average it takes about five years to deforest an area and turn it into an “open area.” André referred to this deforestation as the primary process required for the land-valuation process to start and continue in a positive feedback cycle. This means that as the demand increases, offers are increased. These changes took place amid the 2008 rise in global commodity prices and profits, following the financial crisis and movement of money into raw materials, which caused a wave of land grabs and land deals (Borras et al., 2011). André explained that once the land has been made available, or “opened,” agricultural expansion is needed for the land prices to soar. He shared that he and his colleagues from the state-level organization of CNA, Brazil’s agribusiness lobby group, whom I also interviewed, were the key players in this process:

[T]he beginning of agriculture here in the state, when we started here in 2012–2013, it was us who started with agriculture on an industrial scale, not family farming with 10–20 hectares, large areas, machines, technology, and all, which were not here before. So, I was the one who started this here in 2013. So, land and agriculture [are needed for the land

value rise], agriculture gives more money, if it gives more money, I can sell the land more expensive because the business supports more.

The Infrastructure–Speculation Nexus: Acre

Besides the 2008 increased clearcutting and ranching, and the 2012 expansion of the budding plantation sector and further ranching, another point André mentioned was the 2021 construction of the Ponte do Abunã over the Madeira River, where there was previously only a ferry crossing. Now that there is a bridge, the crucial hub of Porto Velho in the state of Rondônia can be reached in only six hours, whereas before the bridge this took a whole day. This easier access made it possible for the pioneering ranchers and soybean planters – the land grabbers – to reach Acre quickly. This kind of increased access pushes a natural expansion of the frontier. The bridge helps to explain the post-2021 surge, which I witnessed in 2022, of illegal land grabbing inside Acre's conservation areas by Rondônia-based farmers. This single bridge greatly increased the value of land in Acre and caught the attention of farmers in Rondônia, who often have 10–15,000-hectare monoculture plantations, for example in Vista Alegre do Amanhã. This means that a single farmholder in Rondônia can have the same size monoculture plantation as there was in all of Acre combined in early 2022. These farmholders started to flock into Acre en masse to make illegal deals with the residents of, for example the CMER, who officially could not sell or rent their lots to outsiders. Yet, despite the official rules, they have been lured into this business by the outside rancher-speculators and the iconic, almost one million hectares of conservation area is now poised to become a key soybean plantation area. The consultants I talked to conceded that the land within the conservation area was excellent for these purposes. The closeness of the Pacific Highway and its overgrazed large ranches with their ranchers is a key explanation for why there is a drive and enabling infrastructure for deforestation to eat away the protected forests. Now, these highway projects have also expanded in the west of Acre, which further allows land grabbing through these enabling infrastructure projects.

The existing ranching-grabbing sector of Brazil explains how the infrastructural expansions do lead to deforestation and illegalities. Roads are a necessity for clear-cutting to expand and they are the first indication that there will be a major leap in property values. In 2022, I traveled to Cruzeiro do Sul and Mâncio Lima, the westernmost municipalities in Brazil and Acre, to study the project that has been proposed to link Cruzeiro do Sul and Brazil by a highway to Peru's Pucallpa. The road would cut through major conservation and Indigenous areas, including the Serra do Divisor National Park. I learned from various sources and informants that the road project, which Bolsonaro, the Acre state governor, and local mayors were

advancing, but Peru's then-president Castillo resisted, had already been illegally opened in large parts in *Mâncio Lima*. There was an ongoing process of land grabbing, especially by the most powerful and largest politician-ranchers operating in the state, especially its westernmost parts, such as the mayor of *Mâncio Lima*, who belonged to the PT. He had grabbed, according to my sources, large areas of lands next to the proposed and already opened highway line, waiting for the value of these lands to rise, having put cattle already on several areas as "placeholders" for tenure claims. The highway project was linked to ongoing legislative proposals that would take away the protection status from many national parks in the region, opening them for grabbing. However, there was already ongoing speculation inside these areas. The road-building and asphalt companies, largely owned by companies linked to the state governor and elite families, were also waiting for the highway project to start, but were also already benefiting from the push. Lotting and well-remunerated public contracts are key perks for those wishing to expand these roads. The locals often see these roads as providing them with positive possibilities to go to the city faster, while in practice they often end up losing their lands and gaining the attention of violent land grabbers.

By 2022, Acre was seeing the start of the kind of large-scale land grabbing that had already taken place in Pará, Rondônia, and Amazonas, argued Miguel Scarcello, the director of the nongovernmental organization (NGO) SOS Amazônia, during our March 2022 interview in Acre. The socioenvironmental NGOs and activists were not happy with what the bridge and the agribusiness powerhouses were bringing to Acre, and further explained the novelties and continuities of how the ranching-grabbing RDPE was expanding in Acre. In a sense, the dictatorship-backed and legitimized process, while very violent, had turned into a more rampant and illegal process, which was also violent, but more in the style of decentralized and ungovernable violence promulgated at the time by the Bolsonaro regime. According to Scarcello, the earlier land grabs in the state were not based on grilagem but took place through the state legalizing the actions of farmers who

occupied the lands of rubber tappers, Indigenous people, expulsing, killing them ... just taking their lands ... this was done with a lot of assistance by the federal government ... [which] was close to everything, knew everything, mapped everything. Now we are hearing of invasions of public lands by grileiros who come from Rondônia, conservation units, protected areas, so these people are invading to appropriate [those lands].

In answer to my question about whether the *cartórios*, the notary offices that register land deeds, are used in this process, which is common elsewhere in Brazil, Miguel replied, no. He explained that the "model of grilagem here is force, threat, and arms. They occupy, destroy, install themselves by force and then go to ask for the right to the land, in the manner that Bolsonaro is incentivizing [them to do]."

He saw that since 2019, in the Bolsonaro era, there was a rapid rise in this violent grabbing and more legitimacy was given to this process. This had been done concertedly since 2017–2018 by a “group that is causing headache for the state government,” as they occupy areas all around, “claim themselves to be inhabitants of the area, and demand remuneration or the land for themselves, which creates conflicts.” This is the way the process takes place outside of RESEX, such as CMER, where, according to Miguel, the process differs in that the locals illegally sell a piece of their land to outsiders, especially those from Rondônia. This creates a problem, as the sale and purchase of land inside a conservation area are null deeds and illegal actions, but the buyer remains in the area by force, as the state does not have the power or willingness to remove them or address the problem of these illegal land markets.

Another way deforestation takes place through land tenure changes inside conservation areas like the CMER is renting lands illegally for ranching, where the CMER residents cut the trees against a payment and the outsider brings the cattle. This practice is very common according to another employee of the SOS Amazônia NGO I interviewed. This expansion of ranching takes place, according to both informants, due to various factors, including the necessity to gain income somehow and very strong pressure by outside ranchers. Turning to ranching deforestation gives instant cash, in comparison to forest products, and is thus more lucrative in the short term. Once this process has started in a 2–3 hectare area, with a few dozen bulls, then a new area is opened, and so forth. Then these opened areas are often invaded by outsider mafia-like actors, who divide the area into lots and sell these to others, which changes the whole character and outlook of the RESEX. This lotting of land and subsequent sale is one more step on the path of turning rainforests into monoculture plantations through ranching expansion and land grabbing and speculation.

In this chapter, I have discussed the role of rising land prices and speculation as the key driver and dominant political-economic sector in explaining deforestation in the Brazilian Amazon, drawing on field research and expert interviews in different parts of the Brazilian Amazon. I linked the land-grabbing process to illegalities, violence, and the crucial ranching and soybean/corn plantation expansions, which are mutually self-reinforcing through the logics that operate in these systems.

[Chapter 3](#) discusses the role of land mafias in Brazil, which draws on the longer history of this contextual feature and its connection to the deforesting RDPE.

3

Land-Grabbing Mafias in the Brazilian Amazon

A key question that I kept returning to during fieldwork was, “Are there different sections within the Brazilian agribusiness sector?” This question refers to some parts of the agriculture and ranching sector being more “modern” while others were more “primitive.” The division here also reaches beyond just the technology applied in the practice of agriculture, as it extends into the sociopolitical arena, with the latter taking care of the dirty work of violent expulsions and the prior attempting to retain the public image of rule of law and rights respect for the international audiences. The answers to this question varied over the course of my interviews, with some interviewees arguing that yes, there are different facets, while others asserted that the relations of these groups are more intimate and closer than they would appear, as they rely on each other and are overlapping. The land grabbing by the primitive, latter group depends on the push of soybean plantations and ranches deeper into the Amazon for the land buyers, while the deforesting and violent actions and illegalities of the latter group suit the goals of the so-called modern agribusiness to gain access to cheap land and privatize state- and smallholder-occupied lands for large capitalists.

A significant part of the problem is the institutionalization of illegal land grabbing, ensured through legal loopholes and ambiguities. Over 60 percent of deforestation activities in the Amazon are linked to multiple forms of illegal acts: illegal logging, grilagem, and illegal forms of agriculture and ranching, which are connected and advance synchronically (Waisbich et al., 2022). The invasion and appropriation of public lands in the Amazon are crimes that precede the other illegal activities. Waisbich et al. (2022) argue that it is difficult to separately analyze the distinct deforesting economies or to combat these crimes individually. They call for a more comprehensive and integrated approach to assess the profound causes of environmental crimes and their links with other types of illicit actions. The attack on human, territorial, and environmental rights defenders is systematic and seems to be a necessity for deforestation to advance, since resistance can

be effective in halting deforesting investments on many frontiers and by several means (Kröger, 2020c). Since 2009, of the more than 300 registered murders of environmental defenders in the Amazon, only 14 cases were brought to court, and only 1 resulted in a judgment. None of the over 40 cases of attacks and threats that did not lead to death were judged. It is typical of the police to refuse to register threats or nonlethal attacks. According to Human Rights Watch (2019), this lack of effective action shows the impunity reigning in the region, the systematic failure of Brazil to investigate and make the illegal loggers and grileiros responsible for their violence in the Amazon. The situation has worsened dramatically since the 2016 coup against Dilma Rousseff, and especially after Bolsonaro's 2018 election. In 2020 and 2022, under the Bolsonaro regime, the yearly rates of cases of violence against Brazil's rural populations were the highest since 1985 (Comissão Pastoral da Terra, 2023). The Bolsonaro regime was built on the power and support of extractivist regionally dominant political economies (RDPEs) and provided them with national- and international-level discursive support and governmental backup, by making the actions of environmental authorities and activists from "outside" much harder. According to Brito et al. (2021), the current Brazilian federal- and state-level land laws are inadequate and have even boosted deforestation and illegal land grabbing. They identify six key processes through which the current land laws increase Amazon deforestation: (1) continued permission of public land occupations; (2) giving private land titles for deforested or mostly forested areas; (3) nonexistent requirements for environmental recuperation before handing out titles; (4) lack of monitoring of environmental obligations after titling; (5) subsidies for titled properties' price without guarantees for sustainable land use; and (6) acts by public land institutes that do not follow legal priorities. Land mafias thrive in this institutional context. To redeem these ills, Brito et al. (2021) recommend the following changes to land regularization policies: (1) establish a time limit for occupation of public lands and prohibit offering titles in areas where environmental laws are broken; (2) demand market prices for public lands that are sold and focus on sustainable uses; (3) forbid the titling of recently deforested estates and demand environmental law conformity before and after titling; (4) establish concessions without rights for deforestation for mostly forested estates; and (5) conduct ample consultation before privatizing public lands.

These measures, when properly applied, would likely be enough to strongly curb the possibilities of land mafias to deforest. This is because a key problem is the recurring legalization of illegally grabbed lands by the Congress and executive power, which are both in the hands of the powerful Rural Caucus. For example, in 2017, President Michel Temer sanctioned Provisional Measure 759/2016, which evolved into Law 13,465 that favored land grabbing and speculation. This allowed large land grabbers to get titles for their illegal claims for

negligible amounts that were well below market values and regularized the illegal sale of settlement lands (Carrero et al., 2020). The law also allowed greater possibilities for illegal land grabbing, for example, by increasing the size of rural estates allowed for regularization from 1,500 to 2,500 hectares (Sauer, 2019). This eased the creation of *latifundios* and increased deforestation through grilagem (Observatório do Clima, 2017). Bolsonaro further opened new law projects for allowing grilagem. It is precisely this political setting that allowed for legalizing illegal land grabs, which in turn made ranching in forest frontiers “highly profitable” (Carrero et al., 2020: 980). Worryingly, this has opened new frontiers, for example in the Arc of Deforestation, which is now expanding to the south of Amazonas state. Furthermore, there are novelties in the expansion drivers as the criminal aspects gain more strength. Carrero et al. (2020) found that now the key actors at the local level are wealthy people and groups, who launder money by buying settlement lots illegally. This setting encourages the mafia-like dynamics that I observed in several parts of Pará, such as the Santarém region (Kröger, 2024). Worryingly, these land mafia dynamics seem to be rapidly penetrating deeper into the sociopolitical fabric of Brazil.

There are particular people and groups involved in the illegal and violent grabbing of land using rural terror, threats, and hired guns. These land mafias have been called by many names, including “rural militias,” a term used by Human Rights Watch (2019) to refer to groups organized by large farmholders and others who are involved in illegal logging to protect their illegal businesses. These organized groups serve as a type of private security corps, which uses violence and intimidation to safeguard their criminal operations. These farmholders and loggers are essentially criminal networks that have major impacts on deforestation and a strong influence on local politics through their economic clout. Essentially, they are comparable with urban militias. They hire armed men, including from IBAMA and police officers, who then use the cars, weapons, and uniforms of the police. They threaten and attack inhabitants who oppose their criminal activities, as documented by Human Rights Watch.

Deforesting Mafias in Southwestern Pará

In November 2019, I did field research along the BR-163, traveling by car from Cuiabá to Santarém with a reporter from Finland’s national broadcasting company, Yleisradio Oy, a driver, and a fixer. This was a quite intense period to be on the road as it was during the Bolsonaro era and at a time when many forest fires were being purposely lit, especially in the towns and rural areas we were visiting. We saw many fires as we proceeded, lit by land grabbers to claim these lands, to start producing soybeans after a period with pasture. With flames reaching the



Figure 3.1 Fighting against the fires being set in the Amazon. Santarém, Brazil, November 2023. Photo by author.

recently paved roadsides, we stopped to film the fires and ask the locals what was happening (see [Figure 3.1](#)).

In one such area, between Novo Progresso and Itaituba, we stopped to film a new forest fire. Our driver was nervous that we asked to stop, as he had passed the same route earlier with other film crews. Pointing to the fire, he said, “It is not advisable to stay close to these things for a long time.” I asked why. “The people are ignorant.... It can result in problems for us. I believe that [you can stay for] ten, twenty minutes maximum. Because, in the last few days, people are reacting in a way that, here is the shotgun law, in Pará.” I asked if this was illegal. Our driver, who had also worked as a gold digger and a soybean truck driver in the region for a long time, pointed to the fire and answered, “It’s illegal, but that’s their admission,” referring to the fire and us recording it as the proof of the crime. “To avoid a future problem, evidence, a person is thus capable of shooting us at the spot,” our driver explained. They are most worried about the local press putting the video on the evening news, which could create immediate problems for them. He continued, “Let’s leave before someone takes photos of our car and that makes things more complicated for us.”

A bit earlier in 2019 a group of reporters had been forced to stay in their hotel in Novo Progresso, rounded up by gunmen, and then escorted away from the town by outside federal forces. Several people on the road also explained to us that if the police arrived, they were likely to blame us for starting the fires because we wanted to film them. At the time, and still, a common belief/framing among the pro-Bolsonaro

people, including police and soybean farmers, is that NGOs and foreigners lit the fires in the Amazon. I asked our driver, who often saw these fires while driving the region, about the dynamics of using fire. “The first year they cut the forest … this felling must have taken about thirty days to dry. Then, if no one [the authorities] comes to notify … then he sets fire. [After a] few more days, they plant the area. If someone comes to notify, they don’t work it anymore, but stop.” I asked how a fire setter then becomes the *dono* (the de facto owner/controller of the area) “Because no one showed up to say [don’t set a fire] they become dono … then he produces a little bit on the land to claim ownership.” At this moment, the fire was getting closer to our car and I asked the driver to move us further away from the flames. Our driver was getting even more worried now, asking us to leave, but our fixer, an experienced guide who was setting up the interviews for the reporter, said he would manage the situation if someone came. The driver was worried the land grabbers could arrive, with guns, which he had witnessed, and responded to the fixer:

For a guy to shoot at you, they come at the right time, and that’s it. That’s the end. I already saw this.... We from the big cities, we can have arguments [dialogue] with each other, but the people from here are *muito chucras* [super rude], you cannot even imagine, especially when they are armed. When we stopped to film there [referring to a previous time he traveled with a Japanese film crew, filming a tractor pulling down trees], the “guys” came on top of us, man. They would not let us film, no.

At this moment, a man arrived, whom the driver said must be the *dono*, “Call him [the driver asked me to fetch the reporter], let’s get going, since if two or three more arrive … WhatsApp has already been used to notify the large farmers.” However, we stayed on and started talking to the man, who told us he had been living there since 1974 and had a 364-hectare farm, mostly ranchland, on the other side of the road. He explained that the fire on the other side of the road had been lit by a person from Itaituba, who returned to the city, letting the fire do its work of burning until exhaustion to clear the land. He argued that some clearcutters would need to be investigated, those who “deforest too much,” but not the ones like him who “only fells [sic] 2 or 3 hectares per year,” but “those felling 500 hectares is perverse, it’s too much … since they do not even need it.” After this talk, we also interviewed others living close by and then continued driving, leaving the fire and land grabbers on the roadside (see Figure 3.2).

This episode was telling of the atmosphere and feeling of fear, threats, and killings amid which Amazonians live. While this time we did not have trouble, there was anxiety. This is because there are “land mafias” operating in many parts of rural Brazil, especially in the deforesting frontiers. After filming that fire next to the BR-163, we traveled to the soybean port of Miritituba by the Tapajós River to film the huge exporting facilities from the river, and also the truck lines and the vessels on shore. These crossed the river to the city of Itaituba, continuing from this gold



Figure 3.2 Illegal grabbing and burning of an area of forest by the BR-163 that would subsequently be cleared. Pará, between Moraes de Almeida and Itaituba, November 25, 2019. Photo by author.

mining, ranching, and deforestation hub west along the Transamazônica Highway. We drove a couple of hours west on Transamazônica and parked on the shore of Tapajós. A small boat on the Tapajós River, steered by a Munduruku Indigenous man, arrived to pick us up for a visit to their *aldeia* (a village; a term often used for Indigenous villages in Brazil). We wanted to see what was happening on the other side of the national parks, large conservation areas, and Indigenous lands that were being invaded from the side of BR-163 where we witnessed several fires.

In the Munduruku *aldeia*, we were invited on a patrolling trip up the Jamanxim River with the Cacique (as Indigenous chiefs are called in Brazil), a drone driver, and two others from the Sawré Muybu village, where we were staying. Soon, we encountered a recent logging road and saw illegal gold-mining barges excavating the riverbanks for gold (see Figure 3.3).

This process results in leaked mercury, mud, and silt getting into the water, which contaminates the clear waters of the Tapajós, turning them muddy. In addition to the damage from the gold mining, the forest river was choked with boat-loads of men shipping acai palm hearts illegally from the Mundurukus' forest. We stopped by the logging road entrance. The Cacique explained that it is difficult to



Figure 3.3 The Munduruku search patrol encountered and tried to break an illegal wood barge on the Jamanxim River, November 2019. Photo by author.

negotiate with the illegal loggers and miners, which is the reason they normally come with a larger group and in traditional warlike attire, “even if we go to [just] discuss with them, suddenly they can receive us with violence.” I asked whether he had ever been threatened: “I have already suffered from threats. We go to the city [Itaituba] and do not know if we will return. The ‘guys’ come with a helmet, no one know who that person is.” From the small boat, we also saw areas that had been deforested on Indigenous lands by the Jamanxim River, which the Cacique explained have been captured by grileiros, who are selling the lots.

After the visit to the Munduruku lands, we talked to the environmental officers in Itaituba. They explained the illegal lotting phenomenon, which is common in the Amazon. They referred to the president of the Municipal Council of Jacareacanga, whom they said is given incentives to expand ranching in the region by “bringing people to occupy here. People arrived, demarcated a large area, made small lots for sale.” In this sense, leading politicians seem to be operating the initial land-grabbing schemes, bringing in others who bring arms, fire, cows, fences, and create false title deeds, selling these to still others. The ICMBio officers explained that these dynamics are already established along the BR-163, while in Transamazônica the phenomenon of “people grabbing land illegally (grilagem)”

is more recent. This grilagem is done through the cartórios, notary offices that are public concessions:

[The grileiros] just makes a contract, which I can do also now on the computer, saying that I am selling to you, you are buying from me, and bring this to cartório to register. But there is no documentation that there was a detachment of that area, which is public, for a private [owner], the state did not concede that area to anyone to be sold, it continues to be state land. But there are private people who sell these areas independently of the legality. This happened also in these areas that were opened and deforested now, people arrived to buy and sell, or it was just one person that clearcut everything, also this exists. After deforesting 1000 hectares, he says that all is his, he does not necessarily turn this into lots and sell but says “here all is mine.” But we have people who come here to our office [ICMBio] to get information, saying: “look, I want to buy a farm.” So, he comes here to see where this farm is and it is in the middle of a conservation unit, and we say, “this is public land, you cannot buy this area.” This person is using it in bad faith.

What the official meant by bad faith is in reference to land grabbers using the information of where public land is located to target these areas for land grabbing, as they are perceived as “free” areas for them to appropriate, since the inspection of irregularities is so sporadic. As politicians seem to be running similar schemes in many places, we also asked federal officials in Itaituba about the city mayor, Valmir Climaco, who is one of the largest landholders in the area and has been reported to be among the top 10 deforesters in Brazil. His holdings include large ranches, gold mines, and other decades-old deforesting operations. These officials, whose names and positions I will not reveal to protect them from the potential of negative repercussions, explained that “the mayor already admitted that he did a lot of illegal work here. He is a *madereiro* [logger], he has a sawmill.” They also explained how a FUNAI team (FUNAI is a government body that carries out policies related to Indigenous peoples) arrived in the area to study Indigenous lands inside a conservation area where there were already illegal farms: “One of the farms was of the mayor … then there was a declaration [by him] … ‘these people [from FUNAI] need to be received with a bullet,’ so the Prosecution Service filed an action of administrative improbity [against the mayor].” We managed to also interview the mayor himself, although only after hours of waiting and repeated pleas at his office. We visited one of his rural houses and some of his ranches along the Transamazônica Highway. I had a discussion with him, and then after he had left, I continued with his farm manager, especially talking about his ranching business. Interestingly, the farm manager gave quite different answers than the mayor, for example saying they had deforested as recently as 2019, which was the same year as we were speaking, while the mayor insisted that they have not engaged in those practices for years. Based on my prior experience with interviewing and doing field research on the personnel of pulp, mining, plantations, and other rural enterprises, this kind of discrepancy between directors/owners and middle-level

managers and technicians is very common, with often more reliable information coming from the field operation personnel. The mayor stated that “the ox gives me most profit.” I asked what the size of his property was, to which he answered, “40 thousand hectares in total. I have three *garimpos* [illegal gold-mining sites]. I produce 60 kilograms of gold per month.” However, these figures should be taken with a grain of salt, as in other parts of the interview he gave different figures and his farm manager later contradicted many of his claims. However, whatever the exact figures, it is safe to say that his operations are extensive. In addition, there is an indication that they could be nefarious beyond just the land grabbing; for example, an airplane with 500 kilograms of cocaine was found on his property by the police, but he swore he did not know anything about it or where it had come from. In any case, these kinds of mayor-ranchers, who brag about their violent pasts and are seen to still actively make threats, yet win elections and continue without punishments, are emblems of the kind of ranching, logging, gold, and land mafia-type people and groups who operate in the Amazon.

I also interviewed federal, civil, environmental, and other police officers, chiefs, detectives, prosecutors, and responsible government, state, and judicial officials operating in the deforestation areas; for example, in different parts of the BR-163 and in Brasília, among other places. In Novo Progresso, prior to talking with Mayor Valmir Climaco, I talked with Conrado Wolfring, a civil police chief who served for a long time in many of the most problematic clearcutting hotspots in Pará. Wolfring explained to me “That mayor of Itaituba, Valmir, he made fortunes with devastation. And worst, already for two times there was an airplane with drugs on his farm. And he defends the erroneous things, so it becomes difficult....” Wolfring explained how Climaco made these fortunes quickly, “many people told that he ordered to kill to capture land. This is common here, a guy sees a beautiful land and orders to kill, goes there, kills the guy and he is the dono now, saying: ‘I am the dono now.’”

These land mafia-type dynamics are common in Pará’s deforesting frontiers. Wolfring explained these dynamics in Novo Progresso to me in detail, at the civil police quarters where he showed me also the small and stuffy jail where he had a few dozen inmates. The entrance to the cell system was not pleasant and was guarded by a ferocious German Shepherd police dog. During our time together, we drove around town in his patrol car, talking about the local dynamics. Several hours later, he got a call that somebody had committed a suicide by hanging; he asked if I wanted to join him to check the scene. He said deaths in different forms had become a daily task for him, a routinized part of his work. When I asked about the causes of deforestation, he explained:

In this region [along the BR-163 and the Transamazônica in Pará] all the land is of the union, and all was conquered by grilagem. They [the grileiros] occupy violently. We have rich people in the region who are rich as they killed a lot of people, to take their lands ...

there were many deaths and still are due to land. So, people come wanting to grab land by force, due to the lack of presence of police in all places.

In terms of illegal deforestation, the police chief explained why it is hard to police these practices, “Unfortunately the deforestation is very large. We have a lot of illegal wood leaving from the region, and a lot of [police] information [is leaked] via radio, the criminal organization has communication by radio and knows all the movements of IBAMA before they arrive.”

In this setting, there are not enough police to protect the environmentalist or human rights advocates who are currently operating or want to operate in the region. It is not only activists who are killed and threatened, but also police officials who are just trying to do their work. Often police who are too active investigating deforestation are in danger themselves as the mafia has even infiltrated the ranks of the police. Wolfring explained that for the police to be able to give protection

is difficult as our police has a low effect, and we also have corruption inside the police. There are police officials giving information to them, doing wrong things, it is not possible to trust in all. So, we have people inside the police involved in the wrong things and who earn with this – and this needs to be combated.

Previously Wolfring had worked in the town of Placas, along the Transamazônica Highway, where he uncovered a major deforestation and mafia-like organization. He shared that when politicians intervened in his work, “I went with IBAMA to combat a madereiro there in Placas, and the politician said to me to not mess [with the illegal logger], the mayor talked to me, people from the police also talked to me not to mess [with the illegal logger]. The pressure is large.” He also knew of several other cases where his colleagues, who had tried to retain the rule of law in the region, had been reprimanded and then moved to another municipality. He was also forced to move from Placas to Novo Progresso after uncovering the deforestation. He explained that “there are many *grande* people involved in erroneous things. A millionaire fazendeiro, who was buying stolen machinery, became so influential that the delegate of Castelo dos Sonhos said to me: ‘If I arrest him, I do not know if I will stay here, I can be transferred.’”

Another general issue the police face is there are too few police officers and they are not well equipped enough. For example, in Novo Progresso there were only two police cars, each with three police officers. These two cars were expected to patrol 400 kilometers along the BR-163. There were only six civil police officials for this huge forest and land expanse, which is one of the places in Brazil with the most criminal activity. In the absence of the state’s monopoly on violence – considered by Max Weber as one key requisite to define when a state exists – and rule of law, crime continues to flourish. It has been shown time and again that the current police forces and actions are insufficient to quell the killings and other crimes.

Crime and Impunity in the Amazon

I have discussed this setting of illegality and the establishment of land mafias in detail, as the ranching-grabbing system is increasingly linked to illegal trade, drug trafficking, and money laundering. Interviews with law enforcement officials made clear how these activities explain a large part of the dynamic with pasture creation by fire, gold mining, and linked businesses. For example, the local police are almost powerless against the illegalities in the south of Pará by *grandes* (big men): “They launder money, a lot of money.” Wolfring explained that they kill and bury the corpses on the captured land. He related how the big mafia bosses “Stay in the countryside, at times they stay in the city. Sometimes they are from other states and come here to devastate, who already have a farm in Mato Grosso, come here.” He said that the peasants and smallholders do not act in this way, they do not destroy, but rather the trees they cut are to support their own subsistence agriculture. In other words, while the peasants do deforest in a limited way, they are not the key cause of the deforesting RDPE. In the land mafias in this region, colonists from southern Brazil, with origins in Europe, especially Eastern Europe, whom the police chief called *polacos brancos* (white Polish people) are key actors:

Last year there was a sound of gunfire [coming from a place in Novo Progresso], and a few *polacos brancos* ... said “police cannot come here.” They would not let police there. There was even an airplane runway, a drug plantation there. There was a large police force acting, killings ... they [*polacos brancos*] said even that it is dangerous [for the police to enter], but all remained the same [after the large police force entering, despite threats]. After 2 or 3 were killed, things calmed, but did not change, the guy who is there is a *bandido* [criminal], *bandidagem* [criminal actions] continues at large, he has a stolen treadmill machine ...

The machine the police chief referred to is a piece of very expensive equipment, which can make a fortune quite quickly for those who steal it. While these thefts are investigated by the civil police, they also are combating the network of criminal activities around deforestation. In the episode related, even though outside police forces were brought in, and some people were killed in the shootings, the result was only a slight calming of the activity. The criminals were not captured and the stolen machine were not recovered. Wolfring explained that a key reason for the situation is that, due to corruption and mafia infiltration, the state and the mafia are becoming enmeshed to a substantial degree:

There are wrong people involved [in the mafias], there are government people, they do not let you do your police work, they impede you. At times, even our chiefs of the police do not want you to get involved, do not let us do our work, do not want us to arrest a *madereiro*, and all, as he does not like this ... as he is receiving ...

There is widespread political pressure as the politicians themselves can be key mafia members: “The *madereiros* buy people involved in politics, they have

influence, and they try to elect a mayor for them to be able to do whatever they want.”

This situation, with land mafias dominating the political, social, and territorial aspects of deforesting frontiers, has affected the land, the environment, and human rights activists. In 2019, Dona Ivete Bastos, the president of the Rural Workers’ Union (STTR) in Santarém, explained to me the situation is created by the state’s failure to offer security. She had personally received death threats several times and was under police protection:

Those who receive threats leave the struggle. There are some who die in the struggle, and others who flee. There are leaders who do not want to participate anymore. Recently our *companheiros* [activist fellows] in Pará fell and the organized crime has been a shame. The killing of leaders, rural workers of family agriculture.... Most of those imprisoned are *pistoleiros*, the *mandantes* [those ordering the killings] remain free. In 2017 there happened many massacres in this region and despite a lot of denunciation, the involvement of the military police, it is not enough. I was threatened since I defended one side, the side of rural farmers and family agriculture. We are facing the people of *grande latifundio* [big land-holders], of soya, the madereiros ... the big businessmen who were already here and were grabbing land illegally. They became very irritated, did these massacres, burned houses, expelled workers, and despite this did not want that anyone denounces them.

This situation makes resistance dangerous and increasingly difficult, as leaders leave or are killed. This situation was amplified during the Bolsonaro government, which caused resistance movements like Brazil’s Landless Movement (MST) to strategically avoid open land occupations to protect the activists in its cadres. Dona Ivete was shocked by the situation in November 2019, under Bolsonaro:

This government is opening now [possibilities for illegalities and deforestation], the police also already killed many leaders at the behest of *latifundio*. And now, they put a law that a police who kills will be relieved, saying it was legitimate defense. Now each *fazendeiro* can have eight arms to face the worker, and the Bolsonaro government also made a law to take *posseiros* [“squatters” or peasants who possess land rights but not documents]¹ off land by the National Force.

The climate was so tense that even the people making documentaries about these struggles were threatened, such as a couple from Brasília making a documentary with Dona Ivete in the Santarém region: “This couple who made this documentary with me are in Brasília already for months, and it is message after message that they receive saying they will kill them by any means.” The documentary reveals the

¹ According to Welch (2009: 150), “The term *posseiro* ... is used to distinguish those who possess but do not own or have title to land, and it is used exclusively to describe those who are smallholders and thus precariously located in the political economy. (A large landholder without title is a grileiro, another negative term that is used exclusively by advocates of agrarian reform.) The more aggressive agricultural capitalism, expanding into less densely populated areas, the more *posseiros* had to be cleared away.”

illegality of land claims in the region and how public institutions are not properly doing their inspection work: “Look, most of them are doing a Cadastro Ambiental Rural [CAR], the INCRA [National Institute for Colonization and Agrarian Reform (Instituto Nacional de Colonização e Reforma Agrária)] also legalizes, the IBAMA pretends not to see these things. They buy an area, destroy all.” The reference here to IBAMA and INCRA was true especially during the Bolsonaro regime, when their officials were de facto forbidden to try to interfere in the crimes in Amazon. In the longer timeframe, as Police Chief Wolfring explained, IBAMA “is fining all the time, but does not catch all the cases, only about 10 percent or 20 percent. A lot of people are devastating, there are many people who made a fortune with wood, they are deforesting many areas.” Even if the criminals are caught, “they do not stay for long in the prison, these people have a lot of money.”

Besides the impunity described, another problem that creates this situation in which land mafias can thrive is linked to weak documentation, which falls under what the state should be handling. It would be more difficult to get documents in grilagem that would stand under scrutiny if the various types of land records were systematically united by the state, which would be possible according to professor and lawyer Girolamo Treccani, who is a leading expert on grilagem (interviewed by me in November 2023, Belém). Yet, the government does not do enough in the process of documenting properties and communal areas. Wolfring, the police chief, also agreed that the issue could be resolved by a shift in political will, “Because by grilagem it is difficult to get documents, people do not have documents, they only have [their] posse [usage rights], only have contract of buying and selling, and the government is also absent, it could hasten this, to have the documentation.”

Next, I will discuss in more detail the national-scale origins and linkages of land mafias and rural paramilitaries in Brazil, especially their links to the top levels of political power in the capital. This explains how an RDPE of land mafias who are actively and openly grabbing land has spread from southern Brazil to the Amazon since the 1980s. These cases illustrate the dynamics by which federal-level changes can expand RDPE systems to the national scale and to other parts of the same jurisdiction, polity, and political system.

Agribusiness Roots and Links of Land Mafias in Brazil

The rise of land mafias can be seen as revolving around the creation of the União Democrática Ruralista (UDR [Democratic Association of Ruralists]). Another organization with an even bigger role is the Rural Caucus and its Ministers of Agriculture such as Blairo Maggi, Tereza Cristina, and others. It should be noted that, unlike the members of UDR and other rural paramilitary forces, these ministers and others at the ministerial level are not normally directly linked to the most

extreme forms of cruelty; however, they are given nicknames such as “queen of the chainsaw” and “queen of poison.” UDR’s director, Nabhan Garcia, can be analyzed as an emblem in this violent land-grabbing process as he is a key ideo-logue and someone who creates institutional ties by connecting large landholders with politicians and *pistoleiros*. The Bolsonaro regime named Garcia the director of a new institute for land tenure affairs. Garcia was the key interlocutor between the Bolsonaro election campaign and the rural elites, a role which secured him the new state director position (Maciel & Pires, 2022). This “gang of Nabhan,” as several of my informants described this political-paramilitary group, characterizes the ways in which illegal and violent land grabbers operate in Brazil. Garcia first gained support among *latifundio* for forming paramilitary groups for them in order to enact organized violence against the rural poor between the 1960s and 1980s, when the dictatorship, backed by the United States, was hunting down the activists, Indigenous peoples, and peasants who wanted to defend their lands. An expert informant explained the history and workings of this “gang of Nabhan” to me in November 2019 in Brasília:

Nabhan was a protagonist of a large process of land grabbing in Pontal do Paranapanema, which was the agricultural frontier in the Brazilian sector in the 1960s. So, what is happening today in the Amazon happened in Paraná and Southwest of São Paulo in the 1960s, this entry of capital and appropriation of public land. So Nabhan is a grand “player” [in the political economy of land grabbing and rural issues].

I asked whether this “gang of Nabhan” could be identified as the group and sector of the political economy that specializes in grilagem. In 2019, I received an answer to this question during an interview on top of the Congress building in Brasília with two experts closely embedded with the parliament as consultants and ex-secretaries of ministries (A and B respectively):

A – Yes, [they are] specialized in the primitive appropriation of land and land resources, then of course livestock and such, but the first operation is the appropriation of public capital. They are after land. The Nabhan gang is there to carry out the great attack on the lands of the Indians.

B – of killing Indians. And– yeah, his business is the land. Different, for example, from the other soybean operators who are there in the commodity markets and watching prices on the Amsterdam Stock Exchange.

I then asked how the Nabhan gang works to achieve these goals – do they have connections with the political power in Brasília, which allow them to act like this?

A – certainly with political power but the function is also in the lobby area and has the spectrum of the field of threat and violence. And that is how he emerged as an important figure in this field of agrarian conflicts, territorial identifications by land of the sector of agriculture and livestock in the Mato Grosso do Sul. So, he appears in this field of disputes

for land there and has a history of aggression and violence against the Indigenous peoples of Mato Grosso do Sul, the Guarani, Unguiá, and the Caiová.

B – including the relationship with militias and financing for the acquisition of weapons, this type of operation. And now at this moment, although he is not the president of INCRA, he is a subsecretary of the land tenure institute, but at the end of the day, [in this position] he is the one who is putting the cards on the table, he who is playing the political game of nominations and positions within. So, we have had three presidents of INCRA so far [during less than one year of the Bolsonaro regime, by November 2019] and this change of presidents is largely due to the vision that Nabhan has on what a president in INCRA should do. So, in his view, the big issue is the land question, the issue of land titling, he thinks the process is slow, bureaucratic and what is at issue now is this issue of self-declaration for land regularization. He wants to drive this change through, and that would certainly be a drive for deforestation, if you use a little [comparing with the recent history of] the CAR registry in Brazil, which is self-declaratory, then if you input [even] a little of that CAR logic across the land domain region, then that's a mistake.

Brazil's CAR registry is a notorious example of how land grabbers utilize purportedly positive legal measures for environmental protection to extend their illicit land occupations and deforestation. According to an evaluation report of the public policy on environmental regularization presented to the Environment Commission (CMA) of Brazil's Senate, the CAR has been used to legitimize the illegal occupation of public lands (grilagem) throughout the country, especially in the Amazon region (Agência Senado, 2022). Overlapping records of non-destined public forests (FPND), Indigenous lands (TI), and conservation units (UC) revealed that, by the end of 2020, more than 14 million hectares of public lands were illegally registered as private property, with 2,789 CAR registrations superimposed on Indigenous lands, which totaled more than 380,500 hectares (Agência Senado, 2022). Carrero et al. (2022) found, in a large study on the current hotspot of Amazon deforestation, the frontier of the Southern Amazonas state, that 90.5 percent of the CAR land claims were noncompliant with Brazilian law and 45.8 percent were in protected areas.

The land-grabbing mafia has its roots in the long-standing methods of illegally dispossessing people during period where more state protection was given to peasants, thus increasing land conflicts: first during the 1930s–1960s in São Paulo's Pontal region, where landholdings had been mostly obtained “on the basis of frauds and the law of the strongest” (Fuhrmann, 2019). During this period, the land grabbers became accustomed to using violent methods to evict Indigenous and peasant populations from the state lands they were stealing, one of their *coronels* even using the motto, “Earth soaked in blood is good soil” (Fuhrmann, 2019). It is important to note here that the state has often tried to resist this grabbing of public lands and has several times tried to regain the stolen lands. In one of these periods, in the 1980s, when agrarian reform pressures were resurfacing after the dictatorship

period had ended, the land-grabbing group created the UDR to fight land reform laws and stop them from being executed by the state. During the 1980s and 1990s, the UDR helped to create and support new rural paramilitary organizations, which were based on the large Brazilian cities' drug trafficking, other illegal activities, and organized crime structures (Fuhrmann, 2019). Since then, these organizations have spread throughout Brazil – both the land-grabbing paramilitaries linked to large landholders and the organized criminal groups, the latter primarily a result of the dictatorship era and its legacy of a prison system that in essence maximizes the potential for creating organized criminal groups within the horrific conditions of overcrowded prisons. Brazil is the world leader in organized crime violence, with approximately 60,000 people violently killed each year due to these organized crime conflicts. The two most important gangs are the Comando Vermelho, originally from Rio de Janeiro, and the Primeiro Comando da Capital (PCC [First Capital Command]) from São Paulo, both of which have brought governments to their knees and control large parts of the society and economy. However, there are also newer and even more violent groups. During the Bolsonaro era and especially since 2019, organized crime has expanded into the Amazon deforestation business (for the purposes of money laundering and portfolio diversification) and territorial control of drug-trafficking routes.

The fact that Nabhan Garcia, the president of UDR, became the responsible state powerholder for protecting the rights and distributing land access to landless people in Brazil demonstrates the kind of paramilitary or mafia-like organizations' successful embedding and production – or even capturing – of the state. Thus, during the Bolsonaro era, land grabs could be seen as a product of differing varieties of mafia–state actor groupings and mafia members within the government. According to Fuhrmann (2019), henchmen are often recruited from other states of Brazil and are active and ex-military police and firemen. While these groups engage in blatantly illegal activities, for example, carrying and using automatic rifles, which is not generally allowed in Brazil, they frame landless movements such as the MST as "criminal organizations." With these framings, the paramilitary groups attempt to portray the acts of proponents of the workers' class as illegal, while implying that their own actions are legal. When taking power in 2019, Garcia promised to "clear up land issues in Brazil." With this state-legal backing, it is no wonder that all sorts of armed dispossession processes expanded rapidly across vast Brazilian territories, especially in the Amazon, where the use of arms was common even before the start of the Bolsonaro regime.

It is important to emphasize, based on my expert interviews, that while the operating logics and methods of these land mafias seem to have spread across Brazil, there are varying nodes or regional cores of illegal land grabbing that may not be explicitly connected to one organized economy or politics. Several people from

an expert organization studying these networks explained in an interview to me that the BR-163 seems to have one such “core,” but they did not think it is a national-scale mafia organization and, if there was, they did not know the exact size of the network or who was within its ranks. A research NGO coordinator from Brasília (whom I will not name due to security reasons) explained to me in March 2022 that it is difficult and dangerous to even attempt to do research on these mafias, due to threats and acts of violence against those prepared to bring their activities to light. Thus, there has not been much research on them:

We try there in the south of the Amazon [to do this research] – we have some ideas and hypotheses but there are people [of the NGO] who have been there for 10 or 15 years, so we know more or less who the [criminal] people are. But trying to want [to decipher] this network is a big effort, it’s no joke. It is complex, and in each place, there is a certain type of reciprocity that is not national. Currently, for the south of the Amazon you have a group, and the one from Pará is possibly another and in Rondônia another, they operate according to similar ideologies but not that the operations are connected. Mato Grosso do Sul also has another group that finances itself, they finance the movement themselves. So, I think there is a localized question despite expressing a similar idea. But not so that the operational logics of this ideal to materialize are given in an organized way at the national level. The question of these networks of illegality, I think there is a regional issue too: he may be operating in Pará to have his space for operationalization of illegality there, but it is not necessarily connected with the Rondônia gang or with the South of Amazon.

Another informant emphasized that even though the gang actions may not be nationally coordinated and planned, or even be connected to UDR explicitly, the characterization of this “sector” of Brazilian agribusiness as the “gang of Nabhan” is relevant. Her account of the recent expansion and consolidation of land mafias emphasizes the role of the class inequalities that have continued since colonial times:

I think that mainly the UDR issue, you have one thing that is the direction of the UDR, and it represents the archaic rural oligarchy of Brazil that has been in power in Brazil since Colonial Brazil. So, when you get the families of the hereditary captaincies, and it goes on making a connected line until today you find several descendants of these families who are still part of the rural oligarchy present in Brazil.

Besides this class relation, the mafias are also connected by cultural ideals, for example, the stereotypical strongmen images, like that of Nabhan Garcia.

I think it’s a cultural thing, the most archaic people look, for example, [Ronaldo] Caiado [a key UDR leader, Goiania state rural elite leader and governor, reelected in 2022] as an ideal cultural identification. So, they [the different mafias] have a very strong cultural identification even though they do not have an institutional relationship. So, the procedures are not institutionally directed, but they are the same as UDRs.

In this sense, the UDR is an important emblem, a connecting mechanism between the social, symbolic, and physical space expansions of an assortment

of extractivisms. This process of withering resistance during the Bolsonaro era, due to the strength of the driving forces of deforesting speculation, shows how, when a region is turned into a capture zone for an extractivist sector such as the plantation–ranching–land-speculation sector, there is relatively little space for resistance to be maintained effectively or without drawing major opposition and violence. This is a sign that a political-economic system has managed to become dominant in a region. Once this threshold is passed, the laws of post-frontier property consolidation take hold of the region and the accumulation of key capital (social, economic, cultural, and symbolic) is passed to the new “owners of power,” which leads to concentration of control and rising inequalities.

Thus far, I have mostly discussed the driving and pulling causes of deforestation by the ranching-grabbing RDPE. In [Chapter 4](#), I will discuss the several enabling factors, including the role of moral economic changes in the Amazon societies, that allow the expansion of ranching capitalism, and the role of Brazilian state and government as enablers.

The Brazilian State and Resistance to Amazon Deforestation

Enabling Dynamics of Deforestation

Extractivist capitalist agents do not operate in a vacuum; they actively try to shape their operational context and the political system, while seeking support for their expansion from social trends and state resources. There are also processes in the society that have their own impetus, such as moral economic changes from forest-based livelihoods to a greater appreciation for the ranching lifestyle and its accompanying deforestation-based income. States have actively promoted and kick-started deforesting extractivist sectors and provided support and aid to corporations; however, there are also regime differences, which I discuss. A particularly important enabler of deforestation is installing roads and infrastructure by the state–corporate nexus, while the recognition of ethno-territorial rights by a regime can ease the pressure on forests and their people. Ethno-territorial rights not only allow for greater leeway for resistance, but are cocreated primarily by resistance efforts, which I discuss at the end of the chapter.

Moral Economic Changes that Support Amazon Ranching

The creation of a ranching-grabbing RDPE is supported by moral economic changes, where cowboy and ranching lifestyles are seen in positive light, despite the violence that accompanies them related to removing forests and adversaries. These lifestyles are often assumed to lead to prosperity, as ranchers are rich. A pro-ranching moral economy is common among Amazonian frontier peasants, visible in their attempts to “emulate their richer ranching neighbors and to capture some of the prestige associated with this activity” (Hecht, 1993: 692). Taravella and Arnauld de Sartre (2012) note how smaller ranchers in Xingu express their gratitude toward and admiration of the large ranchers. This is a sign of a dominant and hegemonic system, which is not questioned. This shows the key aspect

of the ranching RDPE in the Amazon – there is a clear unequal class structure, which is legitimized and symbolically hidden. Large ranchers are respected as the key actors who bring in “local development,” while simultaneously these ranchers frame the state as absent and detrimental for local development due to its conservation measures. This discourse justifies their power and position, while creating symbolic power that hides the inequalities within the RDPE.

Given the broader moral economic changes that the establishment of RDPEs seem to produce in municipalities and states, further social and political capital starts to agglomerate for those making economic gains. Many ranchers become politicians, due in part to the ample opportunities to buy votes and tie people to clientelist patronage relations, and in part to the numerous benefits that are granted to those holding state power, especially in relation to having greater impunity and the possibility to siphon resources for the RDPE.

There is a particular moral economy – a cowboy culture – that is crucial for retaining and expanding cattle capitalism. Ranchers, and many other rural people, including ranch workers, have acquired the taste and cultural capital for ranching lifestyles; they are familiar with this business. Thus, many prefer the ranching business and its attendant lifestyle even though they could gain more with soybeans. At some point, however, regions may turn more from ranching to being dominantly soybean enclaves, as the soybean system can typically generate even more yearly returns. I asked Mayor Climaco whether soybeans or cattle were a better business, to which he replied that it depends. At that moment, cattle were better for him, but he could turn to soybeans, and then back to cattle if it is better again. This attitude signals a primarily capitalist culture, which seeks the maximized profit, which will be mostly reinvested (and not consumed or spent on luxuries) to make even more profit in a spirit of never-ending growth and private capital gain. However, he added:

But I am passionate about ox, I like it a lot since small, I know well, I know what ox is sick, which is a good one to fatten. So, I have large knowledge on ranching, I am a large trader and I do not have doubts about the growth of our region, we want a Pará like the municipality of Sinop, very productive.

He referred to Sinop in northern Mato Grosso, which is a key hotspot of soybean, ranching, and sawmill activities, and where hardly any forest remains. This kind of moral economy where ranching and cattle knowhow and “production” is valued reproduces the system, even when it would be irrational in capitalist terms (i.e. considering the productivity and gains) to continue producing beef in that territory. While I studied Acre, where the pastures closest to the road were being transformed into soybean and corn plantations, a similar future is foreseeable for the Itaituba soybean plantation expansion. Climaco argued that it would be possible

to plant soybeans in the region, “soy is the next step, to do soybean plantations, of corn, to not need to buy feed and to produce all on the farm to be profitable.” Soybean and corn plantations are likely to be expanded even by extractivists who mostly engage with ranching, at least to the degree that they offer the possibility of not needing to buy feed. This benefit is in addition to being able to produce one’s own corn ethanol locally and it will allow proprietors to gain more money through soybean exports. However, this is likely to occur only in the regions where pioneering soybean/corn plantation consultants venture, as they push expansion and work to change the minds of ranchers farm by farm – a process I observed in 2022 in Acre.

Discourses shape the moral economy toward pro-deforestation attitudes and actions. Telling of the pressure civil society felt, activist and president of STTR Dona Ivete, shared with me in 2019, that:

It is difficult ... the government articulates all this against us. This talk by him is to say: “meat got expensive only because there are many reserves ... there are many occupied lands, so there is a need to put an end to these territories to be able to create more cattle.” The government extinguished the Ministry of Agrarian Development, which was a very important ministry for us [as there are so many settlements in Brazil, with] so many people in need.

Ivete saw the power of the regime rooted in the corrupting role of capitalist advance, which could be seen as a key mechanism in expanding extractivist moral economies, she asserted, “Capitalism is introducing [itself to the people in the Amazon rural movements], capturing leaders in a way, it entered demoralizing the social movements, wanting to end them, and is succeeding in this.” I asked Mayor Climaco, who is one of the most successful capitalists in the Amazon, what were the secrets to his success. He responded, “Not doing business to lose money, have a good team, one in the municipal council, another one in the farm and the gold mine.” In this sense, in Itaituba, a key to consolidating an RDPE was to make profit over profit in a capital cycle of M-C-M’ (money capital turned to commodity capital turned to increased money capital, M’, via profit, which is then invested again in a cycle of increasing money capital to M'', see Marx, 1976 [1867]: 163–173) and control the political and rural territorial power.¹ In answer to my questions about why he chose to ranch in this region, Mayor Climaco emphasized his own hard work and framed himself as bringing development, blessed by God:

I came to meddle with garimpo, constructed my properties, and thanks to God I am now the manager and mayor of the city carrying out great administration, the city’s construction site, leveraging involvement and we only know how to work, progress, the whole family

¹ With this general formula of capital, Marx explained how one becomes a capitalist, as the sole motivator is the pursuit of ever-larger amounts of money, in a never-ending cycle, with a will for boundless wealth increase.

works, everyone is involved, son to wife. Thank God we were successful, and the tendency is to produce, it is a country that is on the path to growth, the president of the republic who talks about growth and development and we are believing a lot in Brazil.

This answer exposes the gold- and ranching-based growth-focused framing of so-called development in Brazil. The mayor can be seen as an emblem of this system. Furthermore, this kind of discourse is, in terms of the work by Pierre Bourdieu, an exemplar of symbolic power in the making, where reference to or a focus on personal qualities are used to hide or draw attention away from the territorial changes and violence actually used to accumulate economic and other types of capital. Once the economic capital is solidly situated it can be used to gain cultural, social, and even more economic capital. Yet, the power behind the capital accumulation is hidden by the symbolizations of this accumulation as a product of personal qualities, rather than the true source, which is questionable and/or outright illegal acts such as violent deforestation. This creation of symbolic power is discursively connected to the most powerful people – political figures. In this context, these extractivist mayors who link their role in development to wider framings promoted by Bolsonaro, the government figurehead, embedded by cajoling agribusiness and Amazon gold-mining actors (see Evans, 1995).

When the Brazilian situation is considered through Bourdieu's (1991) objectified symbolic capital, the moral economic transformation happens primarily through the image of cattle and pasturelands, as smallholders see rancher wealth flowing from cattle (Hoelle, 2011). In fact, as I have discussed, this is mostly a mirage, because, as the land values rise, the key to becoming wealthy is land control by fraudulent or violent means. This misconception is likely because cattle ranching and clearcutting are more easily observable phenomena, unlike the flows of financial capital. Major systemic changes between the social and symbolic spaces take place through shifts in the key objectified symbolic capital whose meaning is disputed, according to Bourdieu (1991). In the Brazilian case, cattle, and the grasses that are planted for the cattle to graze, are either the involuntary accomplices of the deforesting rancher villains for the contemporaries of Chico Mendes, or increasingly, the harbinger of wealth and good things for post-2000 ex-rubber-tapping families in the CMER in Acre (Kröger, 2020c). These shifts in key objectified symbolic capital – cattle and pastures – are tied to specific types of physical spaces and, in turn, they affect these spaces by translating the social and symbolic capital tied to cattle into power and subsequent physical dominance over the territory. In practice, this means turning forests into areas where cattle are reproduced and herds expanded solely as a form of capital. The cattle are not intrinsically considered to be worthy as a living being, but only as a means of gaining capitalist wealth.

To curb these negative effects, the state has tried to create protection areas and has made other pro-forest-dweller policies; however, these are the exception, not the rule, as the bulk of the policies enable further expansion of ranching-grabbing, as discussed next.

State Actions as Enablers

It is essential to look at which sectors the state supports and in which ways, to understand which sectors and practices get consolidated, territorially rooted, expanded, and become dominant. For any budding sector to take root, state subsidies, credit, infrastructure, and other perks are typically needed, and in their absence, it is hard to expect new product lines to grow. The Brazilian Amazon states have experienced policies that strongly favor ranching. In Pará, the state's overall support for agriculture, through credit and other incentives, has been concentrated on ranching, while viable noncattle activities that receive any credit are only a small fraction of the overarching picture (Pereira et al., 2016). Thus, in practice, there is no alternative to the RDPE in the eyes and the actual policy mix of the state, which is a sign that this is an RDPE situation within a locality.

To have any hope of challenging the ranching-grabbing and plantation economies, states, and the international development apparatus, should offer at least a fraction of the kind of support, which has been provided to ranching activities since the 1960s, to noncattle- and nondeforestation-based agroforestry production (e.g. fruits, nuts, tree oils). An essential step would be support for creating production transportation chains for nondeforesting products (Pereira et al., 2016); however, this is very hard politically, given the dominance of agribusiness in ensuring that only their product lines get the limited state and international support. A further problem is the pervasive poverty and overall low quality of education in the region, which makes it hard to obtain quality workforces (e.g. for developing product marketing and logistics) and creates pressure on inhabitants to sell out or become corrupt as a means to gain power. Since 2005, I have personally observed numerous development cooperation attempts to foster Amazonian cooperatives that would export rubber, fruit, and nut products. These efforts were often too politicized to function properly. Even though people in key positions, such as treasurers of cooperatives, were chosen by election, the people who were ultimately elected proved to be untrustworthy or incapable of running the operations. This led to the expensive equipment donated being wasted and the estrangement of the professionals involved, who realized that they could not soundly manage the business due to this corruption and/or low-skilled supervision set in place by the local political processes.

Key factors in the process of deforestation are the policies and investment decisions made by the Brazilian federal state, as the state has allowed the

ranching-grabbing system to appropriate large areas, for example by building large dams and opening and paving highways. These actions can be seen as necessary enablers for the drivers of deforestation, but alone are not sufficient to explain deforestation (in the absence of extractivist RDPEs). If there are simultaneously enough conservation efforts that are put into practice and upheld by active state-civil society socioenvironmental actors, the dams and highways alone would not cause too much deforestation beyond the immediate points of deforestation (i.e. under roads and the areas affected by flooding when the dams are built). However, the highways, such as the Interoceanic Highway running from Acre to Peru's Puerto Maldonado and from there to Cusco, have visibly caused far more deforestation on the Brazilian side than on the Peruvian side. This discrepancy is evidence that there is something more at play, which is the ranching-grabbing system I have described. As this RDPE is Brazilian rather than Peruvian, it stays on the side of the Brazilian polity. The ranching-grabbing RDPE is the key driver that has the power to turn infrastructural development into an enabler of deforestation. This dynamic has been misunderstood or downplayed by the so-called progressive proponents of the neodevelopmentalist projects, who have assumed that zoning and control would be enough to avert the risk of deforestation. However, practice has shown that there is a high correlation between highways, dams, and deforestation due to the deforesting RDPEs in power in Brazil. This became evident with Dilma Rousseff's presidency and the subsequent approval of the 2012 Forest Code, which dramatically weakened forest protection and created new tools for land grabbers, such as CAR (which was supposed to work for environmental protection), and it was especially evident in her ousting from office in 2016, which was driven by the ranching-grabbing landed elites in parliament.

Soybean and ranching interests gained a lot from the coup against Dilma Rousseff; for example, soybean baron and meat company owner Blairo Maggi became the Minister of Agriculture in the post-coup Temer interim government. He has been characterized by Alceu Castilho from the critical agribusiness analysis group, De Olho nos Ruralistas, as a “catalyst of forces that promote agribusiness at any cost” (Gonzales, 2017). Allegedly, employees in his ministry tried to protect Maggi’s agribusinesses against the public interest (Gonzales, 2017), which showed signs of state capture-like qualities in the expanding national dominance of agribusiness. Yet, it was the 2019 start of the Bolsonaro regime that made it very clear that the prior years’ infrastructural expansions in the Amazon were a mistake, as they had been made without considering the possibilities of rising deforestation in the face of shifts and changes in political power. Furthermore, several PT policies supported agribusiness and allowed land mafias to continue their land-grabbing operations, as not enough attention was being paid to curb corruption. The lopsided utilization of laws, and tailoring of state policies to favor

extractivist activities, are indispensable enabling settings that explain deforestation. As the Rural Caucus is so strong in Brazil, dominating to a large extent what the state and governments can and cannot do, and having hegemony in many areas of the society, it should be held as the key driver of deforestation, with the elite landholders of that system as the key agents. The state is then steered by electoral, institutional, and judicial politics (shaping the content, rules, and power relations within these political games, see Kröger, 2020a) into a powerful enabler of further deforestation, especially by using state funds to build extractivist-supporting commodity export infrastructure and tailoring suitable policies.

Besides regime changes, as illustrated with the above example, what affects the extent of rule of law depends on the issue and investment context at hand. That is, the same government can expand and uphold the rule of law in some parts of the state, but also allows the operation of land mafias and land grabbing in other contexts, such as areas deemed essential for national development (which they cast as sacrifice zones). Scholars of Latin American neoextractivism have emphasized how the rising commodity prices alongside wishes by so-called progressive governments to gain windfall rents and distribute a part of these to new social policies (Gudynas, 2012; Svampa, 2019) made it possible to form cross-class alliances. For example, the PT became one supporter of neodevelopmentalist agendas like the creation of soybean export ports in the Amazon (Kröger, 2012; 2020c). The PT rule (between 2003 and 2015) was a significant enabling factor in the expansion of land grabbing and deforestation in the Cerrado, which represented a significant shift in the agribusiness frontier from the Amazon. Furthermore, the PT governments pushed for highly destructive neodevelopmentalist infrastructure and dam projects in the Amazon, which led to the violence that attended building the Belo Monte Dam despite several breaches of law. Lula wanted to industrialize the eastern Amazon, aiming for new steel mills, railroads, mining expansions, pulp investments, and agribusiness to take over rural lands, turning the whole area that fell inside a line drawn roughly between Belém, Altamira, Carajás, Palmas, Imperatriz, and São Luis into a key neodevelopmentalist frontier for Brazil and global capitalism (Kröger, 2013a; 2020c). There were judicial orders to discontinue building the Belo Monte Dam, but the government referred to legal provisions from the dictatorship era (1964–1984), which allowed the use of eminent domain for investments that were of high national economic interest (Bratman, 2019; Hall & Branford, 2012).

The State's Stake in Corporate Deforestation

The state not only enabled and drove deforestation, even during the progressive era, but also became a key owner of deforesting companies, including taking a shareholder position in the biggest meat companies that buy Amazonian beef. Especially

notable in this sense was the PT's National Champions developmentalist strategy, which aimed at creating globally leading companies, especially in the commodity export sector. The PT injected huge amounts of money through Brazil's National Development Bank (BNDES) into export- and agribusiness-expanding infrastructure, but also into the key corporations, which created mergers. In the crucial meat sector, BNDES gave billions in financing to the meat companies Sadia and Perdigão for them to form Brazil Foods (BRF), a large extent of which was owned by Marfrig, of which the state now owned approximately one-third, due to the state's stake in BNDES. In 2009, BNDES also injected 2.8 billion dollars into JBS, one of Brazil's largest meat-packing firms, to allow for foreign expansion, which also made BNDES the biggest shareholder (Phillips, 2019). The PT governments placed very high importance on expanding the cattle industry, for example, by providing in the 2008/2009 Agricultural and Livestock Plan 65 billion reais (USD 41 billion in 2008) credit for ranch production and export increase (Brindis, 2009: 6). As \$55 billion reais of this was directed to corporations, it can be said that the state really supported the creation of huge deforesting agribusiness corporations. Due to this support, these corporations have subsequently become even more regionally and nationally dominant and have used this new clout and revenue-making capacity to introduce more flexible laws that work in their favor. The state has also become a key shareholder in the companies' profit making, forming joint ventures, as by 2009 it owned 10–20 percent of all the largest meat-packing and exporting companies. According to Brindis (2009), it is these large meatpackers, which are owned by the Brazilian private–state capital nexus, that dominate the Amazon ranching business.

The windfall gains that the commodity consensus offered – especially the high commodity prices between 2005 and 2014 – lured the Latin American progressive governments into the trap of boosting extractivisms as the key national development strategy (Gudynas, 2015; Svampa, 2019; Warnecke-Berger et al., 2023). Brazil's PT government and the beef and leather companies saw a good opportunity to try to make use of the 2009 financial crisis by cheaply buying companies in these sectors globally; thus achieving global dominance. They also acquired foreign funding for expanding the key slaughterhouse facilities in the Amazon. For example, the Bertin Company was given USD 90 million by the International Finance Corporation (IFC) of the World Bank to double production in Marabá, which is in Pará's fragile and key deforestation hotspot. The BNDES, and another state-owned bank, Banco do Brasil, are by far the key financers responsible for providing credit to deforesting operations (Forests & Finance, 2020). Banco do Brasil gave USD 30 billion to rural credit seekers between 2016 and 2020, while BNDES was the largest provider of investments to deforesting companies, mostly beef and pulp plantation companies. This was on top of the already exceptional

exemptions and privileges given to agribusiness company exports; for example, unlike other exporters, they do not need to make federal social security payments (Gonzales, 2017).

Regime Divergences in Supporting Ethno-Territorial Rights

Meanwhile the PT governments simultaneously upheld the rights of Indigenous and other traditional forestholders to a much greater degree than the regimes since the 2016 parliamentary coup. The Temer and Bolsonaro regimes gave even greater perks and legislative support for deforesting sectors (de Area Leão Pereira et al., 2020; Guimarães Filho, 2021; Souza, 2019). In contrast, during her last month in office before the parliamentary coup, Dilma Rousseff designated 14.8 million hectares of land as Indigenous lands (Fearnside, 2016). Temer started to reverse these measures, as he was facing impeachment and could only be saved by supporting votes from the Agribusiness Parliamentary Front (the Agrarian Caucus), which he gained, according to Pereira and Viola (2021), by announcing a set of laws, decrees, and provisional acts allowing for greater deforestation, just before the vote on his impeachment. In contrast, Lula ordered the Army to drive away illegal land grabbers from conservation and Indigenous areas in the northern Roraima state (Kröger & Lalande, 2016). Since 2016, under Temer and Bolsonaro, Roraima has seen a rapid escalation in very violent and destructive gold-mining expansion inside Yanomami Indigenous territories, which has been analyzed as a genocidal process (Bedinelli, 2022), and the opening of a new palm oil plantation frontier that drives ranching deeper into the areas Lula helped to protect for tenure holders by sending the Army to reinforce the law (Ionova, 2021).

Lula's 2023 victory raised hopes for better Amazon protection, especially due to Marina Silva's positioning as the Minister of Environment and the creation of a new Ministry of Indigenous Affairs, headed by Sônia Guajajara. In early 2023, Lula started a vehement crackdown on the gold miners responsible for the Yanomami genocide by trying to drive out over 20,000 illegal gold miners from the Yanomami lands, but this action has not completely solved the problem. Many frontier states, including Roraima, voted predominately for Bolsonaro, due to the high concentration of Bolsonaristas. This continued show of support for Bolsonaro is one example that highlights how the struggles over land and achieving a durable rule of law in the Amazon continue. These struggles do not solely affect the Amazon, as the rest of Brazil has a similar dynamic, but in some ways they are more pronounced in the Amazon due to the high concentration of multiple-use conservation areas, Indigenous territories, and state forests.

These government policies, including the analysis of key international negotiations, need to be studied in their international setting. The failure of the 2023 Amazon countries summit in Belém to come to any meaningful guidelines or

rules on curbing Amazon deforestation is an example of how drawn governments are to extractivist paradigms and international forces. This failure showed how extractivist RDPEs are better able than mere electoral politics to explain the socio-political dynamics that are driving key policies. The role of international developmental agencies, and of the Amazonian governments, continues to be focused on so-called developmental projects, which often in practice cause large-scale deforestation. For example, the IIRSA (Initiative for the Integration of the Regional Infrastructure of South America) is a development project whose primary aim is to connect the Amazon commodity frontiers, through new infrastructural projects, to export hubs on both the Pacific and Atlantic oceans. Several national and international development banks, investment banks, and companies are participating in this high-level opening of deforestation, as detailed by Simmons et al. (2018); including, among others, BNDES, the Inter-American Development Bank (IDB), the World Bank, the China Development Bank (CDB), the Japan Bank for International Cooperation (JBIC), the Nordic Investment Bank (NIB), the Swedish Export Credit Corporation (SEK), and companies such as Odebrecht, Bunge, and Cargill. The 2023 Lula government coalition so far seems to be strongly engaged in continuing to open the Amazon via these types of infrastructural projects. It seems that the key lessons on how to curb rather than enable the expansion of deforesting RDPEs have not really been learned, as neodevelopmentalism is still pursued as the key growth strategy.

Of the Amazon countries' heads, Colombia's president Gustavo Petro did suggest a ban on Amazon oil drilling in 2023, but Lula did not back this, as his regime supports oil drilling in the estuary of the Amazon River, which is yet another extractivist megaproject in the Amazon. The government overruled court decisions and granted oil-prospecting rights to Petrobras without conducting environmental impact assessments. Such major oil developments, in addition to wreaking havoc in the unique biodiversity hotspot of the Amazon estuary, would bring a major influx of people, infrastructure, capital, and thus deforestation to the most affected Amapá and Pará states. These government policies suggest that the Amazonian governments do not yet understand the unique and important role that this forest holds in terms of endemic species and global climate tipping point aversion. Pereira and Viola (2021) agree that the strategic importance of the Amazon has not yet dawned on the region's presidents; a situation that has started to change with Petro's election in Colombia. In Brazil, the actions of Marina Silva as Environmental Minister in Lula's 2023 starter Cabinet also seemed promising, although her scope of action was severely delimited by the Rural Caucus and PT developmentalist powerholders. As part of the EU–Mercosur trade pact negotiations in November 2023, Marina and Lula demanded that the EU drop its demand for greater deforestation-curbing measures. Meanwhile, key social movements supporting the PT, such as the MST,

members of whom I talked to in Belém in November 2023, were not critical of the oil prospecting or even the drilling initiated in the Amazon estuary. Rather, they saw this as a countermove to Western-based hegemony in energy geopolitics that would ensure the increase of national wealth and oil production within the BRICs countries (Brazil, Russia, India, China), which stands as a counterforce to what they conceived as North Atlantic Treaty Organization (NATO)-driven, Western, and double-standard imperialist politics. The fate of the Amazon is still closely tied to these international settings where states and governments jump at quick returns and growth possibilities, while sacrificing forests and justifying their actions in relation to competition in the international setting.

Next, I will discuss how the contradictory state policies of simultaneously expanding roads and conservation areas in the Amazon have played out and further enabled RDPE expansion.

State Designation of Roads and Conservation Areas

Multiple-use conservation areas offer possibilities for effective conservation if they are inhabited by people who resist deforestation and who have sufficient opportunities to sustain themselves through nonlogging activities, which has proved difficult in many cases for various reasons. There are several types of conservation areas with some key differences. The national forests (FLONA) allow for greater logging and extractivist activities within their borders but are otherwise often in practice similar to RESEX. An example of this is the FLONA Tapajós south of Santarém, which has Indigenous communities and rubber-tapping traditional populations who are allowed to live inside its borders due to their customary rights. Officially, the people living inside FLONAs should be moved, but in practice other laws protect their residence. Brazilian laws give ample *de jure* rights for posseiros to retain their place and it is hard to evict people even from protection areas or state forests, provided they can prove that they have stayed in a place long enough to establish land control rights (Silva et al., 2019) and they can defend these effectively. The national forests are destined for future extractive operations and thus, since the 2010s, a logging scheme has expanded rapidly inside the FLONA Tapajós, degrading its ancient forests and allowing for the export of illegally logged wood by Forest Stewardship Council (FSC) through certified, yet corrupt, local sawmills who place the legal and illegal wood into the same piles (see Figure 4.1). These activities are driving the Indigenous populations within the area to create Indigenous lands and make claims for their recognition within the state forest (Kröger, 2018).

Despite these problems, most of the multiple-use conservation areas have been major obstacles for the expansion of land grabbing across the Amazon. They were mostly a product of the broad socioenvironmentalist movement of the 1980s–2000s,



Figure 4.1 Logs from an FSC-certified timber operation in the FLONA Tapajós, Pará, February 2018. Photo by author.

which also helped the PT to gain more power (Domingues & Sauer, 2023). Once in power, the PT politicians started drafting a framework where they would create a barrier to key deforestation and land-grabbing sites, turning huge swathes of lands close to federal highways into different kinds of multiple-use conservation units. However, as stated, the PT also simultaneously expanded infrastructural projects, which started with paving key highways such as the BR-163 and allowing irregular and highly destructive soybean harbors to be built along the Tapajós River in Santarém and Itaituba. The fallout of this development could be observed in the 2016 parliamentary coup, which I see as a result of the weakness of key progressive parties in significantly altering the political-economic decision-making power, which led to an accumulation of power by large corporations and agribusiness elites as their expansion projects were amply financed by the state.

One of the key politicians in the process of creating both new Amazon infrastructural projects and *de jure/de facto* forestholders' rights and protection areas was Airton Faleiro, a PT member of the Pará state legislature and later an MP in the national parliament, from the Santarém region. His interview sheds light on the fine line the neodevelopmentalist PT government was trying to walk, appeasing both large farmers and peasant constituents. In my November 2019 interview in the parliament in Brasília, he explained the process:

When Lula was elected, I was elected state deputy for the region, [and] a process began to discuss the paving of the two highways. Initially there was only one, only the BR-163. Later we managed to include also the Transamazônica (BR-230), because the BR-163

was seen a lot as a corridor for the export of soybeans, grains from the Brazilian Midwest, while the Transamazônica was not, it had a colonization, a diversified production of cocoa, family farming with cattle, black pepper, food production and such. So, we also fought to include the Transamazônica in the PAC [the Project of Growth Acceleration], so to speak, so as not to have asphalt just to solve the problems of exporting from the Brazilian Midwest.... BR-163 is completing the paving, right? The government of Lula and Dilma left only 140 km unpaved there. The rest was all paved. The Transamazônica, we have only 50 percent paved. It's all kind of stopped.

Well, what I would say happened there in the meantime, right, is ... along with the asphalt debate, there was a discussion about how to make asphalt in the heart of the Amazon and at the same time ensure its preservation. Then came the debate on the creation of, I will call here the macro-ordering of territorial and environmental occupation. And then the federal government worked out a process of public hearings, etc., and created and earmarked these lands because they were unallocated public lands. These were as-of-yet undesignated, yet still occupied public lands. So, some agrarian reform settlements were created, also REBIO was created, on the border between Mato Grosso and Pará, in Serra do Cachimbo. FLONA Jamanxim came, FLONA Altamira came, FLONA Itaituba came [were created]. So, in other words, a macro-ordering was made, right? There is [also] a *garimpeiro* (gold miner) reserve there that is not from the Lula government, it is from before, etc. The forest district for forest management areas was created. Then there was a macro territorial and environmental planning.

However, as later events showed, it was increasingly ineffective to create conservation units without establishing sufficient policing support against intruders and removing the land grabbers who were already inside the area. The asphalting proved to be a more powerful tool for deforesters. However, these conservation units did play some role in curbing, or at least allowing for progressive state actors to try to curb deforestation. However, the key problem is that roads are for land grabbers like sugar for ants, making them come in packs to try to grab the roadside areas as fast as possible, marking them for themselves.

At this point of the interview, Faleiro turned his attention to addressing what I call the power of regional political economies; that is, the deforesting extractivist groups, which did not and have not accepted the macro-ordering of territories by creating set-aside areas, a green corridor. Instead, they have continued to push for land grabs:

And these segments, let's say ... that had a greater greed, they didn't want this ordering, right. So, they always reacted against the order, you know? And many people do not even recognize the importance of this order. If it hadn't had that territorial and environmental planning, that place might not have had it anymore, it wouldn't have the amount of forest it has today. No.

Well, then the Baú Indigenous Reserve was approved, yes, there was a reorganization there and in the Munduruku [lands]. So, from this reordering, these two Indigenous areas were also included in the macro-ordering package.

Well, so these [greedy] sectors, in public hearings, always took a stand against it [the macro-territorial ordering], in what they called the "stunting of the economy." They didn't

want it. Because? Because they wanted to farm, right? It was like that, to cut down and put pasture or else for logging, disorganized and illegal, right? And, also, mineral exploration, mainly gold, they mine a lot of gold also very illegally, etc.

So, even so, the macro-order was made and then we approved another important one, we approved it in the Legislative Assembly of Pará, I was a deputy, and I approved this, the economic and ecological zoning. So, there's the economic and ecological zoning of BR-163, right? Made by all federal agencies, it wasn't even very expensive, right?

Why was this a good thing? Because in our reading, if you had not done that, what would have happened? In addition to being a corridor for the economy of the Brazilian Midwest, it would also be the object of deforestation. Not just for livestock, but for grain production. Because grain production was already moving there to Santarém, there in Belterra ... right? And it was coming from the Midwest.... So, what happened? This macro-zoning is also ecological, it dictates what can and cannot [be done], where it can and where it cannot, understand? So, they never accepted this macro territorial and environmental planning, right? That's important to say, right?

In this sense, it was first essential in my analysis of ultimate causes to turn more attention to the political-economic groups most relevant for understanding this illegal land grabbing. This is a faction within the broader agribusiness and large landholders' lobby that is essential for their expansion. This faction does the dirty work but distinguishes itself from the so-called more modern or legal parts of the business. For this reason, I have addressed in detail the characteristics of this mafia-like illegal and violent land-grabbing sector in Brazil. Next, I will discuss the resistance efforts against deforestation.

Resistance to Deforestation

Both the progressive parts of the state and the civil society, which together compose a broad socioterritorial movement for socioenvironmental justice, have long advocated for curbing Amazon deforestation in Brazil (Hochstetler & Keck, 2007). This process gained the most traction during the first Lula period. A series of methods, especially by a pro-forest civil society and a progressive state–actor coalition, brought the Amazon deforestation rates down by 84 percent between 2004 and 2012. However, it should be noted that these measures resulted in shifting deforestation to the Cerrado rather than stopping it completely (Dou et al., 2018). This is extremely problematic, since conserving the Cerrado is essential for avoiding the ecological tipping points (in terms of creating a water deficit) in southern and southwestern Amazon (Malhado et al., 2010).

In both civil society and state actions it is important to “interfere with the economic logic,” not, if we are talking about state actions, to “just send the police and the army to prohibit burnings,” Ladislau Dowbor, one of Brazil’s leading economists, shared with me in 2019 in São Paulo. He understood, as I also argue,

the cruciality of changing the economic logic to gain environmental and political changes – not simply using command and control tactics. Therefore, actions like boycotting deforestation-causing products and production lines were seen as effective means and threats by both the large ranchers and civil society. To this end, Amazon rancher Valmir Climaco said to me that boycotts have and would immediately cause major losses to Amazon ranching business. Neuri Rossetto, a top leader of the MST, Brazilian Landless Workers' Movement, told me in 2019 interview in São Paulo that

One way to inhibit this advance of capital could be this, a boycott of their products. It does not make sense to produce the way they do now produce as there will not be those who buy. I think this pressure on the other side is valid yes, it is a way to oblige them to have a social and environmental commitment in their ways of producing.

New hopes were raised when Lula won again in 2023. Lula's words, following the coup attempt on January 8, 2023, in Brasília when thousands of Bolsonaristas ravaged the Congress, presidential palace, and Supreme Court premises, aided by a significant part of the armed forces, suggested that he might be fighting strongly against the deforesting extractivists:

A lot of the people who were in Brasília today, maybe they were gold miners, you know, illegal gold miners, or illegal loggers. A citizen does not have the right to cut a tree that is 300 years old in the Amazon, which belongs to all the 215 million Brazilians, to earn money. If he wants to cut [a tree] to earn money, he plants and waits for it to grow, and then cuts as many trees as he wants. But he cannot cut that what is the heritage of humanity, and above all the heritage of the Brazilian people. These people [miners, loggers] were there today. The evil agribusiness, that agribusiness that wants to use agrotoxics, with no respect for human health, was possibly also there. And all these people will be investigated, sorted out, and punished.

These words by Lula were a strong and novel reaction to agribusiness, mining, and logging illegalities, promising to curb land mafias in Brazil. The claims are confirmed by reports on the people participating in the protests, including notable ranchers, illegal land grabbers, and loggers, operating in the Amazon and involved in violence (Lula da Silva, 2023).

Many state officials are also resisting and trying to curb illegal deforestation; for example, the Federal Police have had many operations to uncover the ranching illegalities. I was told by civil police chiefs that deforestation actions should be taken by the Federal Police because they have more resources/people, are better structured, and are specialized. However, even with all this, they cannot continue to take care of everything as there are so many violations. In 2017, the Federal Police uncovered a major and rampant corruption scheme within the meat industry, which was certifying meat without effective inspection (Gonzales, 2017). There are state actors who would like to stay active to quell illegalities independently of

the regime, but the Bolsonaro era showed how much their power can fluctuate, as in practice institutions are not as independent as they should be according to the constitution.

In this situation, civil society actions have been crucial, especially in the hinterlands – cast as resource frontiers. In the Munduruku Indigenous villages south of Itaituba along the Tapajós River, which I visited in November 2019, the Indigenous people told me about their struggles against deforestation, including a long struggle against a hydroelectric dam that would destroy their way of life and grab their lands. A series of important activist strategies surfaced from these discussions with socioterritorial movements in the Amazon, such as that which occurred in the Sawré Muybu Indigenous village. Rozeninho Munduruku, a young Indigenous activist, explained to me the importance of auto demarcation of Indigenous lands as a form of resistance and observing the perimeter. The Rousseff government did not want to demarcate these lands as it was pushing for a major dam in the Tapajós, which the Munduruku were resisting. He explained the process, which took several years, culminating in 2016 during the Dilma period when the government finally officially ratified the Indigenous land, just two weeks before being ousted:

The *Caciques* [Indigenous leaders] gathered in Brasília to demand FUNAI to sign the government study demanding demarcation, but when we returned to the aldeia they said: “now we will do the autodemarcation since FUNAI does not want to do it.” The autodemarcation took 2 years, and we were showing in the pressure our struggle of resistance. Besides fighting for our territory, to get the decree, we also fought against the dam, and then when 2016 arrived, it was published in the *Diário Oficial da União* that the official demarcation had been issued, on the 19 of April, the National Day of Indigenous People.

This demarcation of Munduruku lands set an important precedent to create rights for the original inhabitants of a region. In this case, it was also important as the creation of that area meant that the major dam project did not advance, which was a step toward preventing deforestation and degradation as it would have wreaked havoc on a very large area. Dams in forest areas are key projects that advance ranching and land-grabbing interests, opening huge areas for deforestation, as the Belo Monte and prior dams have shown (Bratman, 2015; Fearnside, 2015). Dams and the process of building them can be seen as a particular system, a political economic sector which is trying to expand in the Amazon and is partially dominant. In this sense, the Munduruku success is a key example of anti-extractivist action as it created a nonextractivist space and allowed nonextractivist agency to influence the outcome.

Rozeninho Munduruku explained to me the reasons behind the success against the Tapajos Dam. He said the key reason was that they put “a lot of pressure” on the situation. This included the auto demarcation of their land, where they cut a walking path on the borders of their territory and patrolled this border regularly.

In practice, these patrols have managed to stop heavy illegal logging schemes, the Cacique explained, “Here we confiscated 14 heavy machines [to log woods]. On the day we took out them [the illegal loggers], we had 140 leading fighters, coming here during the night when they were trying to get the machines out of here.” I traveled with the Munduruku several hours by a small boat upriver from the aldeia on Jamanxim River to where the action had occurred, to see the logging roads and the land laid to waste, including a barge they had destroyed: “This all here was our campsite then, all filled with our people, no one slept here that night.” The Cacique said they would establish an outpost with a few families living there on a rotational basis for a few weeks at a time. While there, they would live from and plant forest gardens, which would help to prevent the existing logging road being used to further expand logging. This action by the forest people of setting watch posts in logging hotspots is key to control deforestation. These watch posts, manned by the people living there, are much more efficient than the creation of empty picnic areas, which are also unjust, a form of “fortress conservation” (Büscher, 2016), and prone to corruption. We explored this key place for a couple of hours but did not venture deeper into the forest by the logging road, since we heard a sound of a motorboat and needed to escape by another waterway before they could spot us. The Munduruku drones helped to check what was happening from the air.

In this setting of violence and absence of law, a crucial strategy, according to the Munduruku, was targeting the key economic and technical capital owners of the dam-building system, who in this case were in Europe. Rozeninho explained: “The elders and us others went a lot to the exterior, to Europe principally, to denounce the companies that sold or built turbines that generate electricity. We said that “you will destroy us” and other peoples. We placed a lot of pressure. I think that this fight that we showcased abroad functioned as in Brazil it did not work.”

Many emphasized to me that in the Brazilian Amazon international actions are essential when it comes to forest policies. They can effectuate quick results and are essential to force the government –under pressure by the dominant extractivist political economic systems – into action. Meanwhile, local strategies should not be forgotten. During our days in the village, Aldira Munduruku, a young mother who had trained herself to protect the village by using drones to detect the presence of illegal loggers, also explained to me in a separate interview some of the other important strategies of activism for forest protection. She mentioned that if their village had internet access, they could do much more, for example spreading the drone imagery faster (see [Figure 4.2](#)).

Currently, the villagers were quite isolated and often had to rely on the illegal loggers, even for basic things like radio access. In other parts of the Amazon, such as Acre and the Peruvian Amazon, prior research has shown that the expansion



Figure 4.2 Aldira Munduruku, operating the drone that is used to detect the presence of illegal loggers, with the Sawré Muybu Cacique Juarez Munduruku. Jamanxim River, south of Itaituba, Pará, Brazil, November 27, 2019. Photo by author.

of drone use and other methods of remote sensing by villagers is effective in forest protection. These effects are amplified when coupled with telecommunication centers and when done correctly (González & Kröger, 2023). Rozeninho emphasized the importance of setting up “audiovisual groups” that can then gain more sophisticated tools and access to the internet to denounce the invasions, such as an important episode when the patrols removed illegal loggers: “I saw a video of her [Aldira] showing what happened here recently when they did the taking out of *madereiras* and if they had had access to internet, they would have already made the denunciation more safely. And as they cannot do this directly, we must give the material to an outsider to pass.”

The need to give this information to outsiders creates the problem of the information not passing fast enough, which increases the possibilities of corruption and leaks. There are still many places where NGOs and others have not brought drones nor set up communication links; the latter would save time, as currently the Indigenous people and RESEX inhabitants need to physically walk long distances to adequately check for intruders. The lessons related to resistance strategies that

follow, shared by Aldira, are also indicative of the things that outsiders can do to join the struggle more effectively. It is also useful for NGOs and development cooperation actors to understand these.

First, she mentioned that it is important to gather together many Indigenous leaders – elders whose talk is powerful, emotional, and “many times” affects people, even some of those governing. Interviewed separately, I talked also to the Cacique of the aldeia, whose response to my question on what they do when threatened by arms is an example of this powerful, emotional speech: “If we die for territory, for the struggle, we die trying to defend the territory, not that what is others’. These people on top, they kill one, another appears, they kill two more, two hundred appear. If they kill a leader, ten leaders appear due to one. All the time increasing.”

Other caciques in different parts of the Amazon used similar framing and similar speech. In 2023, Cacique Gilson Tupinambá from the aldeia Papagaio near Santarém in the lower Tapajós, explained the pressure they were facing:

We know that the large investments they will not stop. They came in the past on a robbery and today they come by another version. They never stop to persecute us. We know very well that our lands are rich lands, and that we do not have an attachment to money, we have an attachment to our *mãe Terra*, we have zeal for her [Mother Earth], have respect. Earth is a mother, the mother we do not give away, do not sell, do not plunge a chainsaw on, do not butcher; the mother we respect.

Due to their key role and impactful speeches and guiding actions, caciques and other social movement leaders are especially targeted by *pistoleiros*, as Gilson shared:

We know well that today the eye of large capital is on the leadership, the leaders who create strategies, who are a type of political articulator of the aldeia. We are persecuted and they threaten us by cellular, by messages, to intimidate. But we know that we came to this land to fight. We know that in the past they cut the tree trunks, cut the branches, but we stayed, the root stayed. We are the root of the Tupinambá people. A united people ... we are always working by a collective form together with our *Pajé* [shaman], thinking of the strategies by which we will continue to manage our territory.

Second, Aldira explained that due to the threats, it is important to create documentaries with outside helpers, spreading news by “video documentaries of what has been happening and could happen” to the villagers and forests. Dona Ivete from Santarém, who has been featured in several documentaries on female Amazon defenders, also mentioned the crucial importance of video documentaries, created with the help of outside experts.

Third, Aldira mentioned the importance of protesting, a strategy which has been found essential in resisting extractivist expansions (Kröger, 2013b; 2020a): “We already made many protests to happen here in Itaituba. The BR-163 was already

closed close to Itaituba, I think for 10 days. It was a lot of people, and peaceful, nothing [violent, bad] happened, all knew to converse.” With these protests they managed to attain their goal, which was to reinstall a coordinator to FUNAI, as the previous coordinator had been forced to leave by the government.

In these ways, social movements are a crucial part of the actual working of rule of law. Protest acts and mobilizations with varied strategies of resistance are themselves expressions of democracy in action and tend to result in more democratic state and territorial governance. Aldira emphasized that protesting is essential and typically has good results, while absence of protesting seems to result in being harassed by the government, “We are getting results in many protests. If not protesting, the government is always on top of the Indigenous, always against the Indigenous.” The Kayapó, a powerful and established Indigenous group, also emphasized the importance of protesting and street blockades, when I talked to their spokesperson, Carlos, in Novo Progresso in 2019: “They shout, they already closed this highway here many times. There was already a row of more than seventy kilometers of trucks full of soybean not passing here. For the Kayapó it is very clear, what is ours is ours, what is yours is yours.” These speeches demonstrate the importance of rights discourse; the understanding of territorial control, sovereignty, and autonomy to which the Indigenous people have the right; and, based on which they see, and frame, show that physical protesting that causes disrupting is completely justified. The aim is to affect government policies, to get the state to act: “They seek for help, and we already had many situations … when they shout, fast the government comes to solve the problem, the justice and so on.” In Santarém, Dona Ivete from STTR echoed the efficacy of protesting strategy, “That what can effect a change are the marches, the manifestations, those struggles that we people do to confront them.” There, the inhabitants of the Tapajós-Arapiuns Extractive Reserve, with leaders who are members of the CNS, the National Council of Extractive Populations’, stopped a barge full of illegally logged wood by *madeireiros* going down the Arapiuns River. Ivete explained, “They [the resistance] made a movement in 2009 that burnt [illegal] barges.” During visits to the site along the Arapiuns River in 2005, 2007, 2011, 2018, 2019, and 2023, I talked to several people who had been involved: those who lived next to the river and could see the logs leaving their areas, who stopped the barges, and who set the fires. These tactics were successful in establishing *de facto* control and stopping the illegal logging.

There have been many larger campaigns in the Amazon by forest people to directly confront the installation of deforesting RDPEs in their regions. The STTR had a campaign in the northern parts of BR-163 and the Santarém region to quell the heavily deforesting and violent entrance of soybeans after the 1999 installation of an irregular Cargill export port in the city. Dona Ivete explained, “Our role was to denounce and make a confrontation, for example through campaigns such

as ‘Do not give away your land,’ which was to conscientize the people about the value of land, the impacts of leaving the rural zone to go to the city ... the idea was to oppose.” This kind of politicizing is essential to try to make people conscious about issues such as land value.

It is also important to create networks and share lessons, to gain broader support on a national, Pan-Amazonian, and international level. Many informants indicated that much more needs to be done in this sense, to bring together the currently fragmented and isolated civil society networks, actions, and activists. Dona Ivete shared how they have organized seminars inviting other movements, such as, “Weaving resistance against capital”: “[W]eaving since we see that the movements are fragmented, each one doing on their way. So, we want to join the forces so that the Indigenous movements, those who were affected by dams, trade unions, fishers, federations, have a unified voice and try to resist, and we can be seeing the localities where we can do our resistance.”

Next, I will summarize this chapter on ranching-grabbing in the Brazilian Amazon and its curtailment.

Summary

This chapter has argued that a RDPE of ranching-grabbing has gained hold of substantial parts of Brazil, and is the main explanation for Amazon deforestation. Ranching and agribusiness, including soybean exports, are seen as having the greatest importance for the Brazilian economy and society, and therefore they are framed as national projects and strongly supported by state subsidies, tax perks, infrastructural projects, legalization of illegal land grabs, and other robust political and economic policies from government at the federal, state, and municipal levels. This has led to several regions becoming territorially dominated by ranching-grabbing, especially regions in the Arc of Deforestation, and in other areas where pastures or plantations cover large areas. The sector frames the attempts to curb deforestation by highlighting how international actors infringe on national and local sovereignty. However, locals have little say over these developments, as large beef and soybean-trading corporations are the true key players, with the most power to influence decision-makers into making anti-environmental and pro-agribusiness laws. Simultaneously, from a financial perspective the state banks offer cheap lines of credit for these endeavors. As Hecht (2005) argued, in this setting the “Real space for politics is relatively narrow,” which is a situation that has worsened since 2005, as shown in the 2016 coup of Dilma Rousseff, the pro-ranching measures of Temer and Bolsonaro, and the 2023 election of the most pro-agribusiness and conservative Congress. In concert, these factors have created a setting where alternatives are not seen by the most powerful as alternatives

at all. Although in practice there are also several large areas with interests other than ranching, for example, large multiple use conservation and Indigenous areas, these places are increasingly threatened, as the inner logic of ranching-grabbing requires a continuous expansion to new resource frontiers, partly because older pastures become degraded, but mostly since the primus motor of the whole system is the insertion of new land from which to draw speculative rents. Specific land-grabbing groups, called land mafias, are responsible for this process, where the larger the scale the more benefits are provided. Bolsonaro further cemented this organizational model between political and agribusiness elites. Typically, these are one and the same, as they have common interests that tighten in what can be called a feedback cycle (de Area Leão Pereira et al., 2020). The problem is international, since the deforesting ranching expansion groups, such as Brazilian beef corporations, are still largely funded by European and other international banks. This creates a specific situation of investment lock-in, as investors and credit lending banks want returns from their investments, which means they are not interested in curbing illegalities.

These dynamics are also resisted by many state and nonstate actors from inside and outside the Amazon region. Furthermore, the heat waves, droughts, and fires that are indicative of the Amazon Rainforest tipping point to savannization and desertification are making ranching and plantations themselves less profitable and productive. Paradoxically, this agro-suicidal process could potentially support the tendency to curb deforestation. However, whether these material changes can really lead to meaningful changes in the business model depends on politics and economic power, wherein, as I have shown here, the biggest hurdle is to cut off the key pillars of power in the RDPE of ranching-grabbing. Policies which target the political economic bases of power, such as cutting state subsidies, credit, corporate support, infrastructural access projects, tax exemptions, export perks, and trade deals have a very high potential to curb deforestation. The adverse direction, where the power of agribusiness is increased in key political economic decision-making, does not – according to my theory – promise success for curbing deforestation, even if conservation areas are increased or other pro-civil society actions are taken. To be able to devise policies that get to the core of the issues and effectuate change, it is essential to understand these deeper causes of deforestation and the systemic causalities and dynamics behind forest losses.

Part III

Narco-Gold Mining in the Amazon

5

Gold Mining, Illegality, and Deforestation in the Amazon

In May 2017, I was invited to join the Tres Islas native community for a trip upriver on the Madre de Dios River, to see a lake where giant otter lived and to observe the rampant gold mining eating away and poisoning the living grounds of the Indigenous peoples living in the area. The guides told me not to show my camera openly, as the Navy had come upriver recently – burning and destroying miner camps – and there were armed watchmen on the shorelines. Needless to say, outsiders were not welcome, especially if they were documenting the illegalities. We passed barges on the muddy river that were noisily sucking large amounts of mud from the riverbed, hoping to find their daily few grams of gold. From the boat we could see trailheads leading inland to mining sites, whose magnitude was only revealed to me later when looking at satellite images. When we finally landed near the lake, a group of people was coming down the bank with mining tubes and equipment. The meeting was silent, it was tense.

The tense mood finally eased once we returned to the village, where I could learn more about how the community was building facilities to process nuts for sale and developing tourism infrastructure as an alternative to the ever-present lure of fast enrichment by gold, on which some locals had embarked, causing tensions even inside the community. Later, I visited other sites of gold mining in Brazil in the southwestern Pará state, on land and on rivers, always seeing the detrimental impacts this sector has caused to the riverbanks, forests, and the social fabric of the community.

Small and medium-sized illegal, informal, and other irregular forms of artisanal gold mining, as well as large-scale corporate gold mines in the Amazon, have been a major and multifaceted cause of socioenvironmental–health–human rights crises for decades. The study of this sector is important to understand the key political economic factors behind forest degradation and deforestation and to highlight how RDPEs work. There are different types of RDPEs; for example, ranching-grabbing explains the dynamics in Acre, while in the neighboring Madre de Dios province in Peru gold mining explains the bulk of land and forest use. Between 2010 and 2015,

gold mining was the key cause of deforestation in Madre de Dios (Nicolau et al., 2019). The already-consolidating gold-mining RDPE in the region was pushed by the completion of the Interoceanic Highway in 2012, which runs from Acre in Brazil to Cusco via Puerto Maldonado in Peru (Cannon, 2017; van Eerten, 2017).

What is meant by illegal gold mining? Often this sector is referred to as artisanal or small-scale mining, but due to the central role of large and illegal capital, artisanal is not really an appropriate term (see Figures 5.1 and 5.2); better examples would be “network or syndicate mining” (Caballero Espejo et al., 2018). This means individual mining operations are connected to larger capital that is working for larger businesses. Therefore, in Madre de Dios, Peyronnin (2019) studies mining as a “complex web of interlocking commercial networks.” These interactions could also be described as a kind of symbiosis between formal, informal, and illegal economies (Damonte, 2018).

Typically, illegality is framed as the key cause and problem of gold mining and its polluting and deforesting impact (e.g. Asner & Tupayachi, 2017; Diringer et al., 2019). However, to focus on the illegality and informality would give an



Figure 5.1 Currently, so-called artisanal or small-scale gold mining in the Amazon is mostly mechanized and causes large deforestation and long-term degradation of the environment. A gold mine east from Castelo dos Sonhos, Brazil. November 2019. Photo by author.



Figure 5.2 An illegal “artisanal” gold-mining site east from Castelo dos Sonhos, Pará, Brazil, November 2019. These open-pit mines typically flood and leak, ravaging the rainforest and causing long-term damage. Additionally, they contain mercury and other toxic substances. Photo by author.

incomplete or inaccurate picture of the political economy of this sector and how it impacts deforestation. The illegal and informal mining in Peru is closely tied to state institutions, networks, and commerce (Damonte, 2018; Peyronnin, 2019; Smith et al., 2020), which is characteristic of an RDPE that has become nationally dominant. The legal-political system supports this sector, for example through activities like money laundering. Smith et al. (2020: 248) assert that the “illegally mined gold and exporting it is being done by legal firms.” The state often targets the wrong people and social actors in its attempts to curb the problem. The focus is on the people doing the mining, not on the people who finance the activity, run it at the upper level, and benefit most (Praeli, 2019). This is explainable because the corruption linked to the sector is so widespread, penetrating all levels of society (Smith et al., 2020), which makes it difficult to enforce any efficient efforts that would hurt the powerful players in the system. It is typical in socioenvironmental conflicts that the lower-level workers and other people harmed by the practical work and impacts of extractivist RDPEs are held as key culprits; they are often considered to be responsible for the damage, which makes them policy targets.

Political ecology has amply demonstrated and analyzed these dynamics in detail in many different contexts (Peet et al., 2010).

In February 2019 while in Brasília, I asked Ricardo, an expert NGO representative from Instituto Socioambiental, “who is responsible for Amazon deforestation?” He emphasized the importance of regional analysis in answering the question. In other words, the guilty parties vary depending on the region. He shared that “Deforestation inside the Caiapó [territories], for example, is the responsibility of *garimpeiros* [small-scale gold miners, typically illegal, and currently medium-scale, mechanized], which is one kind of actor.” He showed me several satellite and geographical information systems (GIS) tools that are used to trace the ongoing deforestation in different parts of Brazil. He then pinpointed another region in the Amazon and shared:

Deforestation in this region has loggers [which are] more difficult to see since it is so bright in satellite images ... it is like a rat's trail. And here in this other region, there are large areas deforested.... All depends on the regional context, and who are the actors in that region. Only this way it is possible to responsibilize someone [make someone responsible].

I have followed this approach here, developing my analysis about the RDPE to account for the diverging actors by regions. In Colombia, for example, illegal gold mining has quickly expanded in recent years, mostly due to the actions of the country's many armed groups. About half of this expansion is taking place in environmental protection areas, operated by armed groups such as *autodefensas* (right-wing paramilitary groups), ex- Revolutionary Armed Forces of Colombia (FARC) mafias, and National Liberation Army (ELN) guerilla groups. In these same deforesting gold-mining sites are also widespread coca cultivation, human trafficking, and other criminal activities, as described by an InSight Crime report (Valencia, 2023). Organized crime is controlling so-called artisanal gold mining, especially in Colombia, Venezuela, and many parts of Brazil, leading to an increase in the overall spread of the organized crime variety of the gold-deforesting RDPE. Several governments are either openly supporting this illegal gold mining (e.g. Venezuela, Brazil under Bolsonaro), being captured by their interests to a large degree (e.g. Peru), or it is outside the possibilities of the state to regulate the activities due to lack of state monopoly on territorial violence (e.g. Colombia, Guyana).

In this part of the book I focus on three regions where irregular gold mining can be argued to be the RDPE and the most important driver of deforestation (see Figure 5.3). The first is the triple frontier between Colombia, Venezuela, and Brazil, where gold-mining operations are led by ex-FARC in Venezuela's Yapacana Indigenous reserves, paramilitaries and other armed groups in Colombia, and, increasingly, by PCC and other drug factions from southeastern Brazil in Roraima's Yanomami Indigenous lands. Second, I further unpack the Peruvian

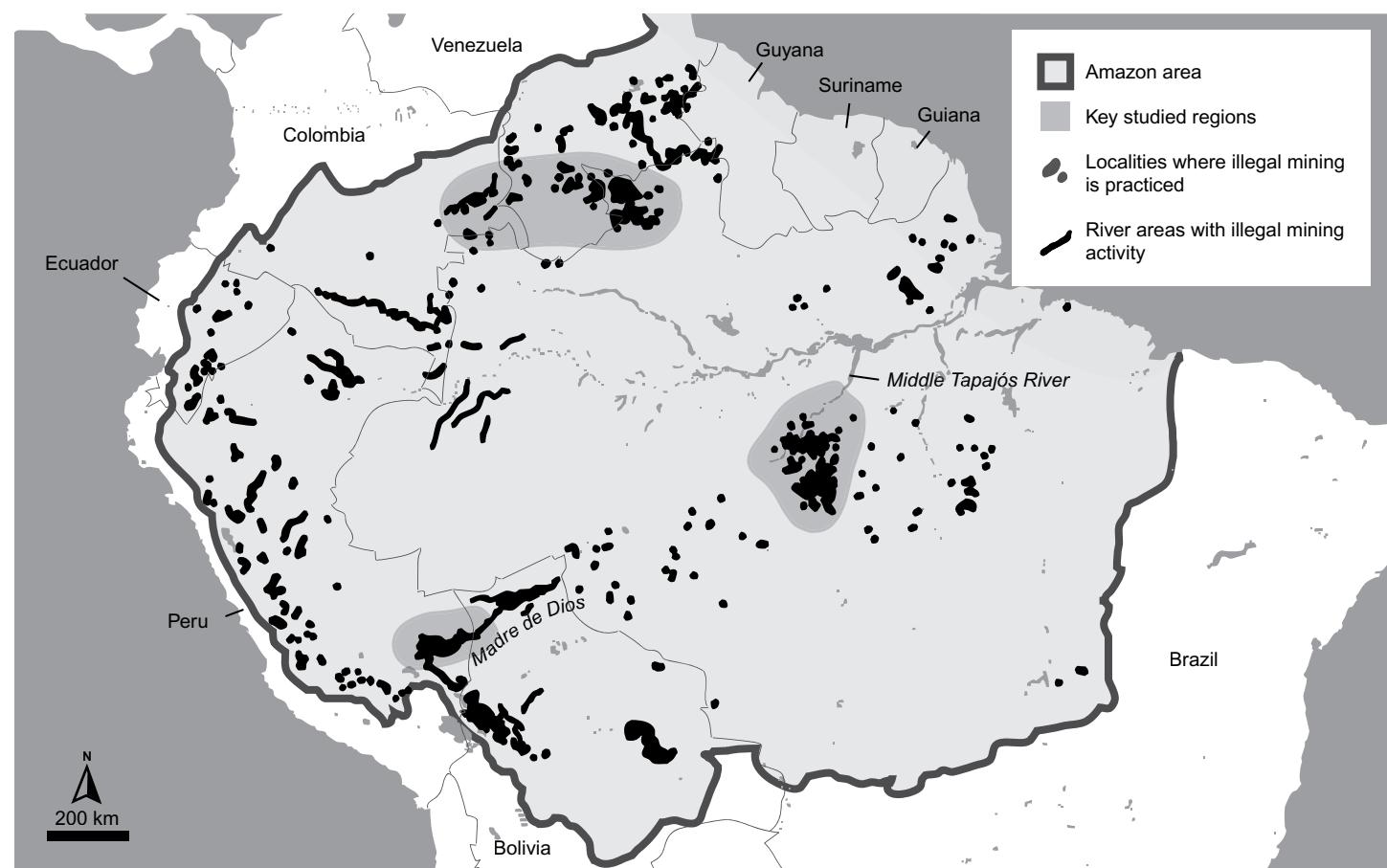


Figure 5.3 This map shows the regions I analyze herein and the areas where there is illegal gold mining on land and in the rivers. It is inspired by an illustrative map used in Angelo (2020).

dynamics through an examination of the Madre de Dios province in Peru. Third, I study the southwestern Pará state in Brazil and Brazil's largest gold-mining town, Itaituba, known as Nugget City, due to the many illegal gold miners upriver in the Tapajós Basin. In southwestern Pará, gold mining is the leading cause of deforestation inside areas like the upper Tapajós Munduruku Indigenous lands near Jacareacanga, where deforestation tripled between 2018 and 2020.

The analysis of gold mining herein is based on the comparison between these three regions, which constitute the bulk of currently ongoing Amazon gold mining. These regions have also subvariations that I will discuss further.

In technical terms, in the Amazon there is no difference between illegal or legal gold mining carried out by noncorporate players (called garimpo in Brazil), Igor explained in our interview in December 2023. Igor had insight in this matter because he worked at ICMBio and specialized in the inspection of gold mining in southwestern Pará. This was our second conversation, as I had also talked with him and his colleagues at length in Itaituba in November 2019. He shared that for both illegal and legal noncorporates the same machinery and techniques are used. First, companies bring in hydraulic excavators to remove vegetation and then they make trails, which allows them to open the pits. Igor continued, "and from then on, they use the sandblasting technique. They use a hose, which is called a jet nozzle, for suction." He explained that what he described happened on land, but a substantial part of gold mining also takes place from rafts that are on the rivers. Igor continued by asserting that none of the on-land or riverine gold mining is regularized, as the miners do not have the required environmental licenses. He indicated that of all these irregular mines, about 70 percent are illegal in the southwestern Pará region.

ICMBio officers (interviewed in November 2019 and December 2023), operating in the southwestern Pará region, stated that there was a mix of different types of miners, including families, especially from Maranhão, some of whom had moved to the area earlier, and others later. There is a complex set of gold-mining actors. They range from small miners to laborers who are paid a percentage of the extraction. In addition, there are miners who own the mines, barges, or dredgers, or who are investors. There are also some who operate as members of cooperatives or even companies (Coelho et al., 2017). In 2023, Igor shared that this array of gold-mining actors has been changing recently with the arrival of new bosses with capital from Mato Grosso who run operations, especially in the southern parts of Pará. There have also been the intrusions of *narcogarimpeiros* (those carrying out the criminal activities in the interlinked gold-mining and drug networks). Thus, the research needs updating, due to increasing narco influence and hierarchization of gold mining, away from the so-called small-scale or family-based operations, with increasing mechanization and deforesting impacts caused by garimpo, both legal and illegal, with the bulk being illegal.

In Amazon gold mining, it is essential to understand and take into account the legal-illegal networks, not just focus on one or the other. The situation is not a straightforward lack of governance, since a substantial number of those governing are deeply embedded in the system. Mining interests have permeated the state to such an extent that any idea that some kind of Western-style “ideal governance” could solve the issue is based on a fundamental misunderstanding of the power and extent of the underlying RDPE. Curbing deforesting mining is not only an issue of governance or lack of regulation; rather, it is an issue of driving political economic forces and actors.

As a form of extractivism, gold mining in the Amazon is a process producing negative value, violence, human rights violations, and other developmental harms. The monetary value of losses caused by illegal Amazon gold mining has been estimated by Brazil’s Prosecution Service and researchers to be around 39 billion reais per year (about USD 8 billion) (Manzolli & Rajão, 2022). In Brazil, the support given to gold mining fluctuates, as the RDPE of gold mining is not as dominant as it is in Peru, where mining interests align with national elites that have captured the state to some extent and thus ensure lasting support (Crabtree & Durand, 2017). Gold-mining damages are closely connected to the highest level of politics, which means they are affected by regime changes and especially major changes in the capitalist world-ecology.

Committing environmental crimes in the Amazon has become one of the world’s largest illegal businesses (after the global drug trade and counterfeiting), generating an estimated annual profit between USD 110 billion and 281 billion (Risso et al., 2023). In Brazil, the key for profit making is the production of commodities based on illegal deforestation, including gold mining, which is the key cause in Peru (Risso et al., 2023). This profitable illegal deforesting is linked to difficult-to-detect sophisticated forms of international crime, such as trade-based money laundering and smuggling. Mercury is the key substance required for gold production, with about 5 to 8 grams needed to produce 1 gram of gold. In Brazil, there is no legal market for mercury and it is smuggled in from Bolivia and Guyana (Senra et al., 2023). This mercury smuggling creates yet another way of making money through the illegalities of the gold RDPEs in the Amazon.

Gold Prices and Deforestation

While illegal, informal, and other forms of Amazon gold mining have been amply studied from various viewpoints, Peyronnin (2019: 11) argues that the deforesting role of gold mining requires further scrutiny:

The economics of how this capital affects mining and its relation to not only the overall magnitude of deforestation, but also its spatial extent and spread, is unstudied, and presents an important opportunity for research that is crucial for understanding the spatial

distribution and spread of mining, as well as implementation of effective policy to constrain the patterns of its growth.

I will address this gap in literature. Most studies, although the main focus is elsewhere, can be used as a material base because they at least tangentially mention how the focus sector affects deforestation. Smith et al. (2020: 236) argue that the export value of illegal gold mining in Latin America has surpassed cocaine. In a comparison between Peru and Colombia, they show how these sectors, which they call “treadmills of production and destruction” due to their contribution to deforestation and environmental degradation, vary in their regional impacts and functioning. This variance also depends on world-systemic factors. Due to the damages caused, in 2021 the environmental cost of gold mining in the Amazon was estimated to be tenfold the price of gold produced (Diele-Viegas et al., 2020). Thus, in addition to ranching in the Amazon, Amazon gold is another form of unproductive capital (Dowbor, 2018). It is extracted by a system that has become regionally dominant in many places, destroying lived environments and causing socioenvironmental damage. In the Amazon regions that have already experienced gold-mining booms, their bust has meant local economic collapse (Diele-Viegas et al., 2020). After the gold fever has passed, the miners typically turn to other deforesting livelihoods, or move elsewhere in the Amazon to open a new mining front. Gold leaves in its wake a trail of boomtowns that serve as hubs for further deforestation, especially ranching-grabbing based. Some quantitative figures on the extent of deforestation caused by the sector are provided by Asner and Tupayachi (2017) and Nicolau et al. (2019). In Peru the height of gold-driven clearcutting was in 2017, with a total area of 95,750 hectares deforested in Madre de Dios by 2017 (Peyronnin, 2019). Most of this deforestation has occurred in the time since the completion of the Interoceanic Highway. About 80,000 hectares of this deforestation is estimated to be caused by gold mining, with 30,500 hectares of the total happening between 2013 and 2016, although during that time the Army realized 109 interdiction missions to destroy illegal mining sites (Reaño, 2019).

Deforestation caused by gold mining in Peru's Amazon is not a new phenomenon, as it expanded by an average of 1,202 hectares per year in the 1985–2009 period; however, since then the figure has jumped to 7,432 hectares per year (Caballero Espejo et al., 2018: 10). This change, or the other fluctuations in the relations between mining deforestation, cannot be explained solely or directly by gold prices (see Figure 5.4), which do not correlate with deforestation. Between 2012 and 2017, gold prices decreased 26 percent, while the deforestation caused by gold mining increased by 53 percent (Caballero Espejo et al., 2018: 8). However, research in Brazil has shown that there is about a 10-year delay between gold prices, increased mining, and deforestation, with the correlation between gold prices and mining area showing the trend (see also Graph 2 in Senra

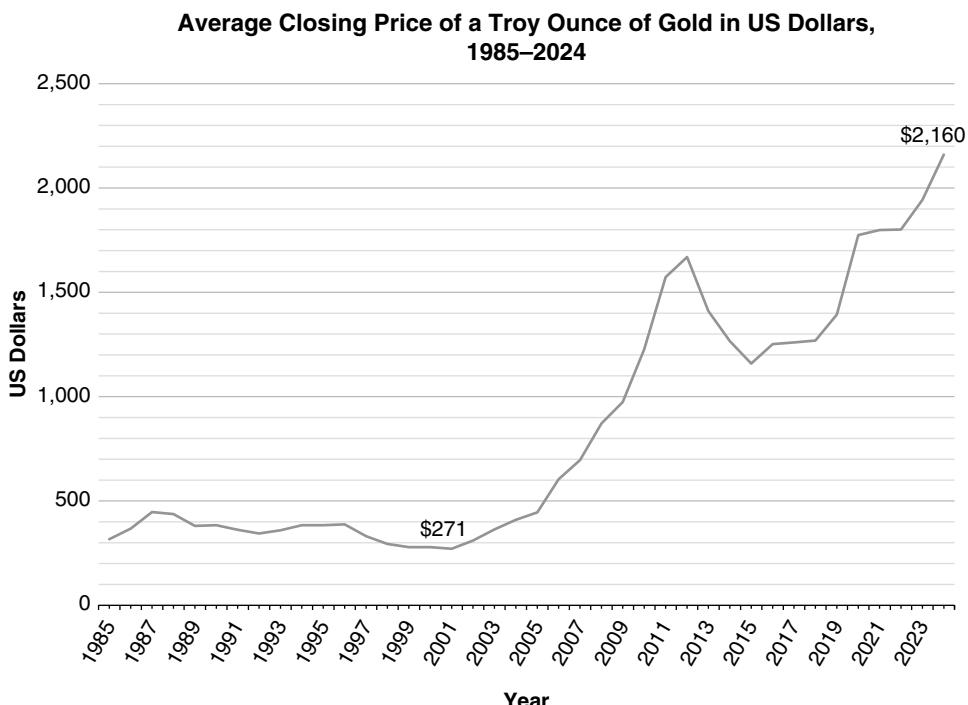


Figure 5.4 The average price of gold in US dollars from 1985 to 2024. Data from Macrotrends 2024.

et al., 2023: 28). Between 1992 and 2011, the area occupied by gold mining in Brazil remained stable at approximately 25,000 hectares.

However, since 2011 there has been a steady linear rise in the deforested areas as the gold-mining area in Brazil increased to almost 100,000 hectares by 2020. Since the spike in 2011 (see Figure 5.4) the price of gold has remained high as central banks can use it to protect national economies from international financial tumults and attacks. Gold's role in this capacity had increased as other asset classes have become riskier due to the multiple global crises since 2008.

The two most severely deforested conservation units in the Brazilian Amazon are in southwestern Pará, the FLONA do Jamanxim (86,110 hectares deforested between 2014 and 2023 according to ICMBio data shared with me by their personnel), and the environmental protection area (*área de proteção ambiental*, APA) of Tapajós (56,830 hectares deforested). In both cases, a key cause of this deforestation is gold mining. For example, the company Gana Gold commercialized over 1 billion reais (about USD 210 million) worth of gold from the APA of Tapajós without proper environmental licensing, which caused the police to ban their operations in 2022 (Piran, 2023). Therefore, it is particularly important to study gold mining when analyzing why deforestation is taking place inside conservation areas

and Indigenous lands in an extremely destructive, violent, and polluting manner. This deforestation inside conservation areas in Brazil, totaling 334,000 hectares between 2014 and 2023, increased dramatically during the Bolsonaro regime, with annual deforestation rising from 24,888 hectares in 2018 to 62,026 hectares in 2021. When Lula came to power in 2023, this came down to less than 20,000 hectares. Meanwhile, Brazil's gold exports doubled between 2017 and 2022, from 11.6 tons to 22 tons, which was due, to a large extent, to illegal gold (Potter, 2023).

A senior IBAMA officer I interviewed in November 2023 considered that currently the problem in Brazil with garimpo is still mostly related to the price of gold, not to the narco connections. An expert ICMBio officer shared this view, stating that the high price of gold makes the extraction of low-value deposits profitable in areas like the southwestern parts of Pará. The low real value in relation to the dollar allows the exporters to make profits even when they are mining less valuable deposits. The IBAMA officer told me that the banks are a key problem in the gold market dynamics because of gold's value and importance to central banks and other financial institutions, which are making money off the illegal gold trade. In Roraima, he argued, "There are a lot of big people who make money from mining, a lot of politicians, a lot of banks. I think the banks really make the money, anyway. Banks make a lot of money from mining. Illegal mining is a very large network."

The extraction volumes are high but vary. In Peru's Madre de Dios, just one of the motors used in the process of mining was estimated to produce between 13 and 15 grams of gold per day. These motors are the most important part of the mining operation because they physically dredge the bottom of the riverbed to find the gold. The production from the gold-mining rafts situated in Roraima on one of the Yanomami rivers, such as the Uraricoera, were estimated to be substantially higher, 40 to 100 grams per day, which results in 1.2 to 3 kilos of gold per month (Ramos, 2020).

In the post-2005 setting, the gold-deforestation linkage needs to be understood as a part of the wider problem of cheap natures (Moore, 2015). As the costs to obtain gold rise, profit margins are affected, as are the possibilities to expand in the same manner as previously. Thus, more destructive means of extraction are sought, usually by manipulating regulations by global and regional mining interests (Kröger, 2016). This process becomes systemic when state control has been captured. Once an RDPE is established, the deforesting and other negative impacts are no longer dictated by the logical reality of the place where they are felt. Rather, they become secondary to the interests of the wide variety of actors that benefit from further expansion of the sector. These interested are consolidated in the key nodes, for example, selling machinery, getting rents, grabbing a slice of the illegal/legal trade of gold, involved in other increased sales, and/or retaining overall

power and clout. The linear expansion of illegal gold mining in the Brazilian Amazon between 2011 and 2020, even as gold prices were dropping relatively, is telling of how the RDPE, once established and set into an expansion mode, draws other sectors into its thrust (especially the drug trade and other organized crime in the case of Amazon gold), which causes the expansion to operate increasingly by its own logic. The expansion logic of the RDPE can overcome relatively small decreases in global prices, or decreases in state subsidies, as my prior analysis on the linkage between state crediting of industrial tree plantations in Brazil and their expansion showed (Kröger, 2013a). The state funding by BNDES in most parts of Brazil was the key to make the paper pulp sector regionally dominant – and globally most cost-effective. Even though the funding level dropped for a time, plantations continued to expand. This is the reason that, when investigating these sectors, it is important to look at fluctuations in price over a few decades and the links to world-ecological shifts. These cannot be seen when looking at fluctuations only a few years at a time.

The 2008 financial crisis, and the subsequent land and resource boom, were world-systemic moments that were synchronic with rising gold-mining-spurred deforestation in the Amazon, which is also suggested by Peru's increase in gold deforestation in 2009. The global extractivist character of the financialized world-ecology gained momentum, including through the growth of informal/illegal economies and international trade, which explains to great degree how extractivist RDPEs have further expanded their grip and control. This phenomenon of extractivist RDPEs consolidating their grip on regional territories and national policymaking is global, these RDPEs creating an ever-larger part of global capitalism, which is extractivist.

The importance of extractivist RDPEs in global capitalism is highlighted by the overall rise in the price and relative value of commodities in relation to capital goods since 2005. Although there was a relative drop in commodity prices between 2014 and 2018 in relation to the boom of the commodity consensus years of 2008–2013, the figures stayed higher than they were prior to 2005. For gold, the global price was less than USD 300 per ounce in 2001, rising to USD 600 in 2005, and then skyrocketing to USD 1,800 in 2011. The price came down to about USD 1,200 in 2015 but rose to above USD 1,900 in 2020 during the COVID-19 pandemic (Heubl, 2021). The rise from USD 300 to over USD 2,000 is dramatic. Gold is not alone in this change as similar drastic changes in commodity prices for other goods have occurred since 2005, for example, iron ore (Kröger, 2020a). We are facing a new pushing or driving forces of regional extractivist sectors that are locally and even nationally dominant, but then join forces to form a new global race for resources. To make matters worse, this is occurring at precisely the same moment when the socioecological-climatic havoc that extraction creates should

be avoided at all costs due to the closeness of breaching global climate tipping points. These RDPEs need to be studied in detail for their sectorial and contextual specificities, to understand the factors that drive and enable them, but also which factors can resist them.

The extracted gold from the Amazon has found its way into leading global technologies, electronics, and the production lines of electric car companies. Yet, it is practically impossible to trace the origins of this “blood gold,” as an Amazon Watch (2022) report details. An estimated 47 percent of the gold mined in Brazil between 2015 and 2020 was illegal, a total of approximately 229 tons. Organizations like Amazon Watch argues that the key buying countries (Canada, Switzerland, the United Kingdom, Italy) and global companies should consider and label Brazilian gold as a “conflict mineral,” which warrants much stronger regulation and inspection on the ground.

Gold mining explains most deforestation in parts of the Amazon, rather than ranching, soybeans, or other forms of deforestation. RDPEs have path dependencies, where they can block the entrance of other forms of capital, by several means. First, they already offer possibilities and channels for capitalist accumulation in a systemic manner, having many vested interests, for example, the routine use of specific machinery sellers. Clearly, these sectors can coexist in several places and support each other, as is visible in areas like the BR-163 in Pará, around Itaituba, and to the south until Castelo dos Sonhos. In this area, gold mining could be said to still be more dominant than soybean plantation complexes, as it runs alongside logging and ranching-grabbing schemes, which are also strong deforesting extractivisms operating in the region. However, in Peru’s Madre de Dios and Venezuela’s Orinoco Delta, illegal gold mining is clearly *the* dominant sector, regionally. This indicates that the polities and existing ties of politics and rooted economies can also resist the entrance of unrooted or foreign types of deforesting extractivisms. When Brazilian ranchers tried to enter Bolivia from Acre, the Bolivian government drove them out; however, the same government has not, in any meaningful way, curbed the gold mining in the Amazon along the border between Bolivia and Peru. Amazon gold mining is a cross-border system, crossing polities more easily than ranching. In fact, the Brazilian gold miners were essential in “transferring their knowledge of alluvial mining and dredges” to the local miners in Madre de Dios, and they also offered important financing (Cortés-McPherson, 2019: 386). It is likely that the Peruvian authorities did not meddle with this impact due to the already-strong pro-mining attitudes within the government, as the sector was already becoming an RDPE and was much stronger than other sectors. Meanwhile, the Brazilian state would like to see illegal gold mining stopped in the Peruvian Amazon, a diplomat from the Brazilian Embassy in Lima told me in 2017. One reason is because mercury from these sites flows to Brazil and is consumed by

and travels with the fish. However, these health considerations might not show the whole picture because in international relations many other aspects may be associated with such a wish. In Venezuela, gold-mining expansion has been related to closer ties with Russia, the arms trade, money laundering, the drug trade, and organized crime expansion. Other parts of the Amazon are also in the same situation, with growing links to the latter three.

Gold Mining in the Triple Frontier between Brazil, Venezuela, and Colombia

Since 2017, illegal gold mining in the Amazon has grown rapidly, especially during the Bolsonaro era, the COVID-19 pandemic, and the political chaos in Peru, Bolivia, and Venezuela. In Brazil, between January 2021 and June 2022, the area of mining expanded by approximately 16,000 hectares, while an estimated 158 tons of gold, worth about 44.6 billion reais (about USD 9.4 billion), were extracted during that period (Manzolli & Rajão, 2022). Bolsonaro strongly promoted mining, even signing several decrees that facilitated the entrance to areas like Indigenous lands. These actions led to a threefold increase during his term of miners invading Munduruku and Yanomami lands (Indriunas, 2022). Bolsonaro was the first president of Brazil to visit an illegal mine, even more shockingly, this was located inside the Indigenous land of Raposa Serra do Sol in Roraima. During this visit he defended the approval of new laws in October 2021 that allowed mining (Indriunas, 2022). This visit, along with other factors, signaled that the relevant government and state apparatuses had been captured by mining interests during the Bolsonaro regime.

Meanwhile, the rise of Maduro in Venezuela has also led to a dramatic increase in illegal gold mining in the Orinoco Delta and other parts of the Venezuelan Amazon (Lindberg, 2020; SOS Orinoco, n.d.) There are an estimated 4,472 points of illegal extraction in the Amazon, of which 1,432 are in Venezuela according to a georeferencing analysis (McDermott et al., 2023). After Brazil, this is the highest number of illegal gold-mining operations. The problems with this illegal mining started in early 2000s, when President Hugo Chávez offered FARC a safe haven in the Yapacana National Park, which is next to the triple frontier with Colombia and Brazil. Since then, the Colombian ex-guerillas have started mining gold extensively in the park, making it the most heavily mined region of Venezuela. In addition, according to a report by InSight Crime, Maduro has allowed ex-FARC (such as Frente Acacio Medina) and other operators (such as Frente ELN, with whom ex-FARC have a pact of nonaggression and division of territories and tasks) to expand further along the Orinoco Delta to provide funds for the regime (McDermott et al., 2023). The ELN, a faction of whose leaders entered the region in 2017 after

the Colombian peace deal, has an especially strong control of the ports and extorts money along the access rivers to the region. The same report found that the FARC leader Miguel Diaz Sanmartín, known as Julián Chollo, refused the 2016 peace deal, and later became the de facto leader of illegal gold mining in Yapacana. In this role, he demanded significant extortion money from gold miners (for example, with fixed bribes, such as 5 grams of gold for each backhoe in operation, 3 grams to maintain a business, and 1 gram for a boat to pass to bring in workers and goods). There are about 25,000 workers involved in gold mining in the region, if you include the workers in the supporting tasks, for example transport, cooking, selling goods, and so on. The biggest mines and machineries belong to persons who are ex-FARC and from the ELN. A local Indigenous informant explained that the guerilla groups have total control of the area, and Indigenous people have had to make pacts with them to receive donations for allowing operations. The situation may be a bit better for these Indigenous groups than those on the Brazilian side of the border, where the PCC and other drug-trafficking groups have a huge share of the control of gold mining and engage in extreme brutalities that amount to genocide against the Yanomami. According to the InSight Crime report on the Venezuelan side, some Indigenous people see Chollo as a kind of “Robin Hood” distributing goods for those in need, but in practice they must involuntarily submit to his power and violent presence. The illegal/clandestine airstrips are also used for drug trafficking and other illegal activities (see [Figure 5.5](#)).

The most important RDPE of this triple frontier, which causes the most deforestation, is the conglomerate of various gang-based violent and armed criminal organizations. Local key authorities, such as intelligence and army officers, also seemed to be involved in the gold mining in these areas in 2022, offering arms and security against other public authorities’ attempts to enter and control the region. This is a heavily dominant sector, as it has even imposed its own currency, with gold accepted locally for practically all transactions. In addition, the borders are controlled by criminal groups, with miners and support workers moving frequently to other sides. In this context, available jobs are announced on social media and paid only in gold.

The Uraricoera River is the key access route to the gold mines that lie within the Yanomami lands in Brazil. The river is controlled by organized crime lords, with their *pistoleiros* attacking the Yanomami villagers with lethal force as they try to block other miners and gangs from accessing the area. The drug gangs extort the miners, and earn money by organizing brothels and selling goods and drugs to the miners. Mine owners – or the de facto controllers – organize everything under their grip, trafficking women with false promises about the conditions of the sex work. In this setting, rape is typical, as is extortion of the workers in the fashion of the established Latin American rural patrons, who first operated rubber estates and

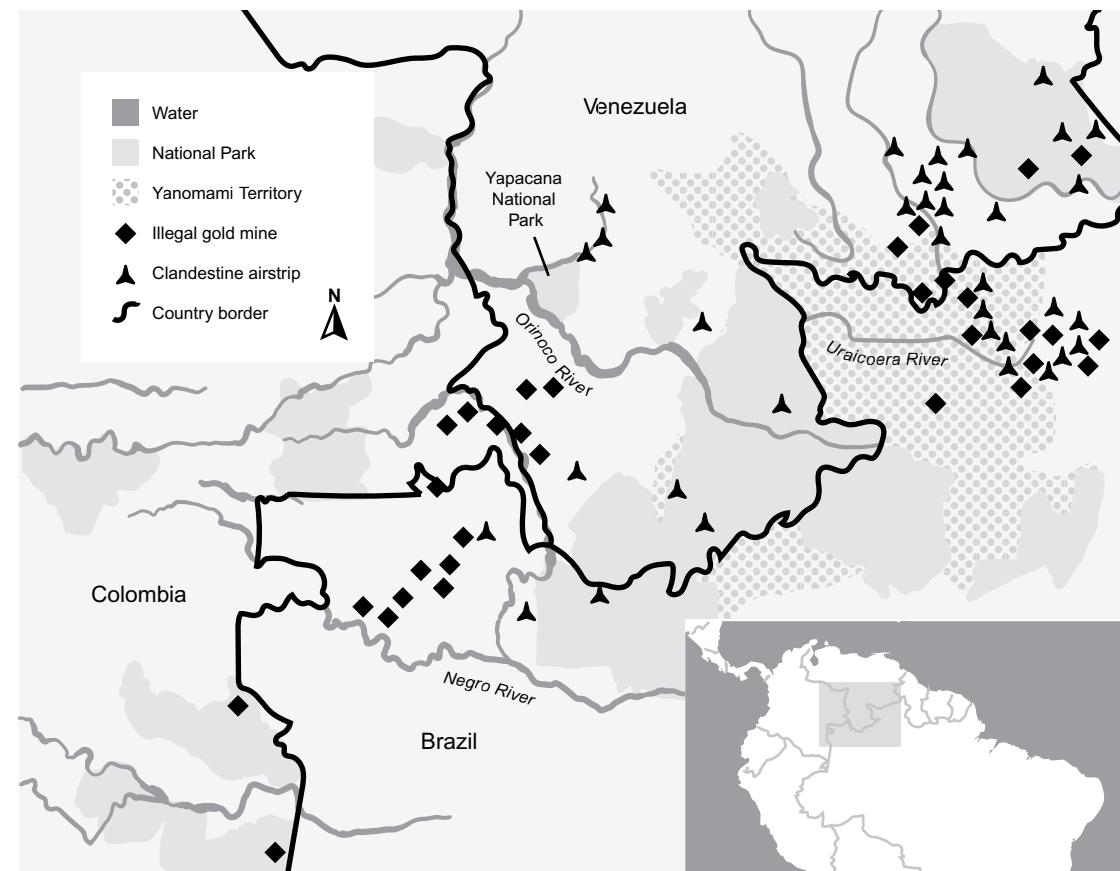


Figure 5.5 Inspired by a map from [InsightCrime.org](https://www.insightcrime.org), this map shows the proximity of illegal gold mines and crucial clandestine airplane landing strips on the triple border between Brazil, Colombia, and Venezuela.

then later were involved with cocaine production. The gold interactions are used to launder all the money and even offer the possibility to launder illegal gold. This setup helps to explain the benefits of the mergers between the illegal gold, drug, and other businesses.

The creation of Pan-Amazonian police and official investigative institutional frameworks could help, but realistically this will not happen anytime soon, given the existence and political power of the RDPEs where profit making is deeply linked to environmental crime. Many reports focus on governance and policy-setting improvements, without recognizing the deeper, systemic causes of the illegalities, such as RDPEs. The lack of resources, corruption, and insufficient intergovernmental cooperation to tackle Amazon deforestation should not be primarily seen as obstacles that can be overcome by better policymaking and governance (as e.g. in the report on Amazon's triple frontiers' illegalities by McDermott et al., 2023). These are some of the ways in which current key political economic powerholders in different regions retain, accumulate, and expand their fortunes and power. The rapid rise since 2011 of illegal gold mining in protected and Indigenous lands in the Amazon is a result of the "complete decontrol of the economic chain of gold" by states, which are too fragile in the regulatory, judicial, and institutional spheres, but have many institutions driving the mining, as found in 2023 by a large report on gold mining (Senra et al., 2023: 87).

The setting of illegality is essential because it allows the illegal gold to be turned into legal money capital. This laundering takes place practically by small airplanes and a long chain of different companies mediating the gold trail. Once the gold has passed through all these hands it is melded and the illegal gold cannot be distinguished from legal (McDermott et al., 2023). Given the high costs of getting gold-mining equipment, such as barges, to remote regions, organized crime's financial flows have become ever more essential as more remote areas are targeted. A single barge can produce about 14 kilograms of gold per year, which can fetch 150 to 200 million dollars locally and almost 900 million dollars internationally (McDermott et al., 2023). These figures, showing the relatively much higher profit accumulation up the international chain, explain the availability of local financing. Given the high value, and proximity to frontiers, armed groups control the operations. Organized crime and guerilla and paramilitary organizations are participating both in drug trafficking and gold mining, which are used to launder money. In [Chapter 6](#), I will discuss the Peruvian dynamics in more detail, and then in [Chapter 7](#), Brazil.

6

Gold Mining and Indigenous Conflicts in Madre de Dios, Peru

In Peru, the Madre de Dios gold-mining conflicts (see [Figure 6.1](#)) have been seen as a recurring, uncontrollable socioenvironmental problem (Cannon, [2017](#)). In addition to creating major local socioecological problems and conflicts, illegal gold mining also impacts people far outside the mining areas, as mercury is carried upriver to Indigenous villages by fish and downriver to Brazil and Bolivia. While forests can usually regrow on pasturelands, the poisoned and ravaged post-mining landscapes will remain as barren wasteland strewn with rubble. Shedding light on Peru's mining capitalism is an essential step in starting to solve the problem, as Peruvian powerholders continue to lay highways into the Amazon. The Interoceanic Highway was just the first of a series of planned new roads on both sides of the border (van Eerten, [2017](#)). If extractivist expansion in these areas continues unabated, there will be very little left of the primary rainforests, landscapes, and lived environments.

In Peru's Madre de Dios, gold mining has been studied related to pollution, health, and environmental harms (e.g. Diringer et al., [2019](#); Martinez et al., [2018](#)), local socioeconomic developmental and livelihood impacts (e.g. Chavez Michaelsen et al., [2020](#); Perz et al., [2016](#)), and lack of governance and difficulties of regulation (Damonte, [2016](#); [2018](#); [2021](#); Dargent & Urteaga, [2016](#); Durand, [2015](#); [2016](#); Rodriguez-Ward et al., [2018](#); Salo et al., [2016](#)). In addition, contributions like Duff and Downs ([2019](#)) discuss gold-mining stakeholder and social actor dynamics. The severe negative impacts on biodiversity and nearby large conservation areas have also been studied (e.g. Mathez-Stiefel et al., [2020](#); Sánchez-Cuervo et al., [2020](#)). Some studies offer formalization as a solution (Salo et al., [2016](#)). However, in the current institutional context formalization would most likely increase deforestation, a finding supported by the RDPE theory. In Madre de Dios, even formalized artisanal and small-scale gold mining (ASGM) has been found by green criminology to produce "lawful but awful" environmental harms (Espin, [2023](#)).

The reason why this deforesting mining has not been curbed is largely explainable by the failure of the Peruvian state, argues Damonte ([2021](#)). This failure is

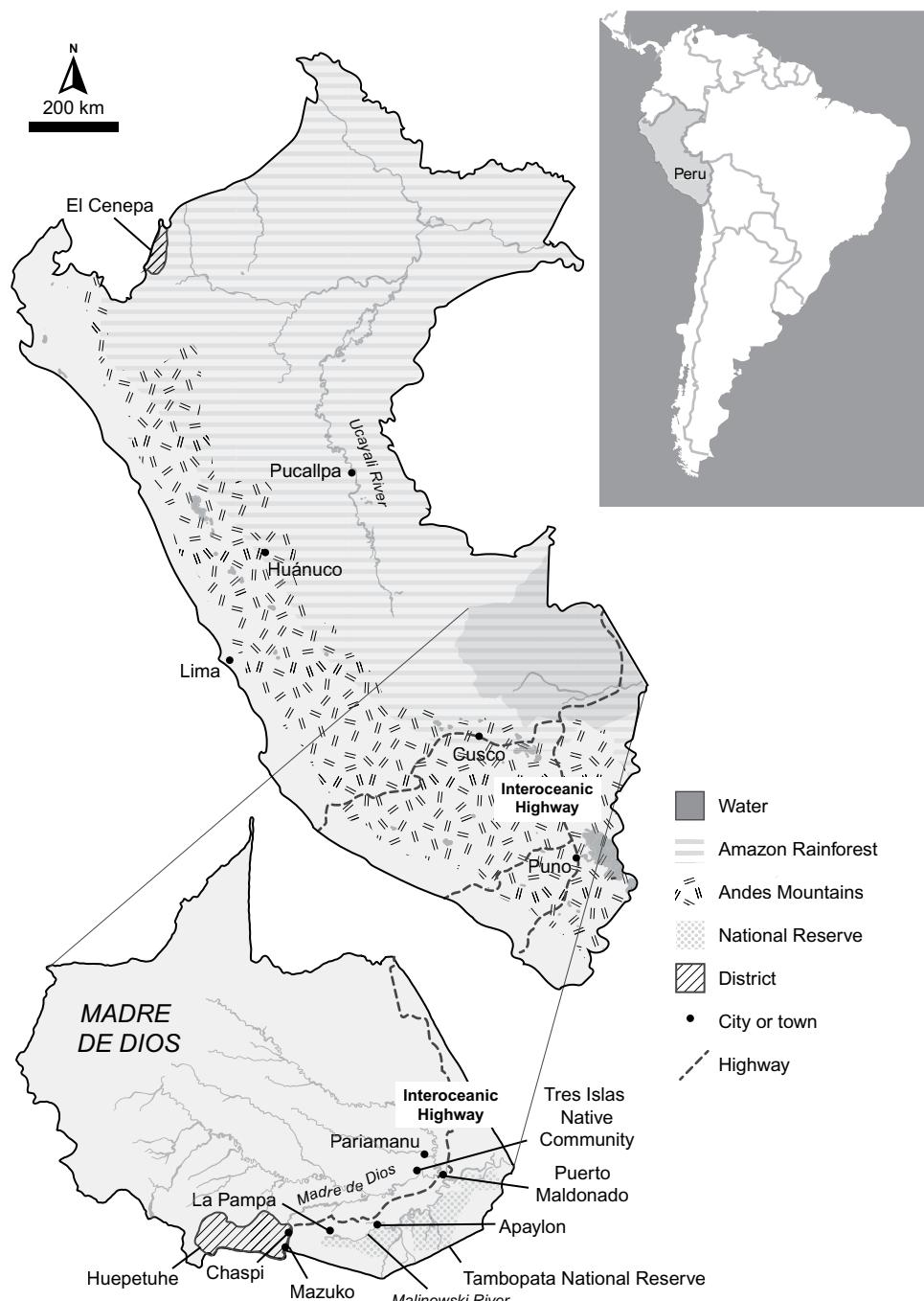


Figure 6.1 Map showing the most significant places in Peru discussed in this book. Basemap data from [openstreetmap.org](https://www.openstreetmap.org).

caused by the power of the Peruvian elites, who, tied to the extractivist model, control the political process and “use the capture of key institutions to prevent the emergence of alternative development paradigms” (Crabtree & Durand, 2017: 178). The Fujimori regime closed the Congress in 1992 and wrote a new constitution in 1993 that is still active. This action laid the groundwork for the chaotic setting where informal and illegal Amazon mining now thrives. The informality continues to be maintained as it advances the interests of the gold-mining RDPE.

There is ample discursive and developmental narrative support for mining in Peru, making the sector not only dominant but hegemonic to a very large degree, especially among the powerful decision makers. As Benites and Bebbington (2020: 216) write, “Peru’s political settlement both builds and is supported by the idea that Peru is ‘a mining country.’” In this setting, the state and governments do not have incentives to create mining policies that curb deforestation. If this were to be attempted, there is sure to be political backlash. Crabtree and Durand (2017) argue the elites have retained and consolidated their dominance by state capture, meaning the economic elites can make laws for their own benefit, which in turn allows them to capture the political process more broadly. This means key state and society actors have created a hegemony and “cognitive capture” where extractivist neoliberal growth is seen as the only developmental option. Mining-related elites manage to capture the parts of the government and the state that are of interest to their continued dominance and hegemony. Even with political support, the rampant informality and the widespread regional power of the RDPE make it hard to put in place effective measures against the RDPE. In this setting, the RDPE expands by various means of extractivist means into social, physical, and symbolic spaces to subsume and/or corrupt even those communities that want to resist.

Currently, the key actors of this RDPE obstruct the possibilities to regulate and effectively govern in a positive way; for example, by funding corruption or being in power themselves. When they are not personally in political power, it is not uncommon for them to work as powerful political lobbyists vis-à-vis Puerto Maldonado and Lima decision-makers. According to Cortés-McPherson (2019), what best explains the interest and power of mining elites in the Amazon gold mining in Peru are the capital interests of a heterogeneous class of mining financiers. These lead to what I call the establishment of a RDPE, in this case the capital interests for accumulation are via deforesting gold extractivism. Some of the components of this establishment are listed by Cortés-McPherson (2019), these include the appearance of regional (formal/informal/illegal) finance, the creation of a local mining bank and regional government, the interoceanic road, the commodity boom with its high gold prices, and the regulatory failures of the Peruvian state regarding gold trade. Malu, from the Comissão Pró-Índio (CPI) in Acre, who also acts on the Peruvian side with Indigenous communities to curb the deforestation and

degradation perpetuated by various sectors, shared with me in Acre in 2022 that the paving of the highway was the main explanation for the rapid increase in deforestation along the roadsides:

It has to do with the paving, with gold mining, by facilitating for example the lotting in a deorganized manner ... the migrant workers come from Cusco strongly, so that you hardly see native there anymore ... you see this transformation also in the families, habits, foods ... the use of territory at a deorganized form, the gold mining got worse, if you look at the satellite images it is really very detonated. I think that after ranching, gold mining detonates a lot, ends with the soil, forest ... it is terrible by the estuaries of Ucayali, Mazuko, Conibo [rivers], in that region there is gold mining.

The continued gold-mining boom in the Peruvian Amazon needs to be understood as an Andean–Amazonian phenomenon, as the regions are highly connected, even more so with new roads such as the Interoceanic Highway. The Peruvian state formed a national mining bank in the 1940s, and since then artisanal gold mining has expanded, especially in Cusco, Puno, and Madre de Dios (Sanborn et al., 2017). In the 1990s, this artisanal mining turned extractivist, with the arrival of aggressive companies, such as Volvo, offering heavy machinery and financing (Peyronnin, 2019). As with other sectors that were created and then later turned into RDPEs, initial state credit was crucial and later, especially since the 1990s, international financialization, mechanization, and globalization have resulted in the original extractive operations becoming ever more extractivist in scale and scope. This has turned Amazon governments into widely polluting and deforesting sectors, which can be characterized as globally extractivist due to their linkages and exports. The state birthed the sector, by initially providing a tax exemption for the “artisanal” gold miners in the Amazon in 1968. This was followed by concessions being granted at a fast pace and, in 1978, the Law to Promote Gold Mining was passed (Damonte, 2016; Sanborn et al., 2017). This marked a turning point where hereafter the hierarchization and ecological damage typical of capitalist developments, which are especially visible in these kinds of resource frontiers, took place in earnest. The worst deforesting mining expansion took place during the neoliberalization of the 1980s–1990s, which is when the state lost control and international and irregular local finance displaced the state-regulated artisanal mining (Damonte, 2021). Large privatized, corporate, and internationalized mining operations started to dominate Peru’s politics during the 1990s Fujimori era, which led to substantial socioenvironmental conflicts and impacts, as the mining sector became dominant. Amazon gold mining is situated under the umbrella of this wider capture by the mining elite of large parts of Peru, its state, and governments. However, it should be emphasized that while the corporate, large-scale, and formal mines also pollute and cause deforestation (Smith et al., 2020), the Amazon gold problems extend beyond the alluvial mining and rainforest pits.

Local and nearby societies are deeply affected, including in the areas of labor regimes, class formation, and interregional justice. Most miners come from Cusco and Puno and other nearby Andean regions, while, in the lowlands, the Amazonian Indigenous people see their forests, rivers, livelihoods, and communities destroyed, divided, and polluted. Sometimes they do partake in the gold plunder themselves in a bid to at least have some of the spoils stay in their communities, instead of seeing them all flowing upriver.

It is the mining workers and others affected by mining sites who suffer. Ulmer (2020: 325) emphasizes the cruciality of “disposability of life,” as workers’ lives and health are not considered in the push for extraction and its violent environments. In this moral economy, which is a key enabling factor for the RDPE, damage and killing are not abstained from, but, in addition, human and other-than-human lives, including those in the forests, are ontologically transformed, lessened in value. This is not just a commoditizing resource frontier (Kröger & Nygren, 2020), but also a frontier of existences (Kröger, 2022), radically dividing who can exist and how in the forest. These existences, and their radical redistribution, are defended by new kinds of moralities and moral discourses on rights. For example, a new narrative has grown that emphasizes the right to extract gold (Cortés-McPherson, 2019). This narrative is dominant in Madre de Dios, but also nationally, as other local-level politicians adopt this rights discourse. This new moral economy, which justifies and prioritizes gold livelihoods in this context, is a key enabling factor of the RDPE.

The gold-mining boom in Madre de Dios, based on high rents extracted as the environmental licenses for operating inside or outside concession areas were not required in practice, and an absence of inspection, had by 2016 resulted in the hierarchization of the supposed small-scale or artisanal sector. In this irregular or illegal gold sector, “a group of power” consolidated itself as regionally dominant. This group included former small-scale miners who had become extraordinarily rich, owners of mechanized plants where gold is separated, and “capitalists immersed in highly profitable crimes (drug and human trafficking, smuggling) and corrupt officials at all levels and powers of the State” (Dourojeanni et al., 2016: 170). Due to the influx of people from elsewhere, most inhabitants in Madre de Dios are not Amazon Indigenous and are pro-extractivist. This group is so extractivist that they elected a regional president for the 2015–2018 term who was a figurehead for the miners’ roadblocks, which were in protest of campaigns since 2010 by the police to eradicate illegal mining areas (Ráez Luna, 2023).

The sector is highly hierarchical in Madre de Dios; for example, the power in the most important mining hub and town of Huepetuhe is consolidated in the hands of a single family who came to the region as pioneers and have been there since the 1970s. They are a “dominant commercial and political force” and control most gold-mining areas, trade directly with local and international buyers, and have deep ties to local and

national politics (Peyronnin, 2019). There are several emblematic factors here which show how extractivist deforesting RDPEs in the Amazon are often very hierarchical. This shows that their dominance is not only regional and in relation to forest-use decisions, but that RDPEs also have internal dominance within the system. In this case, the head of the family managed to lobby for the region to become an official administrative district and then became its mayor, while other family members have key political influence in regional and national legislatures. In addition to their direct political ties and many concessions, they own hotels, mining equipment companies, and other key service and trade companies in the region linked to mining (Peyronnin, 2019). This family, called Baca Casas, controls the routes of gold from the mine pit to foreign refineries, receiving millions from foreign banks. A series of gold-exporting companies, controlled by the family and related to cases of bribery and links to politicians, are listed by Peyronnin (2019), with the key buyers being companies from Switzerland, the United Arab Emirates, the United States of America, and India.

A key feature that drives this kind of deforesting open-pit mining in the forests is the ready availability of machinery and equipment provided by foreign companies. Key among these were Volvo and Ferreyros (a brand of Caterpillar), whose arrival in the region in 1992 strongly shaped the style of extraction. In particular, the flexible payment terms on purchased machinery turned mining into very industrial and heavily mechanized process (Peyronnin, 2019). This industrial mechanization has had such an intense impact on the landscape that one can see the signs of mining from space now. These machinery companies were crucial in getting early financing to the sector (Cortés-McPherson, 2019), which is really the point at which the area turned from small-scale mining to gold extractivism. This mechanization has led to a dramatic multifold increase in the amount of gold extracted per month, and has lessened the need for workers, but at the cost of “widespread deforestation, despoiling land, runoff of topsoil and stagnating pools of water, and damaging waterways and ecosystems” (Smith et al., 2020: 247). The gold buyers are key intermediaries in the process; for example, locals told me in 2017 that one role they play is providing security by buying the gold that is often stolen by corrupt police. In addition, these dealers arrange the machinery for the miners and pay for the large loans they receive using gold. It is not a surprise that these dealers are also being investigated for money laundering (Cortés-McPherson, 2019: 386).

Illegal trading of gold is even more profitable than drug trading. Peruvian mining and political elites export gold directly and through third countries to companies that, for example in the United States of America, could not be seen to be involved in this illegal and deforesting trade (Cortés-McPherson, 2019: 385). Some companies involved in this illegal importing from South America and Peru, which is worth billions of dollars, have been investigated and caught by the police in the USA. The involved exporting companies in Peru are owned by officials, such as a

director of the Ministry of Mines. The laundered gold and eager buying companies abroad provide ample financing for further expansion. It should be noted that it is not just importing/exporting companies that are involved, but refineries and gold exchanges in London, Canada, and other places. Formal gold buyers in Lima have bought a significant amount of gold from the Madre de Dios Basin, which then counts toward exports and state revenue to some extent (Damonte, 2018).

During the COVID-19 pandemic, with its record high gold prices, a dirty gold economy strengthened globally and Amazon mining and its deforesting impacts expanded uncontrollably and fast. This expansion is despite the state of emergency and raids by the Navy and Army that aimed to destroy mining sites (Damonte, 2021). Madre de Dios is an example of an RDPE of gold mining linked to global gold extractivism, which has captured the local political economy to a large degree. In addition, together with the national mining section it wields substantial power, for example in influencing the voting process for Peru's president. The pro-mining and anti-environmentalist conservative political parties dominate Peruvian politics, opposition is weak, and the civil society debilitated, which means necessary monitoring and regulatory rules, institutions, and resources have not been created. This situation explains the deforesting expansion by extractivist elites (Pereira & Viola, 2021: 128).

In 2022, Elsa Mendoza explained that since COVID-19 new methods of deforestation have arrived in Madre de Dios, caused by fruit and other types of agricultural plantations. This food is needed to supplement the tens of thousands of gold miners who do not produce food but pay very high prices to get it locally: "The value inflates since mining is dangerous," a "banana costing 1 peso elsewhere costing there 5 pesos." There has also been a surge of new speculation, lotting, and selling of unused land, especially by roadsides. "Mining is not cheap, it has a high cost," the influx of this capitalist tendency bringing an overall increase in the values of everything: "All is commercialized in these areas where mining is installed." Mendoza explained that the mines that are "floating," alluvial on the rivers, "do not require territories, but are starting to buy lands" in this general post-COVID land commercialization. People are also asked for payments to stay in roadside shantytowns that are rife with exploitation and insecurity, to the extent that locals must "pay for someone to protect them, or else they are invaded, robbed."

Counterattacking the Gold Expansion

Some government and state actors have tried to prevent mining from expanding in the direction of the Tambopata National Reserve, which is an important tourist destination. In 2018, the area around the city of Puerto Maldonado received over 200,000 foreign tourists, which brought a lot of money to forest lodge operators. However, most of these lodges are not locally owned, so much of the money spent

on accommodation flows outside the community. This results in the area being more of enclave economy, as there is too little local spending by the foreign tourists. Yet this link to global tourism does seem to have lessened the deforestation around the major conservation areas south of the Interoceanic Highway.

In February 2019, the Army and the police carried out Operation Mercury, which, according to some reports, resulted in a 92 percent decrease in deforestation in the area called La Pampa, which is between the Interoceanic Highway, Tampobata, and the Malinowski River. A substantial amount of Madre de Dios gold-mining expansion was taking place there (Villa & Finer, 2019). While this would appear to be a clear win for the authorities, the displaced miners seemed to have moved to other areas nearby, where deforestation subsequently increased, for example in Apaylon, Pariamanu, and Chasp. Chasp is a new gold-mining frontier that is located within the buffer zone of a national park. Yet, despite the increase in deforestation in some locations, the overall impact of Operation Mercury had positive effects on curbing deforesting. This suggests that, with a strong political will, it is possible to control the key deforestation locations. However, as of the mid-2020s, economic power has suppressed such will. Often these operations target the activities of the informal miners and not the root causes and political-economic drivers of the deforestation following gold mining, which suggests that mining will continue where the police and Army are not physically present. In contrast to prior police actions, Operation Mercury left a police force on site to prevent the return of miners and designated funds to help the miners' socioeconomic situation so they would not immediately return to mining (Ráez Luna, 2023). However, due to COVID-19, the police did not stay for long and miners retook the areas. In January 2024, Augusto Molanovich, a Peruvian state official, explained to me that by 2023 the situation had already become chaotic again. He argued that the "financing is too large" for the repression and destruction-based military operations to be effective, as gold miners have so much money that they can quickly replace the broken machines. The military operations and presence are also very expensive and do not consider that miners also are human beings. Therefore, he argued that the way to effectively curtail the mining is to "regulate and restore" the forest cover. However, this restoration would be expensive, technically challenging, or even impossible in places. Additionally, the restored areas constantly run the risk of the miners returning to tear them open again. At the end of this chapter, I will make a more detailed exploration of the possible solutions to curb these problems.

Corruption

The presence of military forces might also not be enough as there is too much corruption and the involvement of state and political powers in the business is too

high, Elsa Mendoza told me in 2022. She continued, “Those involved in mining unfortunately come from the high up from president to politicians. For this [reason] it is hard to eradicate” mining, which is not done “simply by outsiders or companies.” At the crucial moment of expansion, the Ministry of Environment could not curb the mining, as “the military personnel was commanding there, and the military people were involved also, so they received a certain percentage and the politicians received a certain percentage, and the government, Ministers also received a percentage, for this it is very difficult to deter the entrance to new areas … as the dynamics is decontrolled in this way.”

The worst-hit area, the core of the RDPE, is La Pampa. In 2016, there were over 60,000 people living in what is widely considered Peru’s worst context of illegalities; thus, constituting a *de facto* free zone outside of state control (Reaño, 2019: 245). Arriarán (2019), based on 20 years of ethnography, gives a detailed analysis of the transformation of Madre de Dios, and especially La Pampa, into what he calls a “pirate frontier.” He compares Madre de Dios gold mines – considered Peru’s greatest environmental disaster – to a lunar landscape where nothing lives and what is living disappears constantly. This includes the multitudes of human beings who have lost their lives. Yet, the people living in Lima do not want to know and do not care what is happening on these frontiers. Mendoza shared that most money goes to Lima and Cusco, by helicopters or airplanes, never by land. When asked who was running this, she said that already in 2001 a high-level politician and the armed forces were involved: “The whole system is channeled to Lima, the center was in Lima, so to say.” However, to obtain current knowledge on this system is very hard, as “if you go there, no one will give you this information, as there are cartels.” However, in 2018 she and her colleagues found cartels, including one run by a very powerful lady and others that “were really powerful, commercializing all there,” with whom they were even afraid to talk to, since “all is possible there.” Now the organized crime of drug trafficking has also entered the area, which makes things even worse. The system has changed since 2001, when it was more dominated by politicians. The current system is much more complicated, with organized crime taking also now “a slice” and “providing security” with armed retaliation, in what Mendoza called a “terrorist” fashion. Mendoza told me that “the system is out of control.” New, heavier machines are used to reopen old mines, as there is still gold, which makes any attempts of slow reforestation impossible. There is even slavery, “It is a misery there, all that is worst in a human being you find there.” The human trafficking in the mines has been studied, for example, by Goldstein (2015), Mujica (2014), and Tuesta (2018), and involves the forced prostitution of minors and Indigenous women from distant lands by mafias in localities known as *prostibares*.

In 2018, gold mining accounted for an estimated 41 percent of the Madre de Dios province gross domestic product (GDP) and, if all the related activities were

counted, that figure rises to over 70 percent (Reaño, 2019), which clearly shows the economic dominance of this sector. Mendoza shared with me how the economic impacts of illegal gold mining are very bad nationally and regionally, “The profits that remain there are from commerce,” which is just a fleeting phenomenon during the mining booms. She continued explaining that mining “leaving no returns, a percentage for the community, the city, the state, it does not leave anything.” Life is hard for the locals, who do not have a good quality of life; for example they “have to fight for clean, not contaminated water.” The mercury pollution is the worst impact. There is hardly any resistance; as almost all people involved in the mining and the supporting activities come from other places, the locals are just a minority.

Tres Islas: Gold Extractivism Dynamics within Indigenous Lands

In Madre de Dios, most of the Indigenous people belong to Native Communities, which were forcibly formed in the twentieth century by the Church, state, and missionaries to gather various Indigenous people in towns to be converted by force. This took place during the disastrous rubber boom (1900–1940), which was promoted by the state. Prior to the 1900s, the region had remained largely protected from colonialism due to difficult access. The slavery and violence of the rubber boom led to genocides against several of the Indigenous communities; for example, the population of the Ese Eja was devastated, with those remaining now forming a part of the Tres Islas community. The rubber barons forcibly dragged the Shipibo ancestors of the current Tres Islas Indigenous people from Pucallpa (Merediz Durant, 2017). Even those communities who escaped from slavery now live in voluntary isolation as nomads, for example the Harakbut. According to Gray (1996), the worst reduction in their numbers happened during the rubber boom of 1894–1914, during which time some subgroups lost 95 percent due to use of machine guns in massacres by rubber barons, as well as slavery, disease, and related causes. They numbered around 30,000 in 1940, when missionaries encountered them, bringing with them diseases. After that, the road was built, which further spread epidemics which wiped out most of the Harakbut who were left. In the year 2000, there were only around 300 of the Harakbut left (Reaño, 2019; Tuesta, 2018). The first gold boom in Madre de Dios took place in the 1960s–1970s, as previously President Benavides had promoted the building of major highways without any consideration for the environment, including the road to Puerto Maldonado (Reaño, 2019). However, during this period, until 1978, there were no concessions, and mining was mostly artisanal. The state was buying the gold and paying a global market price and generally supporting the establishment of gold frontier in Madre de Dios, which included subsidizing the

colonization of the region by Andean migrants (Moore, 2019: 209). In 1978 the government passed the Law to Promote Gold Mining (Decree 22178), which did not give concessions to local Indigenous groups, or to the existing state-controlled artisanal miners, but instead opened the region on a first come first serve basis (Moore, 2019). This can be considered a capture of these lands by Peru's internationally linked and Lima-led mining elites, as this law opened the possibility for their companies to grab the existing gold-mining lands from the existing users. Since then, there has been social chaos around mining in Madre de Dios, argues Moore (2019). Therefore, the second boom started in the 1980s as a more rampant process and intensified after 1993 as the neoliberal Fujimori government's 1993 constitution decreased protection of communal lands (Reaño, 2019). Until 1991, some Indigenous communities had successfully used a tactic of filing for and holding gold-mining concessions themselves, without operating them, to avoid a situation where outsiders got concessions and started mining. However, this tactic became ineffective after the 1991 General Mining Law required payments to maintain the concessions (Moore, 2019). Even though it was established in a top-down manner by Fujimori and hastily pushed through to favor capital, the 1991 law still applies. Since its start it has caused conflict and broken many other laws, such as the General Environmental Law. These political moves were part of the Fujimori government's economism policy, where neoliberal reforms were used as a tool to quell political dissidents and enforce a steeper elite control of politics (Teivainen, 2002). This sequence of developmentalists first building infrastructure and then neoliberals radically decreasing community land rights, has repeated itself since, as the Interoceanic Highway was paved between 2005 and 2011, followed by waves of liberalizations.

Rampant mining expanded in Peru as the 2008 financial crisis led to booming gold prices, there was a domestic economic crisis, and the highway was being built. Several governments tried to establish some laws from Lima, without understanding the local setting. They tried to use the military to crack down on the miners, but these top-down and noncontextually aligned policies just added violence to the problems and caused the mines to spread to other places according to Moore (2019: 212). Moore (2019) also made the observation that by 2018 all the mines were still illegal as it was too difficult and expensive for the miners to try to meet the required environmental standards set by the government. Recently the expansion has got worse, starting with invasion of forest lands by mafias focused on illegal logging, who then sell the land to miners after they have removed the valuable wood, details the Regional Strategy for Low Emission Rural Development of Madre de Dios (Estrategia Regional de Desarrollo Rural Bajo en Emisiones) (Governors' Climate and Forests (GCF) Task Force, 2021: 40; Alarcón et al., 2016). The state policy document also details the rapid expansion of coca

plantations close to gold-mining sites, as both mining and logging are increasingly financed and controlled by drug-trafficking mafias. Importantly, none of this chain of deforestation would have started without the developmentalist idea of building the road to Madre de Dios. While this infrastructural driver is a crucial cause, there are also multiple causal factors that explain why deforesting gold mining continues. The GCF Task Force (2021: 44) listed the following: perception of impunity, idea of “available land,” low productivity, demand for gold, availability of cheap labor, existence of an informal land market, high corruption, access to new areas, readiness of property owners to rent lands, lack of capital to improve low-producing lands, lack of new markets for biodiversity-protecting produce, and lack of technical help for Amazonian diversity. These factors illustrate how local, alternative development should be supported alongside measures to control and curb mining.

Many of Peru’s Native Communities have received legal status since the 1990s as Indigenous peoples, but several are still waiting to get formal titles conferring land and legal rights. Most of these Native Communities resist gold mining, but the state has granted mining concessions on top of much of the Indigenous land, which has created major conflicts and pushed some community members to also start mining; for example, in the Tres Islas Native Community, which received its title already in 1994, after a long struggle (Ráez Luna, 2023; Reaño, 2019). However, Tres Islas is the only Native Community that has obtained a positive court decision on its appeal in the Constitutional Court of Peru, against the illegal decisions of miners and the regional state, which forced them to open the roads giving access to their titled Indigenous lands for the holders of 137 state-granted mining concessions over their land. Of these, 123 are held by outsiders, while 18 are in the name of Tres Islas community members (Merediz Durant, 2017); the latter are primarily to block the outsiders. The miners officially pay the state a small sum for the mining concessions, which makes them think they have rights. A local court ruled that the Indigenous people do have the right to block the miners’ entrance to the land, which is an action the Tres Islas community needed to take as the state was not protecting their rights. The mining licenses granted by the Ministry of Mines and Energy are unconstitutional as they did not respect the constitutionally granted autonomy or seek free and prior consultation with the native community members, which is also demanded by the ILO (International Labour Organization) 169 Convention signed by Peru (Movimiento Regional Por la Tierra y Territorio, 2017). ILO 169 grants primary land rights to Indigenous peoples even in cases where state laws or, in this case concessions, would violate these rights.

Augusto Molanovich, from Peru’s Forest Service (SERFOR), told me in January 2024 that the majority of Amazon Indigenous people, and especially their organizations, are resisting extractivisms and gold mining. He had been writing the

policy plan for alternative development for Madre de Dios in an attempt to resolve the gold conflicts; however, the plan had not been executed. While the majority resist, due to the pressure, Indigenous people are simultaneously “involved” with mining, Molanovich shared. In 2022, policy consultant Elsa Mendoza told me that it is common for the local Amazon Indigenous communities to cede their lands in Madre de Dios for gold miners to get a part of the proceeds. They are typically not involved themselves in the mining. However, when I visited Tres Islas in 2017, some of the people there were involved with the mining and that has created major polarization in the community. Tres Islas – which has 30,000 forested hectares out of a total of 32,212 – has over 100 families and is a mix composed of several Indigenous groups, including Shipibo, Ese Ejá, some Ashaninkas, and mestizos (Movimiento Regional Por la Tierra y Territorio, 2017).

One part of the community tried to promote tourism and nonwood forest products (NWFP) such as nut production, but, as Mendoza explained, these ventures are hard as “no other economic activity can be compared” with gold. While many Indigenous leaders do succumb to the temptation of bribes by gold miners, argued Juana Payaba, a renowned ex-president of the community whose actions were central in gaining the court and other victories against miners, the resistance has also been strong (Movimiento Regional Por la Tierra y Territorio, 2017). The actions, starting in 2008, included denouncing the miners’ illegal actions and demanding that the miners leave. If the miners did not leave, after prior notification, they “burned their machines, their camp, their food.” The Indigenous people slept on beaches and installed radios, and little by little expelled the miners in 2008. However, in 2010, as gold prices soared, there was a larger wave of miners entering the area, with 30 to 40 motors. Again, the community decided to evict them and entered the “war that we are living now,” explained Payaba in 2017 (Movimiento Regional Por la Tierra y Territorio, 2017: 10). According to her, they planned and organized the actions well, including setting watch posts and burning tubes and other things if the miners did not leave. In addition, they threatened to shoot the miners with poisoned arrows, which brought them into close encounters with the armed miners who were unwilling to leave. Thus, they managed to evict all the miners in 2010. However, soon after this, a local court in Puerto Maldonado ordered the watch posts to be taken down, after which the miners reentered and the resistance became disorganized. Payaba claimed that it was the bribes paid by miners to local officials that explained the court decision that was fatal to local resistance.

The local officials also tried to imprison the community leaders, which prompted them to seek help from an outside human rights organization and their lawyers, who filed a Constitutional Court case. In September 2017, they won victories in the Constitutional Court (Exp. 1126-2011-PHC/TC), and in the Inter-American Court of Human Rights of the Organization of American States (Medida Cautelar



Figure 6.2 Traveling upstream on the Madre de Dios River with the Tres Islas Native Community watch patrol, with illegal barges sucking gold from the riverbed in the background. May 2017. Photo by author.

Nº 113-2016). At the same time, the Peruvian Judicial Power also decreed the mining licenses to be null (Chumpitaz, 2020). The Human Rights Court had been approached by Payaba and another leader, because of the threats to their life by violent miners, and of mercury and other pollution. The Human Rights Court found that their situation was “grave and urgent,” and their lives at risk, which promoted the court to solicitate the state of Peru to take action to ensure their safety (Resolución 38/172017). However, by March 2017, the miners had not paid the ordered fines and costs to the Indigenous community members and the state was still allowing the miners to enter their lands, which I witnessed myself in May 2017 while visiting the area (see Figure 6.2). Being there in person, I could observe the things that are left out of most accounts, such as the dynamics involved when a part of the community participates in the mining.

Already in 1978, Tres Islas community members had registered at the Mining Bank, and by 2002, Shipibo in Tres Islas were engaged in artisanal gold mining (Merediz Durant, 2017). In 2017, there were at least two outsider mining concessions within Tres Islas with whom the community had made an agreement and from whom they were receiving considerable fees that went to the communal fund

(Merediz Durant, 2017: 172). There were also some families that were mining, but, in line with Merediz Durant's (2017: 180) experiences, I also found that when asked these community members did not want to reveal that some members of their own community were involved in mining. Merediz Durant (2017: 206) argues that Tres Islas was among the 10 Native Communities in Madre de Dios for whom gold mining was the principal or the most profitable economic activity. When I landed with them on a mining spot upriver in Madre de Dios, we encountered some community members with mining tubes coming from the forest. Yet, there was no conflict or speech, as the tourism-focused and mining-focused community members maintained their silence and the meeting was cordial. No one explained to me at the time that these miners were also community members. I only learned this afterwards when an NGO coordinator traveling with us in the boat revealed it to me. However, when observing these dynamics, in line with Merediz Durant's (2017) notes based on her participant observation, it is important not to participate in the general framing where locals involved in extractivism are chastised in popular media. Often this framing has the effect that all the focus is placed on these small-scale participants, while the roles and responsibilities of big businesses and finance in global cores are downplayed or invisibilized.

Within these more complex dynamics, mining and conflicts have continued in Tres Islas since 2020, when the COVID-19 price boom aggravated the temptation to participate in mining. Criminal groups extracted an average of 600 grams of gold daily from Tres Islas, which in 2020 fetched a price of at least 45,000 dollars on the black market (Radio Madre De Dios, 2020). Therefore, the community members continued their resistance and had to use their own force to evict miners, also calling on the military to intervene. At their behest, in February 2020, the Navy, Army, and special environmental officers' taskforce found and destroyed two miner camps, six rafts with implements, eight engines, a gold-smelting center, and 1 kilo of mercury. However, this was only a fraction of the over 40 motors in Tres Islas in February 2020, each extracting about 15 grams of gold per day (Chumpitaz, 2020). Between 2019 and 2022, over 500 hectares were deforested in Tres Islas, as illegalities by and related to mining, such as logging, continued amid the COVID-19 pandemic and political crises in Peru (Praeli, 2022). However, in comparative terms, mining has been held at bay by the resistance in Tres Islas, while those Native Communities that made deals with heavy machinery miners, such as Barranco Chico, which has one of the richest gold deposits, have lost their land and lived environments, existing now in misery (Merediz Durant, 2017).

Since 2019, under the guise of formalization, the parliament has been approving new measures that support further mining expansion. The miners from Madre de Dios were also spreading to new, intact areas of Indigenous peoples located in

very distant parts of the Peruvian Amazon and Andean–Amazon forests, such as Huánuco and Cenepa in 2022 (Praeli, 2022). This spread shows how RDPEs may leapfrog to new deforesting frontiers in distant places.

Resistance and Ontological Conflicts

There are many people, such as environmentalists, human rights activists, and especially local Amazonian Indigenous community members, who resist gold mining at a more fundamental, ontological political level. I witnessed this during my visit to the Tres Islas Indigenous community by the Madre de Dios River in May 2017. During this visit I took a boat upriver with them to see the ravages of barge and onshore gold mining on their lands. While walking with the leaders in the forests I talked to them about their ontological, cosmological views on the matter and the conflict with the miners.

These conflicts, where Indigenous people increasingly challenge not only the right-wing and neoliberal corporate resource extraction, but also the left-wing or progressive, neodevelopmentalist, neoextractivist policies, signal a key change in their relations. These fractures are visible across Latin America, for example in the Ecuador presidential elections, where a significant part of the Indigenous movement sided with the Indigenous movement's Yaku Pérez, against the Rafael Correa-led leftist candidates, who were backed by leftist intellectuals such as Boaventura de Sousa Santos. De Sousa Santos claimed the Indigenous-candidate supporters were driving right-wing power by not supporting Correa. Atawallpa Freire, an Andean philosopher, criticized de Sousa Santos for this stance:

Ultimately, progressivism is part of the postmodern expression of the media and academic sectors that seek to displace the social movements (especially the Indigenous movement) or co-opt them to be under their social-democratic or even Christian Democrat tutelage, under the heading of “New Left.” For that reason, we’ve been clashing, because we are no longer following the Eurocentric path of “Socialism of the 21st Century,” but are contesting its conceptions and horizons. Because they want to keep having us only as a mass base or Indigenist or feminist or environmentalist or popular arm. And because we have taken up a struggle which is no longer only about class or morality (as they want it to be) but is an ontological and trans-civilizational struggle. This is what is behind one position and the other. (Alteridad, 2021, author’s translation from Spanish)

A new kind of thinking is behind these clashes, ontological politics (de la Cadena & Blaser, 2018), which revolve very much around Indigenous challenge to the extractivist, modern worldviews. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Report is among the many recent studies which have recognized this need and have called for greater attention and a larger role to be given to Indigenous populations. “Regional and global

scenarios currently lack and would benefit from an explicit consideration of the views, perspectives and rights of Indigenous Peoples and Local Communities, their knowledge and understanding,” argues the UN Report’s summary (United Nations, 2019). Yet, the reality is quite different. Indigenous peoples have been facing ever greater pressure, threats, and killings as extractivisms have expanded since 2005. Modern states have failed to safeguard the right of Indigenous populations to live in peace when they have allowed and/or participated in extractivist expansions such as gold mining.

The COVID-19 pandemic worsened the situation around the world for Indigenous peoples, as during this time the expansion of legal mining (Vitor Santos, 2020), and especially the unchecked actions of illegal miners, destroyed enormous areas in South America, including in Venezuela (SOS Orinoco, 2021), Peru, and Brazil.

While forests can usually regrow on pasturelands, the poisoned and ravaged post-mining landscapes will remain barren wasteland. The Indigenous people, and an NGO individual, who showed me in 2017 the ravages of gold mining in Peru’s Madre de Dios, shared with me the conflict dynamics when an Indigenous community starts to be divided due to pressure coming from outsiders who enter their territories with an extractivist mindset and practices. This situation started to divide the community into two, some people moved to the city of Puerto Maldonado, bought houses there, and then came to mine in Tres Islas. Another kind of logic, that of “our gold,” had started to grow among some community members, while others were frantically resisting this approach, and called those community members “outsiders.” I ran into some of these so-called outsiders while participating in a pilot tourism tour, which was being developed by community members not participating in mining as an alternative and antidote to the expansion of extractivism. When these two groups met each other, they were silent. When I asked who the other group was, the pro-tourism group did not respond to me and the feeling of the entire interaction was odd. Later, after leaving the community, an NGO coordinator told me those we had run into on the shore with the mining equipment were also Indigenous people and community members. I asked questions of the Indigenous leaders in Spanish (translated by me into English). We saw many mining barges on the river, and I asked a middle-aged Indigenous leader, whose name I will not reproduce for informant safety, “And the miners we saw mining, where are they from? Are they from Cusco?” He answered, “Exactly. – They are outsiders, from Cusco, mostly, who come to work here. Mining. They are outsiders. Or … People from Maldonado. They are not from here.”

By correcting the answer in relation to where the people are from, the quote reveals this thorny issue. I asked if the concession is easy to obtain: “If you have money. You pay. Monthly or annually, you pay. Per concession.” I then asked



Figure 6.3 Tres Islas Native Community member in Madre de Dios, Peru, watching over a sacred lake that has suffered due to illegal gold mining. May 2017. Photo by author.

if the government also grants concessions on native community lands, which revealed the active resistance to this, based on a valuation of the existence of trees and forest:

Yes, they do. They have been granted. That is why sometimes we fight them because there are miners who want to enter [the forest] right, and we depend on that. We even go there, we stand our ground so they can't work, so they don't cut down the trees. Because when they bring the machinery in, they destroy the whole tree, they kill the tree. A tree that sometimes has stood tall for many years, they kill them and sometimes that we do not want.

The resistance is active, vigilant to protect especially the key places, such as the beautiful lake, which according to him had over 15 *lobos de río* (giant otters), a species in danger of extinction. He explained that the site was also the sacred dwelling ground of other other-than-human beings (see Figure 6.3). He pointed to the areas along the Madre de Dios River we passed:

There are places for example in here with others, we take good care of them. We always keep watch there. We don't let anyone in. For example, how has it been that all of our territory is there? Over back there, about a thousand meters from here, more or less, they

wanted to invest some money in there, but we have not let them. Like here, excavators dig and then leave, we do not let them. Here, if another, we throw away. We have repeated. Everything, from here to a thousand meters away, belongs to us, everything.

The leader lamented that part of the community had been participating in mining, “they have won over us [a part of the community], like that, for money. They had money, they could pay everything, right? That is how. They paid.” However, they have also had victories, some by litigation, to defend their areas against mining, “we have won a trial and it is still known nationally.”

An NGO expert, whose name I will not reveal for safety reasons, working for years on the topic and trying to help the affected Indigenous communities, explained the resistance to me in more detail: “There was a time, a few years back, when Tres Islas was very heavily mined, right? That is why many community members, community members who live in the area, took a stand to defend their territory. They sought this protection, under the constitution, to defend their territory” (translated from Spanish, May 2017, Puerto Maldonado). However, since this struggle, the resistance side partly lost control of the community and some of them started mining themselves, the expert explained. This shift had to do especially with the migration of outsiders into the community. Due to in-migration, they changed the community rules: “so that not just anyone can be a community member.” However, the turn to mining left many arguing the group should not be classified as a Native Community anymore, with its special rights and privileges:

[T]hat bad perception that exists [of the Indigenous people mining], there is truth in how they have exploited the territory, but it is not correct to say they are not natives. It is no longer true that there is a group that actually descend from the natives, that is, in the end, these new generations will no longer be pure natives ... but they do have a history, a cultural past.

These moves to try to bar mining expansion revolve deeply around political ontology. They are ontological conflicts that challenge the modernist understanding of value imbued in modern gold markets. The Tres Islas people told me that the miners are “terminating with the spirit of our land.” I asked them if they told this to the miners coming to their lands, what their activities do to the spirits. The following replies are interesting because they show the kind of discussions around existence that seemed to take place in the daily encounters between miners and those critical of mining. I asked, “And you tell the miners about this? About the spirits?”:

We tell them. There are miners who react, you know. Jeez! we are doing wrong, you know? Jeez! You know? And we sit them down ... I, I have friends that are miners. And I tell them. Jeez, you know? Not to destroy – well that is how we make a living [the miners reply]. [To which they respond:] But there are many ways to make a living without destroying the environment like that, you know? There are many ways. Look at us. I am a farmer – life is cleaning [referring to the Indigenous agroforestry practices of farming and

care at *chagrás*, the forest home gardens,¹ right, – I do not need to go to the mine, to make a lot of money. For us here in the community, what we have is enough. To eat, – something for our family, nothing more. We do not need what money buys. Jeez! – a luxurious life, you know? We live here as, as a community – with what we have. If we have agriculture, it is like our little farm, to survive – cassava, banana ... that we have. The spirits are grateful to us because it is a quiet place. There aren't even any evil spirits.... [The spirits] protect us. But before, when there was mining, yes, there was plenty [of crime], you know? Jeez! Theft, robbery and you would hear about muggings and people that were killed. But not now. We are just starting out, trying to fight for tourism, fighting [through tourism] against illegal mining as well.

The Indigenous leader explained to me that by 2017 they had been successful in slowing down the activities, barring the mining entrance, driving the miners away:

[B]efore, it was full of miners. Here, there, everywhere. But not now. With all this, -- our support, you know, trying to get rid of the miners that harm the forest, the environment, we have fought as well [for them]. And, therefore, there is a difference.... They are leaving ... we told the miners not to come work here. And as you say, mining is polluting the environment, mostly the river, right? with the mercury. We don't want that. We want a better life for our children, a better community, a clean one. That is what we want. As I said, we are starting to bring tourism here, we are just at the beginning. We are trying to improve so that you can see and appreciate what we have in our community.

During the time of the mining invasion, crime and violence also increased, which the community's anti-extractivism actions helped to quell; for example, by not allowing the excavators to enter, "There was plenty ... because, as you know, miners dig for gold here. It brings crime, right? Now that there aren't so many miners around here, we don't have that problem anymore with criminals coming to the area. It is a quiet community. It is safe." Those locals not partaking in mining were engaged in traditional or new, alternative livelihoods, with the support of projects, such as Brazil nut-packaging facilities. Most were resisting mining, among these were some cattle-breeders, but mostly they were involved with activities that did not deforest, such as caretakers in households, nut collectors, and other non- and anti-extractivist work, "here we are *castañeros* [Brazil nut collectors]. We bring our product here. This is the port to the world. In forest – hours from here, on foot – that is where we the *castañeros* work. Where we work with the Brazil nuts ... it isn't agriculture."

Their current livelihood prospects are narrowed by the destruction of the river and river-based livelihoods due to mining pollution. For example, there used to be cane growing amply in the river that they used for many things, but it is not there anymore, and they also cannot consume the fish, "Illegal mining has corrupted everything, the river, as you can see.... Unfortunately, we have yet to see what else the mining will bring."

¹ See González and Kröger (2020) for more about Indigenous agroforestry practices.

The Tres Islas journey of resistance revolved around finding ways to combat the power of money: “[W]e have a vision earned by us, us as a community, with the miners we say [in the struggles with the miners]. At first, they beat us, because of money. They had money and could pay everything, right. That is how it is. They would pay. But now … we have even won at trial, which is nationally known.”

The resistance had earned respect inside and outside the community, even among the miners, “they respect us, we are there, we are fighting. The whole community is heard, we make a stand that nobody” is going to get paid by the miners. “We don’t let them work. That is ours, it is our duty, ours as a child of Tres Islas, of the Tres Islas community. Of all this.” As he explained, he showed me the forests, rivers, lands, and community buildings. They showed to me their traditional dances, practiced by youngsters, and crafts, which they would be showing and selling to future tourist groups.

The resistance of the community is not so hardcore as, for example, by the IBAMA in Brazil, or Navy in Peru, which destroy everything they find linked to illegal mining, including the accompanying family goods and food, burning them. The Tres Islas patrols negotiate with those miners who are poor. They do this also since they own the concessions, which they gained in the process of making concession claims to forbid outsider entrance. The NGO expert explained:

Sometimes the community is not very, let’s say, radical, when they confront people because they see a family, you now? You see, miners are not just destroyers … they are families that work. – Sometimes you go on an intervention, and you find an older lady, or children, or entire families that work, so.... They understand that this family has needs and sometimes they give them a deadline to finish their work. And, well, sometimes the families do not comply. They come to some kind of agreement. They [the mining family] pay them a little more and postpone the deadline. But, in theory, there is a limit to that income. There is also a problem there because there is a community concession there, so they can’t get rid of them completely.

This kind of mining problem is not won overnight, but time is needed, as the miners have accumulated a lot of money and resources at some point in time. The mining people in the Tres Islas community have houses in Puerto Maldonado, where their children go to school and have “more opportunities to go to college.” This mining part of the community is from another area, not the village headquarters, but from “an area they call Palmichal, and who [we] are always in conflict with.” I was visiting the part of the community that was promoting tourism and nonmining stances. Yet, these Palmichal people are also “part of the community,” although of them, “almost nobody is a native,” according to the NGO expert. They then went on to explain why they have not wanted to raise this issue of there being nonnatives within the community who are mining, “That subject is more sensitive, you know,

because it has to do with the image of the community.” Losing the image of this being an Indigenous community with “ancestral knowledge” would be perilous considering the defense against outside threats, as the community would be judged for mining themselves.

In this sense, the physical and social damage mining causes within Indigenous communities carries an even higher price in the symbolic space, on which depend both the valuation of the communities’ ways of life and the discourse on special rights. The situation of extractivist pushes is therefore much more complicated for Indigenous communities. This is the reason that Bolsonaro and his allies, evangelical missionaries (often involved in mining), would like to see their understanding proven right – that all are as sinful as others, “naturally” participating in extractivisms. However, the NGO expert explained that if the Indigenous people start mining, they lose support from all sides and “they only attract problems. They attract policemen who want to intervene,” taking bribes, using extortion, and destroying the mining equipment. However, if they do not mine, “all of them sympathize with that territory if they work [with] Brazil nuts.”

The NGO expert recognized that the community that he had worked with for many years was going through a transition:

I think there is a conflict [within the community]. But, maybe even more than just a conflict, there is a transition. At least in the way they were working, which can no longer be sustained. And this is accepted by the community members, even those who have mined or who continue to mine, you know? Because they know what is happening to the environment and how the community has been affected. [The change is] cultural, and of identity itself with the territory. It is seen in their impact, how they intervene and in the vision of development that each one [of them has themselves].

However, this transition to post-extractivism was hard to oversee, given the lack of state support for controlling the vast territory, “That is the hard part, managing or controlling problems over such a vast territory, to know, also, that you are monitoring the entire territory without the support of the authorities.”

Recently, especially since 2022, development cooperation projects have created positive results; for example, one project by Rainforest Foundation aims to build communal inspection capacity by training Forest Oversight personnel among native community members (Ráez Luna, 2023). The use of new satellite, drone, and mobile technologies where locals are given better tools to denounce deforesters have had positive effects in Tres Islas and elsewhere in the Peruvian and Brazilian Amazon (González & Kröger, 2023). The key is to raise the role of regional Indigenous peoples’ representative organizations for monitoring deforestation, such as the Madre de Dios Native Federation (FENAMAD – Federación Nativa del Río Madre de Dios y Afluentes) as it is far less susceptible to corruption than state officials. FENAMAD lobbies for the Forest Oversight personnel to be

paid a proper salary from the Ministry of Foreign Affairs for their monitoring work, which would ensure longevity after external project funding ends.

There are several studies that propose mining formalization as a solution to the problem. However, the local environmental officers of national parks and research institutions experts, whose interviews are presented in Reaño (2019), argue that what would be needed to ensure a safe place to live is to attempt to recreate ecological corridors and reforest the destroyed areas. Nowadays conventional plantation agriculture is often suggested as a mining alternative, but realistically any production intended for human consumption will be problematic due to the poisoned terrain. When this is proposed, the change in economic activity, a kind of “just transition” for miners away from mining, is not actually a return to forest-based livelihoods in the region, but rather a shift to monocultural production, which is also highly problematic. Therefore, any reconversion should be based on agroforestry, but mostly on reforestation, as any produce from agroforestry efforts would be contaminated for a long while. To make this happen in practice would require extensive use of machinery to remodel the destroyed areas in several stages. The local experts and directors know the names of those local peasants and Indigenous people who actually own the lands and forest concessions that outsiders, illegal miners invaded by force, and they also know which of them aided the illegal access. The rights of those locals who try to still live in the area should be restored in any “just transition,” instead of legitimizing the illegal arrival of outsiders, who also destroyed the others’ lived environments. In this sense, the transition away from an extractivist RDPE should not signify a payday for the deforesting RDPE members.

The accumulated economic power is a problem, as those with the most money can use their extensive power and networks to bar transitions. Despite these problems, the case of Tres Islas – amid Peru’s mining RDPE pressure – shows how even Indigenous communities, divided by the power of RDPEs, can start a transition into post-extractivism through struggle. They can create a transformative resistance to extractivisms by their new livelihoods, patrolling practices, and grounding in nonmodernist cosmologies and ontologies.

I will next turn to the analysis of Brazil, in Chapter 7, where there have also been cases of Indigenous resistance to mining amid the rise of Bolsonaro and the new type of *narcogarimpo* (the linking of organized drug traffickers and criminal networks with gold-mining activities), against which resistance is harder than against nondrug-trafficking-linked gold mining.

Tracking the Rising Role of Organized Crime in Gold Mining

Southwestern Pará, Brazil

Many Amazon people depend on both urban and rural livelihoods, moving between two or more residences depending on the season and economic prospects (Hecht, 2005). During the first PT era (2003–2016), there was a lot of work in cities in construction, and minimum wages and social support were increased, including monetary perks for not deforesting. This lessened the deforesting activities undertaken by the working population. However, in 2013 the Brazilian economy started to decline from its boom years and the construction and oil sectors were mired in major corruption scandals, with many projects coming to a halt, which meant urban workers had to look for other opportunities. During the latter part of the 2010s many workers moved from northeastern cities and elsewhere to work as illegal gold miners, often under bosses who kept them in slavery-like conditions. Between 2008 and 2021, the authorities rescued 333 miners from Amazonian gold mines, mostly in Pará, who were working in conditions analogous to slavery (Senra et al., 2023). The owners of garimpos (originally meaning artisanal gold mining in Brazil, but currently, in practice, this is mostly medium-scale, illegal, violent, and crime-linked mining, as discussed herein) make their already highly profitable actions even more profitable by forcing the miners they bring into the operation to take on debt. The owners demand that the miners pay for basic goods, transport, and other services in gold, at a rate that is routinely five to ten times more than they would pay in the town (Senra et al., 2023). Most gold miners in Brazil seem to come from Maranhão, which shows how the supply of certain types of labor and entrepreneurs create path dependencies, as some who have gone to mine gold in the Amazon tell friends and relatives back home of the opportunities. Thus, through the translocal labor flows, RDPEs can have close ties with labor and capital dynamics in other areas.

An IBAMA officer, who had been active in curbing illegal gold mining around the Amazon for a long time, told me in an interview on November 23, 2023, that in Maranhão the daily worker salary is 50 reais (about USD 10), while in gold mining the same worker easily earns 8,000–9,000 reais (about USD 1,600–1,820)

per month. The work is hard, and the conditions are bad, but still, making so much more money, they do not return to their previous employment. I met and talked to these workers when I visited illegal gold mines in the Amazon, for example in the region around Castelo dos Sonhos in Pará (see [Figure 7.1](#)). Their accounts helped me to understand how the system of illegal gold mining works and gets boosted or changes its character due to major regime and economic shifts in the country. In 2019 at the bottom of a mining pit, a gold miner from Maranhão explained to me that he had previously worked in the construction sector, but as the sector descended into crisis, he switched to gold mining. This sector fluctuates often as the workers migrate. However, although there are these decentralized aspects of the system, the key gold buyers, machinery sellers, money launderers, and international traders, amass the most wealth and power.

In 2019, a gold shop operator in Itaituba, Pará, explained to me that “now a lot of people are coming from Venezuela,” which shows how Amazon gold digging is an international, cross-Amazonian process. Venezuela had started to create its own gold RDPE in the Orinoco Delta and had labor supply from other regions. After February 2023, when Lula cracked down on miners in Roraima, according to my informants, they went in large numbers to Suriname, with others returning to Yanomami lands after a while, as these areas are very hard to monitor.

In November 2019, I went to visit several illegal gold-mining sites in southwestern Pará with a reporter, a guide, and a former miner who also served as our driver. On one of those trips, we stayed at Castelo dos Sonhos, a real frontier town, which had even a hotel called Fronteira (frontier). The main street, on BR-163, had shops for buying gold-mining equipment, cowboy clothing from the United States, and others stocking items that deforesters might need, such as ranching equipment. There was also a supermarket owned by Castanha, who is considered to be the worst single deforesting person in the Amazon, with his operations responsible for between 10 and 20 percent of the yearly Amazon deforestation. Although condemned several times, he continues to run free in these frontier regions as he is waiting for the Supreme Court’s final decision. As he remains free, he continues to drive further devastation and accumulate capital as he owns much of the town. At the start of our trip, in Cuiabá, I witnessed a car protest where the expensive pickups were covered with pictures of Supreme Court judges. The protestors were calling them criminals and calling for the abolition of the Supreme Court. The people who can afford such expensive cars in these regions are also most likely related to all sorts of environmental and human rights crimes. Castanha was responsible for organizing the logging of tens of thousands of hectares inside conservation areas, which abound around the BR-163.

We went to a gold-mining shop to ask the price of a mining set. The whole package could be attained for 30,000 reais, and if we would top that with another 30,000, we would get the best Mercedes-Benz motor to power the crushing mill

and suction pipe. The salesman said we could earn back the price in just a few days if we were at a good spot. He did not ask us any questions about why we were interested in the set but was assuming we were going to go dig for gold as he showed the machinery parts, which seemed crude. He told us that 30,000 was the discount price coming directly from the boss.

Early the next morning we pointed our car eastwards on the small gravel road leading out of the town and saw the roadside brothels and bars already in full swing because the gold miners were spending their earnings in town. We asked people we met on the road where there are garimpos and used unreliable maps and satellite images to try to spot the mines. We stopped to listen to sounds of motors and were on the lookout for signs of garimpo. These are wholly illegal operations, as lands have been captured illegally and the operations break environmental laws, human rights, and labor laws. The driver, who had toiled in mines for years, told us that there were big criminals hiding here.

We first tried to enter a gold-mining site behind several fences, but a lady appeared telling us that it was not wise to continue further, as the mining boss operating at the end of the road welcomes everybody with a rifle. We turned and kept searching for a few hours. Finally, we found a gold mine whose boss was in town, as we found out after walking carefully deeper into the mine site, along the ridges of sand, between the holes. At the end, there was a group of seven men toiling at the bottom of a pit, working with a backhoe and a conveyor belt for washing the excavated ground. Powerful water hoses were used to wash the dirt sliding down a grid, with the rocks falling through and the gold staying in the grid. The scoop put more and more dirt on the grid. The men were barefoot on the mud and clay, with ragged shirts, working 7 days in 12-hour shifts, in slave-like working conditions. After filming and managing to talk for a while with one of the miners who was willing to talk, we quickly drove away as the boss had already been notified of the appearance of strangers and would most likely be heading back and arriving soon. We used a drone from further away to get an aerial view of the expanse of the destruction (see [Figure 7.1](#)).

The 30-year-old miner I talked to there explained the work was hard and that he was working “from six to six,” 12 hours per day. He said the only way to really know where there is gold is “to take out that thing on top,” referring to the forest. Contrasting with what an IBAMA officer had said to me, the miner said a worker earns about 3,000 reais (about USD 600) per month, based on the percentage of the gold they find. He said they found about 50 grams of gold per day, varying by day. He said that he had been there just for a very short time, for two months, and did not know when the area was opened. He explained that each digging machine costs about 500,000 reais. I tried to inquire about land access, knowing of the illegality, “It is complicated” to get access to land, “we just work here,” the man



Figure 7.1 A gold-mining operation east from Castelo dos Sonhos, Pará, Brazil, November 2019. Photo taken by author.

replied. When asked about the job, he said, “It is not very good.” He then explained how workers end up in the mines, “[one] arrives there in the city, and the guy [gold mine owner] talk when they need workers, and they go to gold mines.” He was going to return to Maranhão at the end of the year. They were about to expand, as their area was already “weak,” mined-out.

We then tracked the route of gold to the towns and their gold shops. Itaituba is the key gold-mining hub in Pará, a gold town where most of the economy revolves around gold. Most garimpeiro donos live in town, although they are “passing most time in there [at mine sites], to administer,” as a gold shop operator in Itaituba told me. We were able to interview this gold shop owner only after many attempts to find someone in the gold shops willing to talk to us. Most would not talk to us, even anonymously, fearing that we might be environmental police, as they were engaged in illegal gold trading. In 2019, Itaituba was seeing a major mining expansion, but there has been gold mining in the area for a long time, explained the shop operator, “I had not even been born, there was a lot of garimpo here for many years, who made the city was the garimpo and therefore it [the city] keeps on growing all the time … most of the garimpos are illegal.”

He explained that miners spend most of their money on liquor, women, and overpriced goods at mining site canteens and mostly stay in the forest. When I asked about who sells the gold to them, he explained, while casting a small gold bar worth about 500 euros, that the many small gold-buying shops in the town are mostly geared toward the smaller, individual miners and mine workers, while the big miners, garimpeiro donos, have their own direct sales channels:

It is individual sales and usually it is more the employee who comes since the patron already has a stronger contact ... what gives profit to us is the employee, not the garimpeiro [dono] himself. The dono gives little value to us. Typically, it is this guy [who does not have a dono] that does alone, that gives more profit for us.

Gold mining has become an RDPE around and in Itaituba. The gold shop owner feared that the economy would collapse if mining was forbidden, “if they shut down garimpo here that is the end of the city.” He argued that pollution could be controlled if mining was legalized. Such discourses are indicative of system-internal thinking, where no other options outside of the established trade are seen as possible and solutions are sought only within the system boundaries, even if those would be practically unfeasible (such as mining regularization). His view of the local society and the way development was going and should go was also indicative of system-internal thinking: “All are living well, but, as I told you, [state] inspection impedes a lot for us to grow.”

Just as in the Peruvian context, in the Brazilian Amazon there were also problems related to some Indigenous village chiefs, a minority, and other members of the aldeias participating in gold mining or allowing the entrance of gold miners to their land. In November 2019, I asked what the Sawré Muybu community members thought of these Munduruku, south of Itaituba in Pará, by the Tapajós River, whom I was visiting, who were allowing this. Aldira Munduruku responded:

They do not have any more consciousness, they just want to work with the business of *Pariuás* [white people, outsiders, as referred to by them] but on the other hand there are more people who want to help with the preservation of the forest ... the relatives who are in favor of mining are sick, they do not think about their children anymore, do not think of their ancestors, since the ancestors told us to preserve our forest ...

Similar dynamics were also taking place among the Kayapó, as Carlos, from the Kayapó Institute, explained to me in 2019. The push is very strong and violent, but most of those granting access are won by a cheap means of co-optation:

We have three aldeias of Kaiapó, with people and leaders involved, since the co-optation is very large on top of the Kaiapó ... [they] do not even ask the guy for money, bring a *compra* [some bought goods or food] to his house and try to create a certain kind of friendship, in the end, it is such a violent co-optation that they guys [garimpeiros] end up entering.

This proliferation of the gold RDPE is driven by its rapidly increasing links with drug and other organized crime, which I will analyze next.

The Rise of Narcogarimpo and Violence against Amazon Forest-Dwellers during the Bolsonaro Government

The significant rise of narcogarimpo, which is the linking of organized drug traffickers and criminal networks with gold-mining activities, took place during the Bolsonaro regime. Bolsonaro himself is the son of a “wildcat” miner, who promulgated illegalities and deforestation in the Amazon. Bolsonaro, for example, issued Decree 10,966/2022, which promoted Amazon gold mining by “wildcat” prospectors, but which Lula revoked in 2023. Meanwhile, under the Temer and the Bolsonaro regime, and especially since 2016, established gangs, first the Comando Vermelho from Rio de Janeiro, and then the PCC from São Paulo, expanded their operations to the Amazon, which made the region far less governable (Resk, 2023). They, and other drug traffickers from neighboring countries, especially Peru, Colombia, and Venezuela, seek to control drug-trafficking routes in the Amazon border areas and hinterlands. Venezuela’s strongest organized crime group, Tren de Aragua, has allied and intersected with PCC, also expanding to the Yanomami lands in Brazil (Senra et al., 2023). A vast network of airstrips and logistical nodes are already established, both to operate new illegal gold-mining ventures deeper in Indigenous territories, but even more so to operate and control the drug and other illicit trafficking (see Figure 5.5). For example, this activity happens between Brazil’s Yanomami-area airstrips and Venezuela. Gold mining is especially useful to launder drug-trafficking money, but the gangs also spread their operations to other illicit operations, including grilagem of lands, land buying and speculation, ranching, and urban lotting of lands. All these activities increase deforestation, are based on the rapid rise of violence, and introduce the society and especially the youth to the ills of organized crime.

In fact, gold is currently the best way to launder money according to the chief of Federal Prosecution in Brazil, which alone could be an explanation for why organized crime is interested in being involved, although the logistical networks are also crucial (Senra et al., 2023). Gold mines are typically deep in forests, and heavily guarded, and have traditionally offered a haven for escaped prisoners. The connections with the prison-originated PCC and Comando Vermelho narco-criminal organizations have since deepened as these organizations offer drugs to garimpos and then use their logistics for drug, gold, and laundered money trafficking. In 2022, the Federal Police arrested a large group of criminals involved in the laundering of over 1 billion reais in the garimpos of western Pará (Resk, 2023).

The merger of gold and drug criminals has resulted in a significant increase in casualties and losses of Indigenous and land defender rights. The effects are felt more strongly because these crime mergers took place at the same time as COVID-19 and its bad handling by the Bolsonaro regime. This resulted in a mix of a state power vacuum and purposeful participation of highest political powerholders in mining ventures and militia-type operations, to which the Bolsonaro family has had close ties according to several reports (Paes Manso, 2021). In this sense, a significant part of the state apparatus, and Amazonian territories, were captured by organized crime, which brought the Amazon closer to a situation of a failed state, with an increase in dangerous areas where it is not safe to enter and areas where the state does not have the monopoly of violence. In fact, the Bolsonaro Cabinet prohibited the state officials from executing their rights and duties with regard to policing environmental criminals, such as loggers and miners. In fact, Environmental Minister Salles several times personally (and illegally) stopped operations to bring gold miners and deforesters to justice.

The gold shop owner I visited confirmed that in Itaituba there is a lot of money laundering by drug traffickers, who “enter in contact with you and send the money saying that they want to buy gold. They give you a higher price, so the person gaining more [the gold shop owner] does not care, but washes the money.” This is one example of how narco and garimpo have come together, increasingly making a joint system or a narcogarimpo. This is quite similar to how ranching and land grabbing are deeply interlinked with the soybean frontier.

Gold mining is closely linked to illegalities and violence and these links have only deepened since the rise of the narcogarimpo. Statistics about the growing violence attest to the Amazon’s descent into an abyss of lawlessness. During the years of the Bolsonaro administration, the state’s connivance in the invasion of territories became evident in the conflict records of the entity that produces the most comprehensive statistics on rural violence, the Pastoral Land Commission (CPT). Between 2013 and 2022, 1,935 occurrences were recorded of invasions carried out by people and groups coming from outside of the communities. However, between 2019 and 2022, during the four years of the Bolsonaro government, there were 1,185 of these invasions, which represent 61.25 percent of the total. Furthermore, over 37 percent of these invasions occurred on Indigenous lands. Of the 661 invasions recorded in Indigenous lands in a decade, 441 occurred between 2019 and 2022, representing 66.71 percent of the total (Comissão Pastoral da Terra, 2023: 6).

Celinha, a long-term state employee of the ICMBio and other state organs, shared with me in Brasília in March 2022 her personal experience in working as a *fiscal*, federal environmental policewoman, which is an inspector and environmental policeperson. In this position she worked to create a RESEX and she targeted illegal gold-mining operations inside multiple-use conservation units.

ICMBio is responsible for conservation units with traditional peoples, while IBAMA is responsible for Indigenous territories and private lands. She stayed for about 40 days in Novo Progresso, working with IBAMA, the Federal Police, and other state actors to expose garimpo illegalities. The local secretary of the environment had invited them to stay at his house for four days while they were in the area, as no hotel would accept their credit cards. She shared with me what happened at night on the last day:

On the last day, around 23:30 hours ... the shootings started. There were other colleagues from IBAMA, ICMBio, the National Forces, and other localities, there at the house there were only two armed *fiscais* [inspectors, environmental police officers], but as [we were] caught by surprise ... it is not possible for you to use the gun. It took about 5 to 10 minutes them pushing, hitting, shooting ... the windows of the house broke ... they left a letter saying they had sliced into pieces a person with a knife, and put it to the secretary of environment this way: "This will be your destiny if you do not go away from here and stay at 2,000 km distance," a threat. We went to the civil police station but were attended only at 4pm. Then the deputy himself said to the secretary: "go away, since we cannot give you protection here."

The mayor advised the secretary of the environment to also leave his house and he traveled with the environmental inspectors to Itaituba. Celinha explained that that day she decided she would never again conduct inspections "since we do not have any security." At times, they had to stay for days camped next to riversides when they were creating RESEX. Sometimes, with enough pleading, they were able to get two police to accompany them, but even then, "what are 2 police in that region? Nothing!" She said that she had "already suffered many serious problems," as "these areas have a lot of mining, garimpo, madereiros, there is the question of cattle, and it is clear that ... all these people were against [us]." She said that some in the area do view the environmental protection in a positive light, "but for the majority, principally these large *latifundiários* [landholders], it is very 'frowned upon,' so they make it as difficult as possible, we're at risk all the time. But the inspection I think is worse [than the field trips needed in the creation of RESEX]."

I asked if she knows who was behind the violence in Novo Progresso, she replied, "It was a secretary there, one of the municipality secretaries, of the local government. He is a madereiro and he was part of garimpo yes, with certainty." There seems to be a growing tendency for the deforesters to become the political officeholders, as this way they can ensure that the people representing them will not threaten their illegal activities. Celinha explained that these people, grileiros and garimpeiros, typically make up part of the government. To get elected

[people] have to have money, and in many places, people sell their vote – and there are places where they [the deforesters] do not even offer it [the possibility of selling your vote].

For example, they say: Markus is going to run [for office], if he doesn't win – I'm going to fire everyone [at the mine]." Often, they [garimpeiros, grileiros] support the [political] candidates, give them all the financial support and the person is elected, and stays [in office] working for them [the criminals]. But often [the elected] people change their minds, so they [the criminals] decide to be part of it [governments] themselves and this has been increasing a lot ... you see this agribusiness caucus ... it's gigantic.

Gold-mining schemes are often backed by even more violence, top-level power, and economic resources than ranching or logging. This is why intervention needs to be at the highest level, by professional forces that are well armed. In early 2023, in an intervention to drive the narcogarimpeiros out from Yanomami lands in Roraima, Lula ordered in the Army, Navy, and police. These drastic moves have led to a decrease in garimpo in several parts of Brazil's Amazon, which has resulted in an estimated 70 percent drop in garimpo in the Humaitá region, which is in the southern part of the Amazonas state (Lábrea, 2023).

However, many of the poor miners, whose barges and goods were destroyed during the intervention, seem to have moved to work as loggers and farmhands for ranchers in the deforesting frontier. This shows that the RDPEs are inter-linked, especially in many of the key deforesting regions. Thus, to combat only gold mining is ineffective because the power of all the RDPEs needs to be curbed more or less at the same time to avoid spillover effects, which might create an even worse situation; for example, turning the garimpeiros into ranching clearcutters.

Illegal Amazon gold mining has its closest links to Bolsonaro – whose father was an illegal gold miner – so it was politically an easy and visible target for the government to use in response to the January 8, 2023, invasion and destruction of the parliament by Bolsonaristas in Brasília. According to Police Chief Conrado Wolfring in Novo Progresso, who has comparative experience of many forms of deforestation, it is most problematic and dangerous for police to try to affect mining. He had already been forced to move due to questioning the corruption perpetrated by politicians in Jacareacanga and illegal loggers in Placas: "I went on questioning corruptions. So, at times a simple arresting of a mayor's nephew can roll your head, to move your region ... imagine messing with a miner, where the scheme is large, where there is some politician participating in that, imagine if your head would not roll."

Wolfring also gave me insight into how he observed that drug trafficking feeds gold mining: "A guy makes an investment in garimpo and gets these airplanes that land in the forest and brings drugs to supply the garimpo and earns money to buy mining machinery – one thing leads to another." Wolfring had previously been involved in arresting large drug gangs, "I went to arrest a large gang in São Felix, they provide the supply and bring to other states, bringing drugs from Bolivia.

They land and transport the drugs. There needs to be a better control of aerial transport, they use small airplanes.”

Local police are often involved in gold mining by extortion and corruption. A gold shop owner in Itaituba explained to me that police “Are tranquil, but they all are wanting a part. There are some who prefer to go to the garimpo as there they can get more money” by extortion and bribes. In Peru, when I took the boat up the Madre de Dios River with Tres Islas Indigenous community members, we passed by many gold-digging barges. The locals explained that the police are often waiting at the roads leading from the river to the Interoceanic Highway, practically stealing the miner’s illegally mined gold. The miners cannot ask for help from anyone in these situations. Therefore, it was understandable that the miners were on the lookout also for our boat, as we could be police coming for money.

The executive power has many problems in policing RDPEs due to the corrupting power of money, but there are also problems with the judiciary. As the justice system is typically slow, those responsible are often not really formally punished by a court of law even when they are caught. The method adopted by environmental police has been to burn the mining equipment when it is found. This happens sometimes over and over to the same perpetrators. Wolfring explained about the justice system, “The judge has to judge small things (marital fights) instead of judging these serious crimes, devastation, and loses time.... So, things are not advancing in the judiciary, the sensation of impunity makes people to commit crime, it takes 10 years, 20 years.”

A court in the style of India’s Green Tribunal could be copied also elsewhere; for example, a special court of the Supreme Court, that could be accessed directly in cases of mining crimes. That judicial arrangement was highly useful and effective in curbing mining illegalities in India (Kröger, 2020a). In the absence of such a state channel for resistance, working closely with pro bono green-tribunal expert lawyers in India, illegal gold-mining resistance has used other means in the Amazon. There is civil society and state actor resistance.

A key moment for resistance came in early 2022, when Alter do Chão, a major tourist destination, called the Caribbean of the Amazon for its clear waters and sandy beaches, had its waters badly muddied for the first time. This created a major societal and state response that led to curbing illegal alluvial gold mining upriver on the Tapajós. A local man, Claudio, explained this to me in 2022:

[S]uddenly the water of Alter do Chão started to turn muddy. So the Sorará [a group of Indigenous feminist activists] and the community of Alter do Chão made a lot of pressure, as tourism ended, no one went there ... this did not affect just the natives, but all, businesses, culture, even me, as I did not have a job thus. And then this pressure went to social media and traveled the world and the federal government ordered to verify. The muddy

water was a result of garimpo ... but thankfully a work was done, and they discontinued with the garimpo upriver, and the water is good to take a bath in again. The resistance was large, involving also the city of Santarém, but the garimpo was very strong ... a lot of people are making a lot of illegal garimpo.

Consolidating Organized Crime in Amazon Gold Mining

Profit making by environmental crimes is less observed and harder to detect than other forms of criminal profit making, with only a fraction of the money-laundering cases investigated in Latin America being directly related to environmental crimes (Risso et al., 2023). Instituto Igarapé, a Brazilian research NGO, found that illegally mined gold is laundered in various ways. The laundering happens by paying bribes and simulation of gold production using mining companies and inactive areas as the supposed official origins of the gold money. In comparative terms, Peru has a more robust legislative and regulatory system than Brazil for identifying money laundering linked to illegal gold mining and other forms of environmental crime (Risso et al., 2023: 23). In Brazil there is a greater sense of impunity. For example, there is no legal gold mining in the state of Roraima, yet the state capital, Boa Vista, has a whole “street of gold” with dozens of jewelry and gold shops and securities distributors (called DTVM) that openly buy the illegally mined gold, without state interference, but with Central Bank licensing. Only DTVMs and cooperatives, licensed by the Central Bank, can buy gold.

In 2013, a year after Brazil’s environmental and forest protections were generally watered down by the new Forest Code in 2012, a new mining bill (Bill 12.844) made it the seller’s responsibility to testify that the gold is legal. The requirement is routinely circumvented by falsifying the origin documents so on paper the gold is coming from legal mines (McDermott et al., 2023: 27). In 2023 the Supreme Court reconsidered this lack of regulation and Lula made a new Resolution (ANM No. 129) that obliges the gold buyers to prove the legality of gold they purchase (Doherty, 2023). This might make it easier for the state to intervene in the crucial role of securities distributors. The three biggest distributors in Brazil, FD’Gold, Carol DTVM, and OM DTVM, were sued in 2021 by the MPF for socioenvironmental damages worth over 10 billion reais. The Igarapé Report sees these distributors as key in organizing and running large gold-mining operations and organizing and laundering the illegal gold. However, an ICMBio official (interview in December 2023) was unsure that the 2023 Lula decree would substantially change anything. For more substantive changes, policy recommendations are needed, including the immediate recognition and approval of Indigenous territories being studied by FUNAI, putting a feasible upper limit to theoretical mining maximum in a concession, digitizing DTVM receipts, and putting national and international pressure

on the Central Bank and Securities and Exchange Commission to demand proof of origin (Risso et al., 2021). For example, in September 2020, FD'Gold bought about 2 kilograms of gold from Grotá, who is the key suspected narcogarimpo organizer in southwestern Pará (Piran, 2023). Grotá is linked to PCC and, since 2018, his actions have focused on laundering drug money from the Itaituba region (Senra et al., 2023). Unlike in Roraima, in this region there are gold-mining concessions and legalized shops that will buy the gold. Itaituba has 772 issued titles for gold mining (41 percent of Brazil's total). The titles under 500 hectare are issued by a municipality in Pará (which is an unconstitutional decision as deforesting activities should be licensed on the state level) and are frequently used to launder the gold from the Yanomami lands (Senra et al., 2023: 84).

In December 2023, Igor Silva, an ICMBio officer responsible for carrying out the inspection and policing of gold-mining intrusions inside conservation areas in the southwestern parts of Pará, explained to me that it would be essential to first update the registry of gold mines that are active and legal. Currently, the key practice for gold sellers to "prove" the origin of their gold is to fill in a paper document needed at the buying gold shop, where the seller declares the origin. Approximately 70 percent of the gold in the region is illegal according to Silva's estimate. There are also legal (yet equally deforesting and destructive) informal gold-mining concessions given by municipalities in that region, which increased dramatically during the Bolsonaro government, as the Itaituba mayor and environmental secretary permitted a huge number of new permits, causing a boom in gold mining around the Tapajós Basin. Despite this high boom in municipal mining area titling, 92 percent of gold-mining sites in the Tapajós Basin are illegal, as was explained to me in December 2023 by Rodrigo Oliveira from the MPF, an analyst specializing in gold mining. There are legal concession areas, but looking at the satellite imagery, one can see that these legal mines have never been opened as there is not yet any evidence of mining there. Yet, these unopened legal mine sites are marked as the origin of the illegal gold. These redundant mines should be removed from the list of applicable mines for origin statement and the list should be digitized and put online. Igor argued that the decree during Lula government in 2023, which ordered the buyer to prove the origins, did not change anything, as the same shadow mine names are just used on the papers. The real focus should be on the higher levels, for example the banks and Internal Revenue Service, to whom taxes are paid when gold is sold in the shops. Thus, these institutions should have the best data on the flows of gold. However, governments are not very eager to touch the gold trade, even if illegal, because this gold export enriches the bank coffers and state export figures. The banks and governments argue that providing the required data would require breaking bank secrecy, but this is exactly what should be done in order to track the illegal gold.

The corruption extends also to Indigenous lands and within the upper echelons of the states. A part of the Indigenous community is participating in the mining sector by collecting fees from miners, getting other perks, or by mining themselves. In southwestern Pará, this rift between the mining and anti-extractivist Munduruku has led to attacks by garimpeiros and their Indigenous supporters against the Indigenous resistance and the state officials. This happened in 2021 after the Federal Police, IBAMA, and Armed Forces expedition to remove illegal miners from Munduruku lands (Limão, 2021). At the request of the majority of the 14,000 Munduruku, IBAMA had tried to intervene in 2020 to reduce the drastically expanding violent gold mining on their lands. Unfortunately, the Minister of Environment, Ricardo Salles, interrupted the operation, not surprisingly, as he was suspected of transporting the garimpeiros by Airforce planes and leaking confidential state information to them, which only led to escalating conflict and destruction (Limão, 2021).

Igor Silva from ICMBio said he had not found evidence in his garimpo visits in southwestern Pará on the narcos operating the mines. Rather, what he did find in the mining sites was an omnipresent trade and use of drugs, especially cocaine and marijuana. In addition, there was evidence of money laundering and investment in gold mining by drug criminals and the narcos were definitely using the gold mines' airstrips as a key logistical network. However, in 2023, the idea that the drug traders were creating a greater presence and stronger links was still so new that more investigation was needed in order to establish that this was in fact the case. That gold mining and airstrip owners were linked to the drug-trafficking business was already well known to the regulators. Igor explained that the drug traffickers coming from Bolivia, Colombia, and Peru use "always small planes, because they have to fly lower to escape radars, and as they have a low range, they have to make sporadic landings in some locations. So, in the Amazon, the easiest way to make these landings is where there are these runways." There are a lot of airstrips in southwestern Pará and they are mostly located in Indigenous lands or next to mining sites. Silva explained, "These airstrips have owners, or they belong to the [Indigenous] community." In the case of mining, the airstrips "belong to the owner of the mine" and anyone landing who is not delivering mining goods "has to pay a percentage to the owner of the airstrip. Thus, it is very likely that there is a connection between trafficking and mining owners, so that they at least allow the passage of these aircraft that are loaded with toxic substances, to reach a capital destination, or Santarém, Manaus, or even Belém."

The most notable and visible narco-gold miner in Pará is Heverton Soares, known as O Grotão, The cave friend, and Garimpeiro. In 2021 he faced charges in three states for drug, gold and arms trafficking, criminal organization of a militia of military police, bank robberies, money laundering, and homicide. Despite these

activities, he was still applauded by some for being a large and successful businessman in the Itaituba region (O Globo, 2021). According to a 2021 news report on the Federal Police Narcos Gold Operation, Soares' business was to connect the criminal factions in the southeast to several other regions. He used a series of businesses, including illegal gold mines, ranches, stud farms, airstrips, and mining machinery and car parts selling companies to launder 30 million reais of drug-trafficking money. He and his pilot friend had been on the police radar since 2004, when he was suspected of owning tens of airstrips used to transport illegal gold and cocaine in the Amazon (Potter, 2023). After nine months of hiding, Soares managed to win a legal claim in the absence of solid proof, reclaim his confiscated aircraft, and walk freely. However, the Federal Police consider that he is a leader of the narcogarimpo, organizing them and illegally moving about 1 billion reais between 2017 and 2020 in Pará (Potter, 2023).

In fall 2023 Grota was operating ranches in Itaituba, passing thousands of heads of cattle, which Federal Police also suspected of being used for money laundering. He was free at the time as the Brazilian courts had not been able to decide since 2021 which of them should judge the case. This shows clearly how the complex and slow legal system allows for environmental crime to flourish and extend to several other illegal spheres.

The key thing denoting the term narcogarimpo seems to be the trafficking of gold and drugs by the same logistics, laundering drug money with the purchase of illegal gold via the regional gold shops and by expanding the gold-mining and related operations. There are many such narcogarimpeiros in the Amazon, who make use of the large number of clandestine airstrips for gold operations and drug trafficking. By September 2023, the police had arrested 225 people suspected of narcogarimpo and confiscated 235 aircraft. It is especially the ease by which money can be laundered in the illegal gold-mining value web that attracts these narcotraffickers. This extends to foreign machinery companies that seemingly do not worry that they are making money by selling their machines to whomever and for whatever purpose. For example, according to the Federal Police, Grota paid in cash at the Hyundai offices in São Paulo to purchase heavy machinery destined for use by illegal gold miners. This was in addition to paying the BMG Hyundai company 300 million reais for an aircraft (Piran, 2023). Another reason for the marriage of the illegal gold and drug businesses is the flexibility to invest the drug money in gold when cocaine prices go down. This happened in 2020 due to over-production, which led to a major push toward narcogarimpo according to experts (Potter, 2023).

A senior IBAMA officer operating in Yanomami lands said that in November 2023 they were just starting to explore how narcos are connected to gold mining and why it is hard to study this shift:

Besides being something new, it is very difficult for you to get information because you would need to have people infiltrated in the middle of things to know what the connection is between the PCC and [gold mining]. Yesterday we saw some rafts inside the Indigenous land written PCC. We now found two guys who had PCC tattoos, but the guys were drunk, they were nothing. PCC tattoo, skull, I don't know what [should be deducted from that]. But it is difficult to know [for sure] whether they finance it [gold mining].

However, Igor, the environmental policeperson from ICMBio, argued that there is a marked difference between the southwest of Pará and Roraima, in terms of the use of heavy guns by miners against Federal Police and IBAMA officers. This difference made him suspect that the garimpeiros in Roraima might be linked to organized crime, as “this type of weaponry is generally with criminal factions.” The presence of what he called “narcoterrorists” in nearby Colombia might be a spillover effect of more civil war-type resource conflicts, with use of heavy arms and warlike conflicts. He shared that in Tapajós, he had not personally experienced miners shooting back but explained that the likelihood of this had been growing in the past years: “What called my attention was that some were with many guns, guns that we do not see in the garimpos of Tapajós.... This caught my attention due to the caliber of the weapons, the carrying of the weapons and this attitude of [gold miners] offering resistance [by shooting] to the activities we [environmental police] carry out in the field.”

Based on these accounts it is clear that much more research is needed on the intersectorial consolidation of a narco-gold mining in the Amazon, the changing characters of both gold mining and the drug trade, and the efforts to curb this process. Many solutions have been tried and suggested to curb gold and other linked varieties of Amazon deforestation; the [next section](#) discusses these in more detail.

Solutions

Many solutions for curtailing deforestation have been suggested and in fact some have been implemented since 2023, which is significant because this is a crucial moment for the survival of the forest. Apart from resistance, other measures are also being taken by the government and state actors. I will discuss in this section the politics of these proposed and ongoing attempts at finding a solution to these complex problems.

Earlier, I discussed how rural and environmental registration are key tools for land grabbers, as their misuse of these allows them to proceed with deforestation as their illegal system is not curbed. To overcome the rampant illegalities caused by CAR misusage, the Lula government announced in April 2023 that it will try to designate the nondesignated public lands (*terras devolutas*) as soon as possible, as this is the category of lands most readily available for land grabbers.

According to Moraes and Alves (2023), the federal government sought to advance quickly in their allocation of vacant lands, especially public forests that are not yet designated. The lack of inspection or insufficient inspection, combined with the unclear or nonexistent allocation of these public lands to different user groups, creates an environment conducive to land grabbing, as the invaders hope that the public authorities will grant amnesty for their crimes and legalize the properties that they are using. In April 2023, the Lula government explained that the land allocation process would consider different social demands, such as Indigenous territories, Quilombola territories, and areas of high biodiversity or exceptional landscapes, while the remaining areas could be transformed into national forests for sustainable forest management, including timber and nontimber products, or used to implement land reform based on agroforestry systems (Moraes & Alves, 2023). However, in practice, the heavily rural caucus and Bolsonaro-supporting Congress has made achieving these progressive aims much more difficult. For example, the Marco Temporal legislation would seriously hinder the possibilities to recognize and create Indigenous territories.

To combat organized crime, Brazil's justice and prison system structure should be urgently changed to allow the prosecutors and judges to uphold the rule of law in Brazil. A key problem in the justice system, argued Federal Prosecutor Felicio Pontes, is that all the judges he works with have a caseload of approximately 12,000 cases. This is due to the justice being "very cheap" to access in Brazil, "so there are a lot of cases for few judges, and this makes the cases advancing very slowly, not in the speed they should run." This has had extremely serious consequences, as people are left in the prisons for years to wait for trial, based on feeble charges. While in prisons, which are basically recruitment and training grounds for the powerful organized crime groups, principally PCC and Comando Vermelho, the inmates become part of these shadow state groups whose actions are now challenging the whole state apparatus, including in environmental protection.

Meanwhile, as justice is slow, the police have adopted other measures. Geisel, a member of the Federal Police specializing in deforestation forensics, explained to me in 2019 that police burning the illegal deforestation equipment works because it increases the risks and costs of the illegal business. The people behind criminal activities also use business logic, he argued. Geisel reasoned that, for them, losing machines worth 200,000 euros or more is a more important motivation to think twice about their activities than the actual laws or other punishments. Brazil's jails are largely full of favela-living young Afro-Brazilian and Nordestino-origin men charged for petty crimes. But jailing rural *pistoleiros*, grileiros, and environmental criminals is very difficult in Brazil, Geisel shared. Therefore, he saw that increasing the costs of criminal deforesting operations is most effective in this setting, because it makes the business more costly, less profitable, and riskier. A key policy

measure to achieve this would be to increase the available budget and police personnel for inspections.

However, the causes of Amazon deforestation cannot be attributed primarily to the lack of inspection and policing, but to the simultaneous passing of laws that drive, open loopholes, and institutionalize deforesting land theft, argue Torres, M. et al. (2017), based on their extensive study of southwestern Pará. In their book titled *Dono é quem desmatama (Dono Is Who Deforests)*, the title referring to the words of an illegal land grabber, Torres, M. et al. (2017) argue that some of the laws served deforesting land theft, for example Laws number 11.952/2009 (Tenure Regularization in the Legal Amazon by the Terra Legal Program) and nº 12.641/2012 (the New Forest Code). The 2009 Terra Legal program reversed the goal of the federal prosecutors, who, since 2006, had been trying to retake the illegally grabbed lands in the Amazon, but whose work was reversed by the parliament and the PT-led regime in 2009. Through the Terra Legal program the government enabled deforestation by legalizing the land claims of even those who had used extreme violence, slave labor, and implemented large-scale environmental devastation. M. Torres et al. (2017: xix) point out that in the area impacted by the program 6 percent of the beneficiaries held over 63 percent of the land. In addition, M. Torres et al. (2017) argue that due to the chaotic and incompetent manner in which the program was extended and applied it ended up benefiting the largest land robbers. Impunity is the key here, because deforesting land theft is one of the key ways of de facto becoming a landholder, “Even if the State may emit millionaire fines (very rarely paid) and, more rarely, order imprisonments, the retaking of illegally appropriated public lands is never discussed” (Torres, M. et al., 2017: xvi).¹ Thus, the decades by the PT governments were a mixed bag and there is still too little focus on the systemic quality of illegal land grabbing, as driven and enabled by the dominant regional and national political economy.

The command-and-control structure and operations created during Lula’s reign in the 2000s have often been framed as key explanations for diminished Amazon deforestation. Geisel disagreed with this claim, arguing that most important was the political decision to create large new conservation areas and units. This significantly raised the costs and barriers of accessing new protected forest areas and made it less feasible for the land grabbers to think that they could eventually legalize the grabbed land. However, as M. Torres et al. (2017: 185) note, while the creation of many large conservation units along the BR-163 during the PT terms did

¹ For sake of comparison, illegal clearcutting practices in Finland, and logging decisions not respecting safety margins and recommendations, are widespread and the norm, and are not punished by the state, showing how the problem of impunity explains clearcutting to large extent across the Global North–South divide, and even across supposed rule of law and “Third World” contexts. This supports the argument on the explanatory importance of RDPEs in theorizing how and why territories are used.

make it unviable to legalize the stolen land, and therefore decreased the expanse of this activity, which is the key deforesting RDPE in southwest Pará, after this the conservation areas were targeted more vehemently by illegal loggers, miners, and other forms of degradation. Therefore, degradation by logging increased, while deforestation in the area decreased, giving a wrong impression that the issue was resolved. Deforestation started to increase again earnestly when the Temer and especially Bolsonaro government declared that they would degazette conservation and relax their access rules, which in practice meant legalizing burned and grabbed deforested pasture areas for the benefit of land grabbers. Bolsonaro made the actions of IBAMA, ICMBio, and other environmental policing forces practically impossible, for example by constantly changing IBAMA's director of inspections (19 times), which in effect created a chaotic setting without regulation, which amounted to an attack on the good parts of the state (Gonçalves Pereira, 2022). However, Bolsonaro could not dismantle the created conservation areas so easily, although he stopped the creation of new ones. The key is therefore to create more socioenvironmental set-aside zones by bottom-up political processes and decisions.

Upholding the rule of law is also important. In November 2023, I interviewed a senior IBAMA officer involved in environmental policing and heavy crackdowns on environmental criminals all over Brazil, including the Yanomami lands dotted with gold miners in Roraima. He told me that the key reason why during 2023 deforestation rates started going down was the increased inspections. He did not think that any of Lula's actions were particularly effective. He also offered a very important comparative note on where most attention needs to be placed:

A thing that cannot be confused – which the first Lula government confused a lot – is thinking that you could encourage community life and improve sustainable community development, that this would reduce deforestation. They are parallel things that work in different worlds. Social projects, these things, are interesting, but it's a parallel world. The world of agribusiness does not touch this world. There is no point in thinking that by doing social projects, giving money for community investments, you will be reducing deforestation. "Ah, let's do agroforestry with community X, let's encourage the use of cocoa." All of this will reach a certain audience, it will have a certain impact, but it doesn't affect this other area that is cattle, soy, it doesn't even affect the deforestation of Cerrado, or the Amazon.

This is a key point to be considered when looking at the political strategies to curb deforestation and where to place resources. Of course, the creation of conservation areas also helps, but as my comparative research shows, if those conservation areas are next to new infrastructure (like the BR-163 and Inter-oceanic Highway, Belo Monte), and the areas do not have very active and nonmodernist resistance organizations, the pressure of expanding existing RDPEs is too strong to retain the forest cover. Thus, the first order should be the resistance to key investment

and infrastructure projects, and deforesting RDPEs, by cutting their subsidies, and enabling legal frameworks and incomes based on allowing exports of commodities. However, there are many signals that the message about avoiding (neo)developmentalism and extractivism had not been fully integrated by the PT and its allies by 2023 (Fernandes et al., 2023). For example, there is new infrastructure funding from the BRICs bank, whose president is Dilma Rousseff, the continued financing of deforesting projects by Banco do Brasil and BNDES, and Lula's support of dam building and amnesty for illegal land grabbers in the Amazon public forests. There should be active resistance to further expansion of the clout and extension of these systems on top of forests. A key is to avoid large infrastructural and extractive investment projects, such as dams, highways, ports, railroads, open-pit mines, and mining concession areas. According to Federal Prosecutor Felicio Pontes (interview, December 2023), large projects, especially the Belo Monte Dam, are the key causes that explain why the municipalities next to them have the highest rates of deforestation. According to Pontes, who is specialized in protecting the rule of law regarding large investment projects in the Amazon, the deforestation and other negative impacts continue for a long time after the projects have been concluded, sometimes even for decades; for example, opening huge swathes of forests for ranching and land grabbing.

Farm expansion is logically enabled and pushed by illegal logging as it creates access roads and diminishes the amount of wood, making further forest cutting and burning for pasture less costly and easier. Open-pit mining destroys the forest and rivers for a much longer time than pastures or logging: The forest will not grow back in open-pit mining areas and the river will be destroyed. Therefore, open-pit mining deforestation is qualitatively very bad, among the worst. Fresh pasture with trees is comparatively not as bad as mining, because these lands can be reforested with natural trees more easily, or they grow back by themselves if there is another forest area within 500 meters. However, if an area has been used for nonforest activities, especially extensive soybean plantations, for a long time it can be very difficult for the forest to naturally regrow.

To quell the power of deforestation RDPEs, a key focus should be on curbing the international trade of deforesting commodities. The senior IBAMA officer I interviewed in November 2023 told me that boycotts deeply confound the logic of commodity production. The boycott would need to be "serious," meaning that production could not be hidden by cheating maneuvers, as has happened with Amazon beef restrictions:

They started to circumvent this, they started saying that they were producing on other farms that are not embargoed. They produce in an embargoed area and transfer the cattle to a non-embargoed area and sell them, and then this passage "laundered the cattle." So, this would have to be more serious, requiring traceability from where the ox was born, to

the farm where the ox was born, how long ago. So, tracking the herds would be important so that a boycott can be efficient. Because without livestock traceability, the boycott is not efficient because you will accept things without knowing that the thing is wrong. It's the same thing in wood, just requiring the Forestry document today is very little, because all exported wood ends up being "laundered." So, you also need to have traceability of the wood to be able to actually buy with this document, to make sure that it is not just being laundered. Gold too, you see some small gold industries that are legal, you see their production is absurd [too high volume], that doesn't exist. The cattle too, if you take a 100-hectare farm, close to Marabá, which has sold 1 million head of cattle, you say: "No, it's not possible," this is laundering. There is a lot of crime like that. Criminalization [of these illegalities, leading to punishments] is low, so when I find something like this, we find out, we carry out a whole operation, sometimes we even arrest some people, but within a week everyone is free and there are processes that will be carried out.

The points raised by the IBAMA officer suggest that if a serious boycott is to be considered, then a whole country, or a trade zone, including countries and areas where the commodities can be leaked, should be banned from exporting the potentially deforesting product. Otherwise, new methods will be found by the RDPE to circumvent and launder the origins of the commodities.

In sum, it is essential to curb the power of deforesting RDPEs in fragile forest areas that are approaching their tipping points, such as the Amazon. In these areas, deforesting commodities, such as soy and gold, or their transport, should simply not be allowed. While unlikely at the highest political levels, this does not mean that in the real world of policymaking different and smaller steps in that direction could not begin to help the situation.

From the viewpoint of the RDPE theory, the formalization and certification attempts to deal with illegal deforesting activities are futile if the power of the RDPE as the deeper cause of deforestation is not also tackled. This should happen at the regional, national, and international levels – targeting both political and economic power. Regarding the economy, a way to approach this would be to curb the financing and export possibilities, infrastructure, and machinery and technology availability, while providing alternative sustainable economic activities to locals. To take an example from gold, it would be especially impactful to ban United States-based and other gold refineries from buying gold from Latin American and other drug-traffic-infused gold production and trade settings (see Netflix, 2020).

On the political side, effective ways to curtail power, in the light of the RDPE theory, would be to provide more power for prosecutors and autonomous police forces to tackle the widespread corruption. Some strategic approaches could be making it impossible and illegal, or at least more challenging, to finance political campaigns with the proceeds of illegal deforestation. Additionally, the key political culprits could be imprisoned. Lastly, it is important in the anti-extractivist sense that effective localized resistance to deforestation should be built. This can

be done by bottom-up organizing, politicizing, protesting, networking, and state coproduction and embedding while retaining autonomy. These actions are what foster the crucial contentious agency and consolidate democracy for grassroots economic and territorial decision-making (Kröger, 2013a; 2020a).

Chapters 8–10 will discuss the role of industrial forestry – the pulp, paper, and energywood sectors – in driving clearcutting in Finland. This allows a deeper comparative analysis of extractivist RDPEs to be made globally, across varying contexts and polities.

Part IV

Pulping Finland

8

Finland's Clearcutting Forestry

When the COVID-19 pandemic started in Finland in March 2020, due to the uncertainty about how the pandemic would unfold, my family decided it was better to move from Helsinki to the countryside in South Karelia. Living in the countryside during the worst period of the pandemic proved to be a wise move that gave me ample time and opportunity to walk in the forest. During this time, forests replaced my human contacts, as I took long daily walks from our rental house to the natural forests behind the more pervasive plantation-style forests. These walks were a respite and delight and were the genesis of new kind of relation to the forest. I became much more sensitive to the importance of forests in so many ways. Within these forests alone, with family, or sometimes with friends we often talked about the old forest ways in Finland, what forests are, what it feels like to be in them, and how one should live in a reciprocal, caring relationship with forests. However, unbeknownst to us at the time, these forests would soon be clearcut, as part of the approximately 100,000 hectares of clearcuts done annually in Finland (Sulkava, 2023). When these forests that I had spent so much time in were clearcut it felt like a part of myself was taken away, and with the loss came feelings of sadness, deprivation, anger, and inability to affect the situation. These situations and feelings are very common in Finland's current clearcutting hegemony.

Introduction

Clearcutting and its effects became a dominant theme in my post-2020 forest walks (see [Figure 8.1](#)). First COVID-19, then the Russian invasion of Ukraine, dramatically increased the demand for and price of wood. For example, the export prices of cut spruce (Norway spruce, *Picea abies* L.) and pine (Scots pine, *Pinus sylvestris*) rose from the pre-COVID level of less than 200 eur/meters cubed (m^3) to almost 400 eur/ m^3 in later 2021. It went down again in early 2022 to about 270 eur/ m^3 but rose again to over 350 eur/ m^3 in mid-2022 due to the Russian invasion of Ukraine (*Maaseudun*

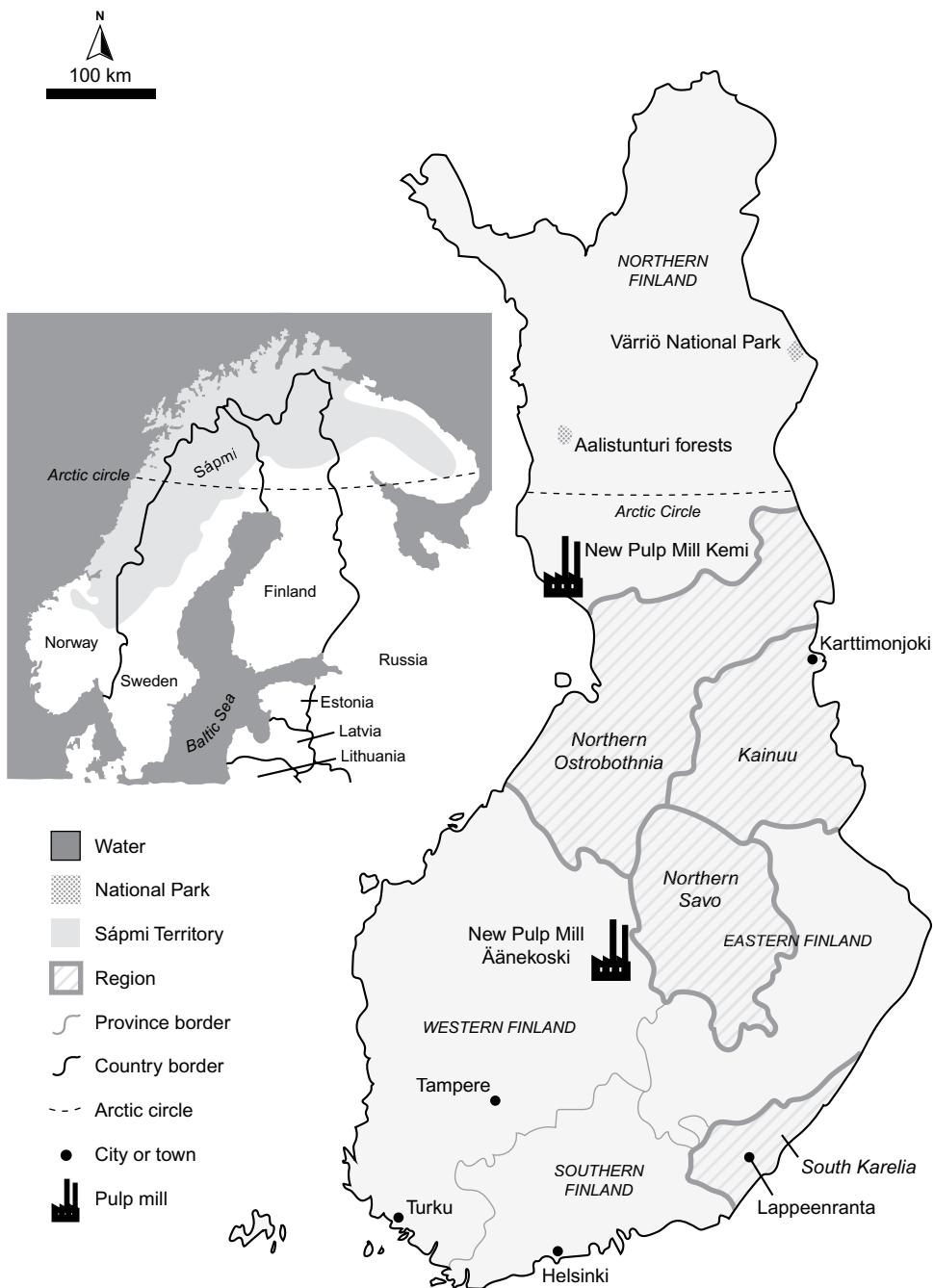


Figure 8.1 Map showing the most significant places in Finland discussed in this book. Base map data from www.openstreetmap.org.

tulevaisuus, 2024). After these upheavals the export prices have come down, and as of July 2024 they were hovering at around 240 eur/m³. This example shows how epochal moments, such as pandemics and wars, create massive volatility and unpredictability in prices and markets, which has a negative effect on forests because it leads to rushed decisions to cut wood when the prices are high. South Karelia, which is Finland's most overlogged region due to a heavy pulp and paper industry presence, was especially affected by the Russian border closing and the subsequent drop in wood availability, coupled with higher demand and prices. Since 2021, South Karelian forests have been a carbon emission source, due to overlogging, which was the first time this has happened in all of Finland's net carbon impacts from land use (Statistics Finland, 2022). Finnish forestry and the forest industry are dominated by pulp, paper, and energywood production, with the production of sawn wood decreasing constantly. Even if this last type of wood was still highly in demand, there is not enough, due to the clearcutting of old forests and overlogging of sturdy trunks. When the Russian border closed, wood had to be procured in Finland, and even the last remaining old, natural growth forests were targeted, even those directly next to people's houses. Over the last five or so years, I have witnessed the continuous advance of the clearcutting frontier over all the remaining old-growth stands. Almost nothing is left. These old forests could have been protected by their owners, who are our fellow citizens, neighbors, and friends (see Figure 8.2).

The topic of these clearcuts has not been widely discussed, as it is practically a taboo subject. When it is brought up in discussion, the actions taken are rationalized and justified by irrational claims, typically that otherwise bark beetles would have eaten all the forests. There is a certain sense of impossibility around being able to voice one's opinion about what neighbors and others in the community are doing to their forests, as these are in fact private forests. In the Finnish context, especially in the countryside, there is a historical precedent of being able to have the right to earn a living, which includes being free to decide how to use one's own forests, including clearcutting them completely if that is the will of the owner (see Figure 8.3).

Meanwhile, at the same time, a new generation of radical forest activists became active in Finland. These new activists draw on tactics common to Extinction Rebellion (XR), such as occupying company headquarters. This new forest movement built on the work of prior generations of activists doing work in the 1980s and 1990s, for example Luontoliitto (Nature Association) and Greenpeace. These organizations were also involved in radical forest acts and have shared their knowledge and skills with the new wave of activists, according to the members I have interviewed. The rise of the post-2020 forest movement came after a long pause in direct-action activism and seemed spurred into action after logging levels started to increase. I do not think that these are separate events, as many young people



Figure 8.2 An example in South Karelia that shows all the areas that have been clearcut within the last five years (not all clearcuts in the area are shown on this satellite image). Source: Author's field research, aerial photo from National Land Survey of Finland.

found that others were also feeling desperate, angry, and frustrated with seeing the continued destruction of even the last few remaining spots for engaging in forest life. This forest life includes, besides the worlds of all the other-than-humans, human activities of gathering berries, mushrooms, hunting, walking, or simply enjoying the beauty of the forests.

I watched in horror at how quickly new logging roads and bridges were built, to allow for the dragging down of entire moss-covered beautiful forests, transforming them into unrecognizable muddy clearcuts as the earth was turned over by heavy machinery and new trenches were dug so deep and wide one could hardly jump over them (see [Figure 8.4](#)).

Previously, these moss-covered old forests felt like places for forest spirits or other-than-humans, and indeed they were full of animal tracks during winter when skiing through them. Now, with all the old and natural forests gone that were within walking distance from where we stayed, only the plantations and semi-natural forests remain. These areas are more difficult to walk through and do not have as many wild berries or mushrooms. With the destruction of these old-growth forests, I see very little reason to continue to stay in the countryside. It would be



Figure 8.3 A clearcut of what was once was a large, old, natural forest covered with moss in South Karelia, Finland. May 22, 2022. Photo by author.



Figure 8.4 Example of the deep trenches that are excavated in the clearcut areas. South Karelia, from the same clearcut area as the prior photo (Figure 8.3) taken two years earlier, showing how clearcut areas stay desolate and deforested for many years. April 16, 2024. Photo by author.

important – no, essential, for numerous reasons – to live next to raw nature and forests. However, in Finland it is currently easier to live next to a forest in the city than in the countryside, given the lack of conservation areas or security for forest cover. The worst thing is that people can no longer even dare to form emotional ties to the forests they enjoy, since those forests can be taken away from them at any time for any reason at the whim of the landowner. In cities there is at least some measure of democracy and some ability to affect municipal decision-making in relation to the forest management. In the countryside, there is none, as the private property ownership on forest estates expands. It is truly hard to fathom a situation where rural-dwellers could – without being ostracized – challenge or even voice discontent over the choices individual forest owners make.

In this setting, I spoke to seasoned forest professionals turned activists about the rise of the new generation forest movement with their contentious tactics. The consensus was that these new tactics are a good thing as they might possibly change the status quo as they could potentially shake people out of their indifferent stupor and make them begin to realize what is going on. We need to be asking questions like, what are we doing with our forests and what affect does this action have on forest beings? Who is making these decisions and why? What is driving this rise in clear-cutting, even amidst the existential crises caused by climate change and biodiversity loss? In this chapter, I seek to provide systemic answers to these questions, based on global and national histories and extractivist systems' power. I also explore how recent resistance is challenging the power of the clearcutting RDPE in Finland.

The Global Pulp Boom in Finland

The story of Finland's new post-2015 pulp boom starts much earlier and involves places far outside of Finland. Since the 1970s, and especially since mid-2000s, a wave of new eucalyptus-based mega pulp mills have been built in the Global South, especially in Brazil, Uruguay, Chile, Malaysia, and Indonesia (Kröger, 2014). These mills have flooded the market with cheap hardwood pulp, which is used in tissue, paper, and cardboard production. However, to increase the quality for specific wood products such as paper packaging, pine and spruce softwood pulp is also required. This first large eucalyptus hardwood pulp boom in the Global South is causing major impacts in the Global North, especially in Finland, driving a new softwood pulp boom. The impacts of the northern boreal forest softwood pulp boom in Finland are most visible through the construction of new mega pulp mills in Äänekoski and Kemi. These mills were constructed by Metsä-Botnia (called Metsä Fibre since 2019), which left Uruguay after there were intense major protests against its Fray Bentos pulp mill by Argentineans across the border river (Kröger, 2007). The contested mill was then sold to UPM, which is a Finnish

paper company that is one of the top three global paper companies by size. Stora Enso, another company, headquartered in Helsinki, is also in the global top three. However, even though these two companies are run from Finnish headquarters, over 60 percent of both are owned by foreigners and foreign institutions. Several activists explained to me in May 2024 that it is the presence of so many powerful forestry companies that pushes the continuation of clearcutting. I asked these activists how they thought individuals could influence clearcutting decisions. I was especially interested to hear which actions they thought could discontinue clearcutting, to which an expert linked to the Finnish Association for Nature Conservation (Suomen luonnonsuojeluliitto, SLL) replied:

It is hard to see that this could have been done with any human resources, especially as the activity [of clearcutting] is so wide-spread, and as there are so many forestry companies here, so that even if you would be able to have an effect on one, another comes and logs away anyway that forest, if somebody wants to sell.

However, another activist from the new, more radical *Metsäliike* (Forest Movement) group, Minka Virtanen (interview May 12, 2024), explained, based on her experiences, how they have managed to nevertheless stall some clearcuttings on state lands. I will return to these actions later. Besides the presence of these powerful national companies, foreign funds continue to play an even larger role in the purchase of Finnish forestlands, as forests are increasingly seen and treated by investment circles as an alternative commodity. This neoliberal global financialization of forests changes the way people treat forestland. It should be noted here that forest is a term that is not always clearly defined. Often, what these companies call a forest is increasingly viewed by locals and researchers as some form of tree plantation and not as an actual forest.

Finland has a long history as a core country in the global pulpwood expansion. First, it was a key player in the development of mega-plans to impose large pulp investment models on the Global South and in Finland itself, designed largely by Finnish forest industry engineers and consultants, such as Pöyry (merged in 2019 with a Swedish company into a new company called AFRY). In addition, Finnish innovation and machines are deeply important as over 70 percent of the world's pulp flows through machines made in Finland in the Metso and ANDRITZ factories, while Ponsse is the world's leading producer for forest harvesters. In addition, there are Finnish corporations involved deeply in the chemical industry, which is a crucial player in pulp- and papermaking. These companies have recently internationalized their ownership, but still retain key operations in Finland, where the physical forests are just a tiny fraction of the true global reach of the Finnish forest industry.

A peculiar feature of Finnish forestry in the global setting is the high number of family-held forest estates. This is due to a history of forest ownership being

fragmented and divided due to a general parceling out of land at the end of the nineteenth century, followed by successive pro-poor land reforms that further divided forest ownership between 1920s and 1950s. Some key milestones in this socially just transition – from large estate and a tenant farmer system – were the 1930s agrarian reform laws named after President Kyösti Kallio, and the implementation of laws in the 1940s–1950s, which distributed land to approximately half a million Karelian War refugees after their lands were ceded to the Soviet Union in the Second World War (WWII) (Kröger & Raitio, 2017). This has created a particular character and structure in which forestry capitalism operates in Finland. The key impact of this structure has been the need to turn industrial forestry into a national project by major social maneuvers, that have coerced, but mostly hegemonically allured, forest-owning and nonforest-owning citizens to support the goals of the forest industry as if these were the only right, righteous, and most beneficial developmental options. This rhetoric goes so deep that it paints industrial forestry as the basis of survival for the whole nation. These measures are important to secure wood from the hundreds of thousands of different small plot owners. Therefore, nascent attempts to conserve and protect more forests have been heavily criticized by the pulp and plantation forestry sectors. Meanwhile, criticism of the forest industry has been silenced, especially the critique of clearcutting.

Critiques of Clearcutting

The pulp industry is not only dominant but also hegemonic in Finland and especially in South Karelia. A researcher who requested to stay anonymous described the situation as follows:

When the forest industry says that they consider nature, then people believe [it], since they output quite good greenwashing regarding this. Decisionmakers are taken to some shows, where they take care of forests with skill, and ensure that all is fine.

The same researcher indicated that this greenwashing is happening a lot, “They have the resources to communicate as they wish about these things.” I also interviewed another source who requested anonymity, who is a member of the XR and the new more radical Metsäliike forest movement. Metsäliike mounts protests by physically occupying pulp mill entrances and headquarters using sit-ins and roadblocks. These techniques have a history in Finland dating back to the late 1970s; however, in those early protests it was more common to just bar loggings in forest areas. I asked this activist about whether the pulp industry has dominance and hegemony, and he saw that this is a “kind of truism, [or] obvious” in the Finnish forest politics and society. The activist saw that some entities form this kind of hegemonic grouping, including the big pulp companies, the forest owner

associations linked to them like the Central Union of Agricultural Producers and Forest Owners (MTK), some parts of the state like the Ministry of Agriculture and Forestry (MMM), and the economic part of Metsähallitus (a state-owned entity that oversees forest management). The activist elaborated that, “at least by us among the activists this is the assumption.”

There has always been some level of resistance to the clearcutting, even in the 1940s and 1950s. According to the same activist there were lot of local people resisting “the extension of this modern industrial power usage and land usage to even those areas,” referring to North Karelia’s very old forests, which was done in a top-down manner, “without asking much.” The activist indicated that in these regions there is still “collective trauma due to the way the industrial land use was milled through particularly this kind of areas.” Previously these areas, including Kainuu, Northern Finland, and Sápmi, had remained “relatively long out of the reach of intensive land use.” The process of industrial forestry coming to these areas is detailed by Ilmo Massa, an environmental historian, in his book *Conquest of Northern Nature* (Massa, 1994). This process was also explored by Ritva Kovalainen, with some emotionally strong film footage of the North Karelians who had grown up walking the ancient and magnificent forests of Ilomantsi by the border with Russia, which were devastated by clearcutting. In the footage these people walk on the clearcut area, remembering the tall trees and what was lost when the area was taken by force (Kovalainen & Seppo, 2018). The activist reflected on how it must have been when this landscape changed. He said, when it “started to be steamrolled, it must have been quite a stunning” experience as “people did not have the feeling” that this could be resisted as the clearcuts were linked to “national interest and wellbeing narratives … that it is about everyone’s interests, when [they are actually] talking about the interests of the industry.” This activist-scholar also indicated that it would be interesting to study the environmental history of ideas in relation to the Centre Party, which is the most pro-clearcutting party in Finland. In particular, he thought that it is important to develop a deeper understanding of how the Centre Party land use thought models “became so dominant especially in rural societies,” and of the explanatory factors behind this dominance.

What does deforestation and clearcutting mean in this context? Forest removal, or deforestation, as terms, should also be inclusive of areas where clearcutting completely transforms the character and web of life in a given area, even if the area is being planted with trees, left to regrow in a semiconrolled manner, or ultimately become a tree-covered area again in the future. While there are legal requirements in place that forest owners must plant new seedlings on logged forest land within five years of harvesting, the seedlings are not able to directly replace what was lost. In essence, the continued clearcutting of natural, seminatural, old-growth,

and other forests that are more than 60 years of age results in forest removals even if new seedlings are subsequently planted. These forest removals are hard if not impossible to replace within a human lifetime and have devastating effects both ecologically and biologically. By clearcutting these last remaining natural or old forest areas, entire habitats, species, and webs of life are becoming extinct or further endangered by the resulting fragmentation and degradation. This is especially true in the areas immediately south of the large national parks in the northern parts of Finland. It is notable that most of the large national parks are located on the Sámi homeland, where Indigenous people's rights have thus far been effectively mobilized by the Sámi, although intensive industrial loggings have ravaged large areas in Inari municipality and in the territory of the Lapland reindeer-grazing association, which both belong to the Sámi homeland. While many Sámi homeland areas have been extracted by industrial forestry and gold mining, much more natural forest is left in the Sámi homeland than in the Finnish part south of it. According to my informants, this is due to the mostly successful prevention of state logging in Sápmi, through the resistance efforts of the Sámi and reindeer herders. Besides national parks, there are also vast wilderness parks, which are mostly low producing in terms of cubic meters of wood and where clearcutting-based forestry would not be profitable. It takes a millennium in the far North to reach the point where you could even talk about primary or virgin forest area and already there are extremely limited areas of this kind of forest in Finland, namely the Värriö Strict Nature Reserve in Northern Finland and some other scattered plots (Kovalainen & Seppo, 2023). To reach this point the forest needs to have several complete lifecycles (about 70–80 years) without the dramatic interruption of the lifecycle by clearcutting.

Origins of Clearcutting

The current emphasis on clearcutting was primarily enabled by post-WWII state actions, which were pushed by a consolidated paper and pulp industry that has now become dominant, and pulled by international demand for cheap, good-quality pulp and paper products that could be consistently and reliably delivered. Before WWII, clearcutting was called forest raping in Finland, but during the war Finland needed wood and foreign currency. This need led to the adoption of warlike attitudes and methods, which quickly turned vast areas of forest into money via clearcutting. Clearcutting was a rare exception before WWII and a special permit was required to even be able to clearcut. The word that was earlier used for clearcut, ravaged forests (*raiskio*) in Finnish was used later in its verb form (*raiskata*) to refer to sexual violence against humans. Considering the evolution of this term, one gets the idea that the first clearcuts must have been truly traumatic events for

the people experiencing the loss of their old-growth forests, as they were forced to cede them. There was much violence and coercion involved in the initial clearcuts and throughout the process of slowly making people accept clearcuts as part of the scenery.

Clearcutting was a story of economic growth and served to quickly strengthen national welfare in a battle of survival among nations. After the war, Finland needed to rebuild its economy and it had to pay the Soviet Union compensation for its losses in the war. In this atmosphere, the forest industry was seen as a national-interest sector and an easily accessible way to increase revenues. Thus, the prior practice of selective loggings was banned in 1947 and clearcutting turned into the only way to practice forestry in Finland. It also became obligatory to belong to a regional forest stewardship association (*metsänhoitoyhdistys*), which in practice dictated to forest owners how to treat their forests. This was a top-down model which ended up severing the old ties Finns had to forests, which included taking care more personally of the heritage woods and trees. Historically, the forests, while used for resources, were not regarded with an extractivist and productive attitude, but more with a more holistic and reciprocal attitude.

I asked expert informants what causes clearcutting in Finland. Jyri Mikkola, a forestry engineer and nature surveyor, mentioned to me in an interview on March 23, 2024, that it was, first, the “German, Central-European forestry tradition, which brought them [clearcuts] here.” This import of clearcutting had happened already in the first half of the twentieth century but clearcutting only started in earnest after WWII, due to the war reparations. In his view, the mentality of the postwar period “is still affecting here,” but he called the mentality a “great Finnish forest economy fable,” which claims that “everything is the best of the world in here [Finland] and everything has been done correctly and in best possible way in here.” This fable, myth, is a problem, as “particular generations in forestry have been taught into [believing] this.” The people trained under this mentality in the 1960s–1980s are still in power in Finnish forestry and they do not accept criticism of their ways of doing and knowing. “It was hammered hard onto their heads that clearcutting would supposedly mimic natural processes, and whatever,” so this story has been “created for practical political purposes,” to which those within the RDPE influence have “sticked onto, hanged on.” Mikkola mentioned that Nils Arthur Osara, who lent his name to the largest clearcut areas in Europe that were completed in the 1950s, known as Osaran aukot (the Clearcuts of Osara) in Pudasjärvi in Northern Finland, was a “servant executing and getting blamed for” these clearcuts, which Osara himself thought were a “great mistake” by the early 1960s. The clearcut area was about 18,000 hectares (Enbuske, 2010: 261).

Second, a big part of the problem is that clearcutting became institutionalized and protected by a certain organization. This organization, with all its political

influence, became a form of “machinery that adopted” clearcutting “as the only choice,” and consequently this story “has been maintained.” As time passed, the main motif of this pro-clearcutting organization became “to protect the organization, its actions, itself.” This attitude is still visible, especially in the Forest Management Associations (Metsänhoitoyhdistykset, MHYs), who get the most profit from mediating wood sales contracts between forest owners and companies, “earning a higher provision sum at a single time if more wood is taken at one time.” It is this system that drives clearcutting and had a role in “affecting [the] counseling advice” given to forest owners. “After clearcutting, forest is planted … and the same association provides the seedlings … and sells the services for sapling stand forestry.” The association earns “manyfold [more profit]” if they suggest clearcutting in comparison to what they would get with other types of forestry: “This is one reason, why so many clearcuttings are still done here, also much in such places where that would not be wise for the forest owner.” A forest carbon researcher wanting to remain anonymous out of fear of losing their job told me in May 2024 that “typically the *metsänhoitoyhdistykset* do not offer” these alternatives, but “have just this one way [clearcutting], by which forests are treated.” Yet, Mikkola told me that while clearcutting as the best and only choice is an “austere myth” and only a “business model,” it still must be faced because as a practice on the ground it is still “very real.”

The moral economy has been heavily molded to support clearcutting. “An idea that this is the only right way, only way to do more efficiently, has been inculcated in the forest owners and others,” which also explains the conundrum where clearcutting is continued at such a great scale. Approximately 70 percent of Finns do not support clearcutting (Juntti & Ruohonen, 2023), thus, in this sense the hegemony in Finland might be based to great degree on fear, silence, passivity, and a dearth of contentious agency.

Post-2020 Forest Conflicts

Forest conflicts have been on the rise again recently (since the last wave of direct-action activism between 1980s and 2000s, see Greenpeace Suomi [Finland], 2009; Kauppinen, 2021; Raitio, 2008; Suomen luonnonsuojeluliiton Kainuun piiri ry [Kainuu district of the Finnish Nature Conservation Union], 2008), with most Finns demanding less clearcutting and more conservation of forests, but this intention is not often reflected in practice. Therefore, a new movement, called Metsäliike, has recently held forest protests; for example, in early 2023 this new generation of activists repeatedly blocked the logging of the Aalistunturi forests in western Lapland (Suutari, 2024). The activists in Metsäliike originally came from movements and organizations like XR, Greenpeace, and Luontoliitto. However, Metsäliike has

since grown into its own independent movement that focuses on direct action. The activists have been met by police, armed with rubber bullets, ready to repeatedly drive them out of the logging sites, jail them, and issue tens of thousands of euros worth of fines for the damages the activists allegedly caused the loggers. The forests where they are protesting logging are owned by the state of Finland and administrated by the Finnish Forest Service or the “Forest Government,” which is the literal English translation of its name, *Metsähallitus*. Its subcompany, *Metsätalous Oy*, is the business firm responsible for logging on state forestry lands and pays rent to the state for using these lands. Thus, these forests are owned by Finnish citizens, yet the citizenry has very little control over how the forests are used. In the *Aalistunturi* case, locals proposed the creation of a new national park in the area, as there are too few continuous larger forest areas in that region, or in Finland overall. However, Ida Korhonen told me that the state forest company started to log despite these plans, which is why the *Aalistunturi* campaign called for the state to give more value to the wishes of locals. However, the *MMM* has traditionally favored increasing logging and has forbidden making changes to logging plans even on areas that have advanced to the assessment phase in other Ministries to be turned into natural parks, such as *Evo*, according to *Jyri Mikkola*.

There has been a rise in the documentation and voicing of the hidden sadness of the common Finn on the painful loss of the forests of their youth. These feelings of sadness and anger are not welcomed in the moral economy of clearcutting. *Kovalainen and Seppo (2014)* have documented the relationships some Finns have with specific trees; for example, holy trees, family trees, trees as friends, trees to talk to and communicate with, trees you do not cut. These trees carry much more meaning than the anthropocentric and productivist view of the forest offered by the dominant system through its language of cubic meters and the monetary valuation of all aspects of nature. *Kovalainen and Seppo’s* work has also included a collection on the forestry practices that have rendered places unrecognizable, especially by vast clearcuttings and the accompanying dredging of forests, which make them hard to pass through or walk in and pollutes lakes, rivers, and the Baltic Sea with silt and other debris. Approximately 1.4 million kilometers of forest trenches have been dug in Finland (*Juntti & Ruohonen, 2023*).

As a response to these moves in the moral economy, rising voices from the pro-productivist camp have issued statements on social media emphasizing that ownership is holy and the landowner has the right to do whatever they want with (forest) land. The entities most strongly emphasizing the property and control rights of forest owners – for example *MTK*, *MHYs* (which are part of *MTK*), and the *MMM* – are interestingly those that earlier forced forest owners to clearcut against their will. This suggests that the issue is not actually about safeguarding forest owners’ rights to do what they will with their forests, but to ensure the

continuation of clearcutting and the flow of cheap pulpwood. While there is much talk by the above entities' spokespersons currently emphasizing that ownership should be holy or that a forest owner can do what they want to their own forests, these entities are, however, against increasing funding for voluntary conservation (possibly apart from MTK, which, according to Jyri Mikkola, has repeatedly taken a stand on increasing the funding of voluntary conservation). However, this kind of conservation option would increase the range of freedom of forest owners, allowing for the option to conserve instead of logging. Currently this option is very limited and depends on governmental decisions and the monies allocated to conservation, which have been low for several reasons. According to my informants, these reasons include lobbying by the industry, but also the ideological support among many political parties for forest economy and the support by the Ministry of Finance for decisions that do not increase the state budget.

In the moral economy, clearcuts are also at odds with the deeply rooted practice of "everyone's rights" (*jokaisenoikeudet*) in Finland, which refers to the freedom to roam throughout the whole country, to collect mushrooms or berries, irrespective of who owns the forests. It is legal for the forest owner to clearcut irrespective of these established customs, but this does create conflicts between different forest users. Recently there have been growing demands to revise everyone's rights, especially by vocal forest owners defending clearcutting, but in practice this has already happened due to the lessening of natural forest areas. Now too many forest areas are very hard or unpleasant to pass through due to the heavy logging, the spread of monoculture tree plantations that are too thick to run through, and the continuous tree thinning, which leaves the cut branches on the forest floor. In addition, these measures lead to the fragmentation of the forest. Kovalainen and Seppo (2014) calculated the amount of time it takes for one to walk across a forest patch in Southern Finland, which in most cases was only a few minutes, with journeys that took over half an hour a rarity (Kovalainen & Seppo, 2009).

The scenarios that are drawn up for future forestry do not typically include the impacts of the disturbed global climate with its regional and global tipping points, pests, and other novel damages. Boreal forest removals constitute a regional climate tipping point, meaning that the overharvesting and climate-change-induced losses can result in irreversible losses of boreal forest cover and carbon sinks and storage, which now hold about one third of terrestrial carbon stocks (Planet Snapshots, 2023). Warming threatens to surpass ecological tipping points for many trees, which are not able to sequester carbon in the same way they could before (Rao et al., 2023). Entire forest ecosystems, especially on southern edges of the boreal forests, can collapse, as an overly warm climate does not allow the trees to continue to photosynthesize to the same capacity. These processes flip forests from being carbon sinks to sources of carbon emissions and should be avoided at all costs. The

best remedy for attaining more robust, climate resilient forest area is to avoid this type of flip, in addition to lowering carbon emissions and retaining natural forest cover by avoiding logging and plantation expansion (Law & Moomaw, 2024).

Reasons for Recent Clearcutting Expansion

I have felt these changes in Finland. I have personally seen the dramatic expansion of the clearcutting frontier over last remaining old and natural forests, especially in the southeastern parts of Finland, where there is the smallest amount of natural forest and the heaviest pressure for wood by the regionally concentrated forest industry plants. According to the Natural Resource Institute Finland (Luke), the overlogging, which routinely surpasses sustainable logging levels, was highest in the southeastern part of Finland between 2015 and 2018. It is important to note that the sustainable logging levels referred to by Luke do not refer to the actual, natural level of sustainable harvests (which are much lower), but to the ability to maintain the economic-technical aspects of yearly logging so that the amount logged in one year would not mean the decrease of logging volumes in the subsequent year. If Luke considered a sustainability which would include the needs of nature (this is seldom done), the level of sustainable loggings would be much lower. In May 2024, Ida Korhonen from Metsäliike told me that sustainability from a nature perspective is surpassed by the current logging in most of Finland's provinces, possibly in all of them.

As the Russian imports have ceased, more wood is logged in Finland, especially in South Karelia, where the pulp and paper industries are dominant. About 4,000 people's work was needed directly in the forest sector in South Karelia in 2020 according to Luke, with the figure expected to drop to 3,200 by 2040 (Kärkkäinen et al., 2024). The sector's share of those employed was 7.7 percent and the value-added to the regional economy was 18.9 percent (approximately 750 million euros) in 2020. This is well above the numbers for the whole of Finland where the added value of the forest sector is just 4.5 percent and the share of employees is just 2.7 percent. According to Yrjö Haverinen (interview, April 24, 2024), a retired forestry professional who is currently active in the South Karelia SLL branch, more forests "have been logged than there has been growth" in South Karelia, meaning that "that capital has been eaten," especially due to cessation of Russian wood imports. These imports from Russia were substantial, still approximately 9.3 million cubic meters (MCM) in 2021, which is about 10 percent of all wood usage by forest industry in Finland (Puukila, 2023). The South Karelian factories use around 12 MCM per year, but yearly growth is just about 3 MCM, meaning that not all 3 MCM could be cut sustainably. Haverinen stated that "This has caused an enormous pressure on these nearby forests." For these reasons, no

national park has been established in South Karelia, although the local “people would want” one. Haverinen was concerned because the average forest age is “fiercely young,” and “this is worrying as they [trees] are felled like a child, but if they would be left to grow to timber tree and even older, we could get more carbon stored from the atmosphere.” A local politician, a municipal councilor who wanted to remain anonymous due to fear of repercussions, commented on the situation in an interview in May 2024: “This has been like hitting the head on the wall … I have been a counselor for long,” including being a part of the decision-making bodies whose decisions affect the management of municipal forests in practice. “At times the municipality does give us a message that we need to please them [the forest industry] in the handling of our own forests [public forests], that we are their raw material producer, and we need to secure their continuity. This is not voiced officially,” but brought out “in discussions regularly,” which means that a lot of courage would be needed to “start to do something” for protection, “let alone conservation areas.” They had been involved in these politics for over two decades and, during this time, “only two conservation areas” were created, “these being the only victories” for forest conservation. “It has been really half-hearted, and it is really feared that what would for example UPM say” if more areas were protected.

The state and some cities have also their own internal yearly profit target from loggings. For Lappeenranta city this is around 400,000 euros: It is “not visible anywhere” and therefore it “cannot be governed by even decisionmakers.” The profit demand drives clearcutting decisions by the chief foresters, who, according to this informant in Lappeenranta, considered themselves to be “an objective party in all this.” However, in practice, these chiefs “have really a lot of power, and if they do not want something, it does not happen.” The key decision-making around forests in Finland is still very hierarchical and although most people would like to protect forests, the key foresters still hold pro-clearcutting views. The politician said that even though the foresters are basically in charge of what happens to the forest, “they have no expertise” to observe the ecological state of forests.

Pulping Hegemony in the Moral Economy

This reflects the hegemonic situation that persists in Finland, although the role and importance of forest industry has declined in society and economy. Even though forestry is losing ground as an industry it still looms large and important in the culture and mindset of the Finnish populace. “At times it has felt that possibly the forest companies would take care of these things better for nature in the city,” than the municipality, reflected the politician. This is telling of the lingering hegemony and dominance, which are systemic and overarching in the social, physical, and symbolic spaces in most parts of Finland, and not so much tied anymore

to specific companies but functioning more systematically and structurally as an RDPE. There are some exceptions, such as the city of Turku, the Tampere region (Juntti & Ruohonen, 2023), and in Helsinki and Vantaa, where, according to Jyri Mikkola, economic profit requirements from forestry were removed a long time ago. Barring these few exceptions, the pulping RDPE extends across Finland.

An anonymous activist from *Metsäliike* shared with me in May 2024 that there is an assumption that “all people living in Finland’s periphery would be somehow some real friends of intensive forestry, which is not true, and has never been.” This is because there has been “strong socialization to a certain kind of mentality” after decades of embeddedness with local forestry associations. For example, there might be powerful members or at least “dominant voices” in local communities who have bought quite deeply into the hegemony. In comparison to Brazil there seems to be a stronger hegemony in Finland supporting the deforesting actors, as, in Brazil, whole forest communities or most local people have resisted deforestations, even when faced with death threats and open violence. In fact, the need to use deeper violence is a sign of a weaker hegemony in the Gramscian sense. In Finland, most people have owned forests and been part of the system in some way, especially in the countryside. However, the activist elaborated, “I do not mean to say that only as victims of propaganda, but it has long been that certain social actors have communicated and taught to them to use their forests in a certain way.” As a result of this decades-long propaganda and spreading of just one truth clear-cutting, has become the only “right” way of logging. This has created “a kind of culture in that relation to forest and forest use, which is not the whole truth as there are also others, but this is quite dominant.” For example, Finland has the world record of bog trenching; however, at best most of this drainage digging is futile and at worst it is heavily polluting and badly done because over time it actually causes increased eutrophication and greenhouse gas emissions (Riipinen, 1993). Views on the futility or usefulness of bog trenching vary, and forest economy research has shown that a large part of the trenching did provide wood growth, but critics such as *Metsäliike* activists claim that Finland should not rely so heavily on the wood-using industry and therefore there should be no need to dig bogs to increase wood production.

When I asked about the hegemony, this activist expert reflected that the ability to organize on such mass scale, enabling landscape-changing efforts across the whole nation, is one sign of how strong the dominance was and continues to be. The efforts to raise wood cubic meter production “were organized in practice not only in a top-down” manner, which meant that local associations and networks were used to “mobilize the countryside and peripheries” to bring them in line with “the work party mentality” of these national projects. They continued to elaborate on this idea, “I feel that that has been how these dominant forest use forms, bad for

nature, climate and many people, have been perpetuated for so long in Finland.” This has taken place by “networks extending between the whole state and the local level,” wherein “the interests of large pulp companies are emphasized, and served nationally, and which is wanted to be aided in national politics.” As over 60 percent of forests are still owned by private households in Finland, “forest companies have had to place a lot of efforts to social relation type of issues.” To get social acceptability has thus possibly been even more important in Finland than in many other places (such as South America, where the Finnish, Chilean, and Brazilian pulp companies own most of their lands, or control them by strict leasing, outsourcing, or lending contracts – or are able to perpetuate their illegal and violent land grabs by retaining *de facto* control over lands they do not have documents for; see Kröger, 2013a; Kröger & Margutti, 2024). To get their raw materials these companies in Finland are “dependent … on a scattered group of citizens that happen to own forests,” which has made it essential to have “cultural influencing” by actors such as “MHYs and their counselling services.” In the Finnish context, this activist thinks that to “create a particular mentality and identity has likely been quite central to secure the industrial production and raw material supply, and export revenues, which then go to [benefit] some people mostly.”

This intense effort to build moral economic support, which in turn retains the hegemony for the paper and pulp corporations’ short-term interests, becomes more understandable when one looks at how much the paper and pulp sector extracts from the Finnish society and economy in comparison to how much it offers. The sector represents about 3 percent of Finnish GDP and employs about 1 percent of work force; yet it consumes half of all the energy used by industry in Finland and a fifth of the overall energy use (Majava, 2018). In addition, it uses massive amounts of fossil fuels, causes carbon emissions, and pollutes waters (although less than before the 1980s and the introduction of less-polluting pulping technology, see Sonnenfeld, 1999). Despite these detrimental effects to the environment, the sector continues to receive massive state support; for example, it receives more energy subsidies than any other sector in Finland (Majava, 2018). The paper and pulp industry hegemony relies on framing logging and pulp production as a nationalist project, in what could be considered a type of forestry fundamentalism (Rytteri, 2000). This forestry fundamentalism is an ideology where it is assumed to be obvious that the interests of the large paper corporations and the nation are identical (Raumolin, 1987, in Pakkasmäki, 2008). This moral economic support relies on retaining the symbolic alignment that the forest industry has for Finns, for example guaranteeing jobs, maintaining sovereignty, staying successful internationally, and overcoming economic hardships (Donner-Amnell, 1991; 2000).

By the 1970s–1980s, the closely knit paper and pulp industry leveraged its state alliance to create a worldwide hegemony in paper and pulp technology, machinery,

and consulting services. During this period, the consulting and engineering firm Pöyry became the leading planner of new mills and pursued financiers to fund these enterprises (Kauppi & Kettunen, 2022). As Pöyry was Finnish, it helped to recommend and export the world-class Finnish technology and plants, leading to the current situation where over 70 percent of world's pulp is produced by Finnish machinery (mostly made by Metso). However, the post-2008 setting of declining paper demand has meant the rapid downsizing of paper production capacity, and thus the role of the paper sector in the Finnish economy began to contract. In 2016, in a bid to maintain their role and power, the sector, in collaboration with the Sipilä government, launched a plan to try to grow a "bioeconomy" of trees and wood (Kröger, 2016).

The bioeconomy hype and boom have failed to lower carbon emissions or increase the added value of the forest economy; yet, they have still led to significantly increased clearcutting and short-sighted mega investments such as new large pulp mills that are framed as bioproduct mills, which in practice promote clearcutting to produce pulp that is not strictly needed or sustainable. According to the Finnish Innovation Fund (SITRA), what are especially problematic are the increased tax exemptions and investment subsidies given to entities engaging in biomass burning, which is allowed due to the assumed carbon neutrality of a wood-based bioeconomy (Landström et al., 2021: 56). This has rapidly increased the number of wood-burning heating and electricity facilities in Finland, which serves as a driving force for the lock-in of clearcutting practices.

The Race for the Remaining Wood

RDPEs often become visible in times of war, when commodity demand and prices increase and more attention is paid to war making than forest protection. When Russia invaded Ukraine on February 21, 2022, most commodity prices began to rapidly increase, especially those related to energy and the war effort. The price of forest biomass at heating plants in Finland has increased exponentially since then, from about 23 eur/megawatt hours (MWh) to over 35 eur/MWh in March 2024. Currently, there is so much demand for energywood that wood is burned that could be used for pulping (*Maaseudun tulevaisuus*, 2024a). "The pulp industry does not get nearly all the wood it could use" explained Jyri Mikkola (interview, March 2024). There is competition for wood between the pulping and energywood plants, with even the price of thorn trees jumping from a steady price of about 5 eur/m³ until mid-2022 to over 22 eur/m³ in March 2024 (*Maaseudun tulevaisuus*, 2024b). Mikkola continued, "Chip wood is being paid at times as much [as pulpwood] ... the prices have risen awfully," and chip wood plants pay for wood at times "really a lot." This situation leads to even more sturdy trunks being burned. According to

experts, like Jakob Donner-Amnell, this battle for wood is going to get even more intense in Finland in the near future if this situation continues. In neighboring Sweden, the competition for wood is already much fiercer and Finland will probably follow in the same direction, which means possible cuts in production levels, paying more, and more pressure on forests (Donner-Amnell, 2024a). I have also observed moves back to coal or turning municipal chip wood plants into direct electric heating, and then investing in alternatives like biogas, due to the doubled costs of wood heating. Meanwhile an increasingly smaller number of key forest owners are making decisions over the carbon stocks of forests and whether they are burned, pulped, or retained.

While there are approximately 600,000–700,000 private forest owners in Finland (which represents approximately 13 percent of citizens), the ownership is strongly concentrated in the highest income groups. Private forest owners are in control of about half of the Finnish forest land. However, a recent report (Juvonen et al., 2024) revealed that half of the carbon stock of these private forests is owned by just 1 percent of the private owners. This is a clear example of the rapid concentration and hierarchization of carbon stock and forest ownership in Finland. Only two thirds of forest owners have more than 1 hectare and only one third owns more than 10 hectares. The high number of forest owners hides these concentrated forest estates, which are owned especially by older men who live in the countryside. Over half of the forest estates over 50 hectares are owned by the highest-earning 10 percent of the forest owners (Häyrynen, 2024), which makes journalist Mikko Häyrynen from *Metsälehti* question the assumption that Finnish forest ownership is an example of “people’s capitalism.” The general forestland concentration (including private and institutional owners) has been driven by the financialization of forest land markets, the entrance of international institutional investors, and neoliberalization of the forest sector, among other causes. The concentration of carbon stocks is telling of two aspects of the increasingly lopsided political economy of forests. First, the bulk of forest owners have sold their old-growth forests, thus, they no longer have this income or capital available to safeguard against bad times (through end-harvesting sales that produce the most income because they include heavy logs). Second, it is likely that the 1 percent who own half of the carbon stock control the bulk of the older-growth, natural forests and they will most likely sell these forests for industry, as the profile of this 1 percent is more often the professional, capitalist investor, who looks primarily for yields. This suggests that the bulk of forest carbon stocks are threatened because there are very few decision-makers. Furthermore, 43 percent of forest owners are retirees, which also drives clearcutting, as forests are sold due to the need to pay the high costs of elderly care and inheritance tax. In addition, retirees have typically been shown to have more pro-clearcutting views than younger generations.

The remaining forests could be protected, but the increasingly concentrated owners do not want to protect the forests for mainly ideological reasons, including a desire to directly resist conservation, among others. These other reasons include, for example, the particularities of the forest conservation policy of the Metso program, where the previous three years' average prices are used as a basis for compensation if the forest is offered for conservation. During a time when prices are peaking, this means considerably less revenue for the owner than the half-year average that is routinely used by the forest industry when it makes offers to buy wood. There are also not enough state funds allocated to the Metso program, as there are more willing forest owners who want to protect forests and too many important sites to be covered by the funds. This situation has worsened since 2023 with the rise of a far-right government and subsequent cuts to the funds. Many people who live in the countryside are struggling to make ends meet, as they have already cut the most lucrative, old-growth forests, which means they do not have the same forest frontier to turn to for resources when they need money. The voices of those who are called forest professionals in the rural media have also been central in framing forest conservation as being against forest owner and national interests, which has turned many against conservation measures.

Other reasons for not protecting forests is the feeling of losing control over the forests and particularly the sentiment that land ownership should be retained within the family for the descendants. Interestingly, many if not most of these descendants would be more interested in having these forests protected, but the current generation controlling the forests want to either retain them as is or turn them into so-called economic forests. I have also witnessed cases where people are clearcutting their forests before their death to avoid their forests being turned into conserved forests. In one such case, a large landowner clearcut all his forests in Eastern Finland before dying. As he had no direct heirs, in his will he bequeathed all his property to the Centre Party, which has traditionally been the most pro-clearcutting and pro-pulp industry party in Finland.¹ This political party plays a central role in explaining the dominance of the pulp and paper industry, as it controls most of Finland due to its rural area coverage. Additionally, because it is politically in the center, it manages to be part of most governments, which ensures that the interests of pulp industry are maintained regardless of which party

¹ In a Yleisradio Oy (YLE) poll for the 2019 parliamentary election candidates, the average answers to the statement that "Forests are being over logged in Finland," ranging from 1 (fully disagree) to 5 (fully agree), the Centre Party candidates had an average answer of 1.5, which was the lowest number of all parties (Ruokoski, 2019). The Finns' Party figure was 1.6, while the National Coalition, Social Democrats, Swedish Democrats, and Christian Democrats had ratings between 1.9 and 2.5. The Left Alliance and Greens had figures between 3.8 and 4.5, which put them into their own category in comparison to the bulk of parties, most of which were more aligned with the pro-logging view. This shows the strong political support across the bulk of the political spectrum for the current harvesting modus, supporting the claim of the dominance and hegemony of the forestry RDPE in Finland.

is currently in power. However, it should be noted that the Centre Party is not the only political party that is under the power of the dominant system and perpetuating practices that emphasize pulpwood and clearcutting. This can happen in different ways, for example by approving permits and extensive financing for major new pulp mills, such as the Kemi pulp mill – approved by all parties – which has significantly increased wood demand, especially in Northern Finland.

The Rotation Forest Management–Continuous Cover Silviculture Debate

Only 2–3 percent of the forests in Southern Finland are natural forests (Viitala, 2020), which reflects the cumulative impacts of the post-1950 continued clearcuttings. The bulk of forests are less than 60 years old. Approximately 96 percent of harvesting is based on the even-aged rotation forest management (RFM) (which ends in clearcutting and plantation) and only 3.7 percent on continuous cover silviculture (CCF) (Viitala, 2020). Implementing the clearcutting–plantation nexus, periodical clearcut harvesting, which is also called RFM, is therefore a very novel method, which still has many unknowns in relation to its impacts on ecosystems as it has been in place only for the duration of one forest cycle (about 70–80 years) (Pukkala, 2016). RFM is based on an even-aged plantation, which is thinned at intervals for energy and pulpwood, and then at the age of 50–70 years clearcut completely of all wood and replaced by a new plantation. CCF avoids clearcutting and retains forest stands permanently, as there are trees at different ages and structures, but this method has big differences and applications depending on the forest context (Pommerening & Murphy, 2004). The thinking about the productivity between CCF and RFM is based on short-term consideration and data, not taking into consideration that there should also be older and larger trees within a forest, for example older than 100 years. It is essential to look at clearcutting as a cumulative, longer-term issue, instead of comparing the yearly clearcut areas to the overall forest area, as the clearcutting-proponents (MTK, pulp companies, and forestry newspapers) often do in the media, which is a tactic to try to downplay the role and impacts of this type of forest removal in Finland (Maa- ja metsätaloustuottajain Keskusliitto MTK ry, 2018). In contrast to RFM, CCF mimics the natural forest cycles and disturbances, as there is some tree removal every 15–20 years and natural regeneration of an uneven-aged forest (Kuuluvainen et al., 2012). This could help in the current situation where most forest ecosystems in Finland are threatened (Juntti & Ruohonen, 2023).

Recently, forestry practices have been diversified and made less obligatory by law, although it is interesting that most logging still takes place using clearcutting. This approach is not recommended by researchers, who recommend a maximum of 25 percent of forests should be clearcut. Leaving trees in place is beneficial

for the forest ecology (Eyyvindson et al., 2021) and it is also beneficial for forest owners who often earn more from continuous cover forestry (CCF) than from the clearcutting model (see Pihlajaniemi, 2018). Norokorpi and Pukkala (2018) estimate that CCF is even up to 15–20 percent more profitable than clearcutting. According to Olli Tahvonen, Professor of Forest Economics at the University of Helsinki, the current Finnish forest policy is not based on economic profits, but rather maximizing the cubic meters of fiber wood produced (Jokiranta et al., 2019: 221). Notably, CCF produces more cubic meters in total, based on long-term field experiments, while clearcutting produces more fiber cubic meters, which are used in pulp making. Yrjö Haverinen, a forestry professional (interview April 24, 2024) explained that it is in the interests of the pulp industry, partially due to the large machines they use, “to get a lot done at one time by clearcutting.” This means that the end harvest will have a lot of pulpwood, “but even before reaching this end harvest age,” the RFM model, using thinning techniques, has yielded a lot of “rod usable very well in pulp industry as raw material,” which is also produced by CCF “but less at a time.”

On a global level CCF has been returning, having had a long history, was although it had been sidelined in past decades by the dominant RFM (Peura et al., 2018). There is an overall global and European trend of diversifying forestry to move away from clearcutting; for example, in the draft of its new forest strategy the EU Commission outlined that clearcutting should be avoided (Eskonen, 2021). Researchers have argued that turning CCF into the dominant forestry model in boreal forests would help to solve many of the supposed conflicts between industrial, recreational, biodiversity, and the other needs of the forests and their users (Mönkkönen et al., 2018). The versatility, multiple-use-allowing forest base requires turning CCF into the dominant model; however, clearcutting will still retain its place in some landscapes (Eyyvindson et al., 2021). Yet, for example, Sini Eräjää from Greenpeace argued that the discussion in Finland has lacked the critical question of who benefits from clearcutting. Eräjää pointed the finger at the paper and pulp industry interests, which have caused forestry in Finland to remain “stuck” in its “own world,” while elsewhere the forest economy has evolved (Eskonen, 2021). Kuntu (2017), the leading forest expert at the World Wildlife Foundation (WWF) demands the “renewal and diversification of forestry counseling” away from the clearcutting–plantation model as the “state of forest nature is very worrying.” This is clearly illustrated by the dramatic increase in logging post-2010, which led to forests that had previously been left in peace being targeted. This includes forests that run alongside rivers, very young stands, and small islands of old forests. This increase in logging was caused primarily by the global, East Asian-driven demand for softwood pulp, especially for packing board production. Simultaneously, the Sipilä government made the decision to

frame and support forest “bioeconomy” as if it was the new Nokia; yet, in practice this just means building new mega pulp mills (Kröger, 2016). A climate expert at the Finnish Association for Nature Conservation, Hanna Aho, argues that in the current setting of increased climatic-ecological crises, having greater biodiversity, including mixed tree species and unevenly aged trees, functions as insurance, which actually benefits forest owners (Jokiranta et al., 2019). Adopting this strategy would also help to align Finnish forest policy with the Global Convention on Biological Diversity, which demands reversing biodiversity loss and attaining a net gain in biodiversity.

The Finnish Pulp and Paper Industry amid EU and International Forest Decision-Making

The lobbying power of the paper and pulp industry is extremely strong and has been consolidated over a long time, reaching all the way to the top-level powers of the Finnish state (Siltala, 2018), which means it also extends into EU decision-making. The lobbyists that Finnish members of parliament have met most are from the forest industry and environmental organizations (Helin & Toivonen, 2021), which shows how the struggles around continuing clearcutting have moved all the way to the EU level. The paper and pulp industry engages in aggressive lobbying and uses large sums of money to try to control public image and affect decision-makers. However, this comes at the cost of trying to develop truly sustainable and functioning alternatives to climatically and ecologically costly forest products and forestry (Majava, 2018). According to Majava (2018), the Finnish forest industry has a key role in ensuring that wood usage is considered to be carbon neutral in international climate agreements. Yet, based on information from the European Environmental Agency Scientific Committee this supposed neutrality is a dangerous fallacy (European Environmental Agency, 2011). This aggressive lobbying forbids making crucial global decisions to curb the climate crisis (Majava, 2018) and in turn jeopardizes the future of the Finnish forest industry.

The EU has been trying to place stricter environmental protections to avoid biodiversity loss and combat climate change, for example through the 2023 revised EU Regulation on Land Use, Land-Use Change and Forestry (LULUCF). This regulation establishes binding national net removal targets for the LULUCF sector based on past greenhouse gases, and it aims for land-based net carbon removals to reach the EU’s climate goals by 2030 (European Commission, n.d.). These LULUCF (European Commission, n.d.) requirements were watered down during the process of lawmaking by an international lobbying campaign initiated by the Finnish and Swedish forest industry, which garnered enough support that the accepted version of LULUCF allowed Finland to increase logging in such a way that it was not even

calculated as emissions (Hartikainen, 2017). If the original LULUCF requirements had been approved, it is likely that the massive new pulp mills would not have been built in Finland, as the increased logging would have required the country to pay compensation by buying pollution rights or by decreasing the emissions of other sectors. According to Hartikainen (2017), getting this version of LULUCF approved required a particularly strong campaign where the government, members of the EU parliament, bureaucrats, and paper industry lobbyists worked together behind the scenes to steer the EU lawmakers.

Fiber Wood or Sturdy Logs?

The more I have studied the Finnish forestry setting, the more it seems that the system has been built over decades in innumerable ways to benefit the pulp and paper industry's short-term interests. It would not be in the interest of the pulp and paper companies if the currently plentiful offer of cheap fiber wood decreased. Besides getting less fiber wood, they would then need to pay more for the sturdy trunks, whose production would increase under a CCF system. However, when one considers the whole forest-based economy, having more mature trees would be beneficial, as it would steer the focus away from the misplaced attention given to paper, pulp, and cardboard, which have negative climate and ecological impacts that are far greater than the impacts of other product lines. The half-life of these products is just 2 years, which means half of the carbon captured in the paper and pulp line products is returned to atmosphere in 2 years, whereas for wood buildings and logs the half-life is 25–35 years. Paper demand has also dramatically declined, warranting a change in the currently pulp-focused forestry practices. The increased logging in young forests is detrimental to biodiversity, recreational use, carbon capture and – paradoxically – for wood production, as this logging decreases the growth and the long-term availability of wood for the industry (Pukkala, 2017a).

Clearcutting produces a lot of fiber wood, which garners a lower price than forest owners get paid for sturdy logs used in sawmills, construction, and carpentry. This is especially true over a longer timeframe, as trees that grow fast and serve well for pulp making and energywood are not dense enough to be used to make things like window frames or furniture. Now Finnish carpenters need to import wood from other countries like Germany. In 2018 at a forest gala (these are organized by Meidän Metsämme [Our Forests], another new forest movement) in Finland (Meidän Metsämme, 2021), Hannes Aleksi Hyvönen, a log builder, argued that mechanical wood processing has a deep quality crisis due to many decades of focusing on pulpwood production, which leaves no good-quality wood for carpenters, carving plants, and small sawmills, which are marginalized and struggle with enormous problems. The clearcutting–plantation origins of the current economic

forests mean that one can get less and lower-quality sturdy logs from them than can be obtained from natural forests in Finland (Jokiranta et al., 2019). The increased growth of wood mass, ensured by “fertilization, seed gene improvement, and plantations,” is of lower quality, producing “soft and sparse fiber wood” that “breaks easily” and has wide growth rings (Jokiranta et al., 2019: 90–91).

Clearcutting ensures that forest lands, or what used to be forests, are increasingly turned into fiber wood reserves that serve the industry, in a feedback loop. Many areas next to clearcuts are de facto turned clearcuts, as increasing storms, snow cover, droughts, extreme weather conditions, and European spruce bark beetle (*Ips typographus* L.) and other pest outbreaks lay waste to the remaining, weakened trees.

The Climate Crisis and the Bark Beetle Debacle

Climate warming is advancing several times faster in Finland than elsewhere due to the country’s northern location and other factors. However, most planted forests, which is the state of most of the forests in Finland, have a lot of spruce and pine. Of the deciduous trees, there is too much birch (*Betula*) and there should be more aspen (*Populus tremula*) and other deciduous trees for forests to be more mixed. The current monoculture-type forestlands have a higher potential for sudden collapses, ecologically and in the log values for the forest owners. These almost monocultural forests run the risk of being adversely and severely affected by the bark beetles, other pests, diseases, and the impacts climate change. If this happens, the pulp and energywood industries may lose substantially, if for example the pests or fungus that have caused great havoc on pine and birch in other parts of the world spread to Finland. Currently, just 2 percent of Finnish natural forest loss is due to bark beetle, the biggest current causes being snow, storms, moose, and other causes (Tiede lehti, 2024). This fact highlights how the RDPE is using bark beetle as an excuse to execute these loggings, clearcutting huge areas. For example, it is claimed that bark beetle would expand to conserved areas and if a forest owner can show this is the case, they are allowed compensation. However, studies show that bark beetle spread from clearcuts to nearby mature heath-type spruce forests (Pulgarin Diaz et al., 2024); but, absurdly, one cannot get compensation for this (Ketola, 2024a). I have seen numerous cases where an old spruce forest was severely hit by bark beetle after a clearcut next to it. Therefore, clearcutting close to the few remaining old spruce forests should be forbidden, to avoid spreading the pest and the subsequent loss of these natural forests. According to studies, the best way to retain forest and increase resilience against pest outbreaks is to retain biologically diverse, multispecies forest cover with different age trees (Tiede lehti, 2024) – not to clearcut and establish plantations. Currently the bark beetle is one of the main

scapegoats for lucrative salvage harvests in Finland, which drives the possibility of bringing more land under the pulping RDPE fiber plantation umbrella.

The bark beetle debacle is worth attention, as it is becoming increasingly a key driver of fast clearcuttings in conservation-worthy old spruce forests, but also in many other forests, especially in Southern Finland. Jyri Mikkola, a conservation expert at the SLL, explained to me in an interview on April 23, 2024, that if there is too much drought, then the trees cannot produce enough resin to drown the forthcoming bark beetle population, which would stop the spread. When there has been two to three consecutive years of severe drought during the growth season (as has already happened) the bark beetle populations can grow practically unchecked. As recent research shows, large forest areas have already died due to the beetles and extreme heat in Southern and Eastern Finland (Junttila et al., 2024). According to Mikkola, once the mycorrhiza of the trees get damaged by the drought, it takes about five years for trees to recover. A tree cannot suck enough water from the ground if it is severely damaged by *Heterobasidion* root-rot. The climatic risk is not limited only to spruce attacked by bark beetle, but also other trees are likely to suffer from climatic extremes, as each species has its own pests and problems. Between 2017 and 2023, in a large area studied in South Karelia, the number of trees dying increased tenfold in just six years. This dramatic increase in tree mortality shows that the climate warming is not good news for the forestry industry. However, to date, the sector has portrayed climate change positively, saying trees will grow faster and further north in Finland. Most worrisome is the speed of increase in number of tree deaths, which is made possible as there is a very high number of clearcut areas (32 percent of the 1,200 hectares studied in Junttila et al. [2024] are recent clearcuts). Once an area has been clearcut, the nearby forests are at the mercy of sunlight and other disturbances. In addition, these forests are often even-aged and weak, mostly monocultural spruce forests, which leaves them vulnerable to pests and disease. It could be said that the problem would not exist in this dimension without the continued and increasing clearcutting, as the aerial images show that a large part of the dead trees are next to clearcut areas.

The tactic of using the argument of salvage harvesting to increase logging is likely to grow in Finland, as this has already happened in other places such as British Columbia (Simard, 2021). The currently planted spruce trees are unlikely to reach their maturity. There is little planning for future climatic-ecological conditions in Finnish forestry practice, despite the country having invested very heavily in forestry and forestry research. It is not widely understood that overlogging will not solve the climate crisis but will cause it to worsen. It takes at least 40 years for the areas that are logged to start significantly storing the carbon that is lost in current loggings, as the current logging adds directly to greenhouse gas emissions.

I argue that the reason for this continued clearcutting against all logic relies on the fiber wood industry having become regionally dominant, both in the political and moral economy of those who make key decisions about forest use and regulation. I will next analyze more in detail how this sector was made dominant, in [Chapter 9](#), and after, in [Chapter 10](#), discuss the new contentious forest politics in the context of the “bioeconomy” and EU legislation.

9

Consolidating the Pulping Economy in Finland

In Finland, the post-WWII establishment of a strong paper and pulp industry is the pivotal cause for clearcutting and decreasing the forest biodiversity (Mönkkönen, 2022). This sector relies on transforming forests into resource reserves primarily for the pulp and paper industry and energywood. The production of fiber mass and the accompanying energy it produces are the key in delineating how forests are used, what kind of trees are grown, where, for how long, and based on what logic. In the fast-growth forests trees compete to reach heights faster, which means they are not producing as good material for wood construction as is found in natural forest trees. Undergrowth is also periodically removed, which harms biodiversity. As this process is very extensive and touches most Finnish forests, it is apt to speak of a regionally dominant sector that changes land areas to mirror its own long-term interests. The fiber and pulpwood interests lock in the use of lands for short-rotation pulp and energywood production by extending tree plantations over natural forests. This happens at the expense of bigger logs and lumber, such as floor and round timber and sawlogs, resulting in less old-growth timber forests. This type of technological lock-in that affects the land use is a very deep kind of power in politics and economy.

It is a different thing to transform the physical environment, the field of matter, than it is to make changes in the social or symbolic space, where in many cases transformations can be reversed or returned to closer to their original state. If an old forest is destroyed and a tree plantation extended over the space where the old forest once stood, it is not foreseeable that that place would eventually be turned back into a similar forest as it will now most likely be retained as an economic forest. Once the physical space has been spoiled this becomes a key industry argument for not protecting it, as the industry will say it is no longer a natural forest. The longevity of this transformation – forest removal through clearcutting – is also due to the fast-advancing climate catastrophe, which has not been considered in forest use planning and future horizons. This kind of lack of vision, which could be called recklessness, is also reigning in many other parts of the world and tropical

forests, but it is astounding to note that this is also the case in Finland, which is widely considered to be a rational welfare state. Most trees planted are spruce and pine, although it is already clear now, and especially in the coming decades, that climate warming and diseases, pests, and other changes will transform the growth conditions in Finland to such a degree that deciduous trees will gain space from coniferous trees. Spruce monocultures will suffer especially in Southern Finland due to the expectation of longer and hotter dry seasons, which increases bark beetle outbreaks and other problems that lead to tree loss. It is expected in some future forecasts that the share of pine and birch will grow dramatically, while the share of spruce will decrease to only 8 percent, by the end of the twenty-first century (Tallinen, 2019). It would therefore be wiser to already begin planting trees that can withstand the hotter and more varied climate expected in the future.

The irrationality reflects how destructive things can get when the destiny of a forest is decided by a mostly invisibly acting force like the market, but which on closer inspection is a specific bound economic grouping that is using political power to support its interests. In Finland, this is a limited group of corporate and landowners whose way of treating forests and driving their interests are shadowed by varying discourses and framings. Next, I will depict the history of how this sector was formed in Finland.

History of the Finnish Pulpwood System

In [Chapter 8](#), I briefly mentioned the birth of modern forestry, which was premised on a clearcutting strategy; however, I will now delve into more detail about the historical roots and growth of modern Finnish forestry. As mentioned, clearcutting has a very short history in Finland, becoming the dominant method at the end of the 1940s (being used in some cases already by the First World War), but the impacts have been tremendous. In practice, clearcutting has resulted in the removal of old forest in most areas of Finland and especially in Southern Finland. The forests were then replaced by short-aged, single, or only few-species plantation-style sapling or seeding stands. Currently, approximately two-thirds of the forest land cover of Southern and Central Finland are young forests or sapling stands, while forests with a high timber volume are found only as small islands (Pukkala, 2017b). Industrial forest use started already in the sixteenth century in Finland, and expanded immensely with the start of wood-based paper production in the late nineteenth century (Kuisma, 2006; Metsäalan Ammattilehti, 2012). The current type of intensive forest economy, the RDPE of pulping, started to coalesce in the 1940s and was an important sector for paying the war indemnity to Soviet Union, thereby rebuilding and “developing” Finland. This development and modernization in Finland pushed structural social change, essentially changing Finland from an agrarian to an industrial society (Kekkonen, 2011). In

the 1948 Statement on Selection Felling, the state made clearcutting the only available way of practicing forestry, forcing a forestry style of growing one generation of trees at a time, sequentially. In the 1950s, logging volumes tripled in many parts of Finland in comparison to the 1920s (Enbuske, 2010: 261; Jokiranta et al., 2019). The impetus for this came especially from the “needs of the forest industry,” although the official explanation was the “bad condition of forests,” with clearcutting promoted as the cheapest and fastest way for the industry to get large amounts of cheap wood to their mills (Jokiranta et al., 2019: 37). This change in strategy was not optimal for forest owners, but the power of the paper and pulp industry managed to establish an understanding among the forest owners and their lobby groups that their interests would also be the interests of forest owners, thus enforcing clearcutting.

However, as the forest industry grew, and the budding Finnish welfare state became evermore tied into its success, a wood shortage was experienced in the 1960s. As a result, national programs aimed at forest growth were designed and implemented. Until 1975, the tree plantation model and the usage of heavy machinery spread to essentially all forest owner groups, which resulted in pine plantations being expanded over natural forests all around the country on both state and private lands (Jokiranta et al., 2019). Lähde (2015: 8), who made perhaps the most well-known long-term critique of the Finnish forest industry’s clearcutting model, considers the prime motor in this violent reduction of natural forests to be that “the industry did not want to pay logwood price” for its radically expanded demand for raw material for making pulp and paper. The 1948 Statement against selective logging was thus drafted and, according to Lähde, forest owners were obliged to do low thinning and clearcutting, which consistently produced lots of cheap, small-sized wood. This system of periodical forest growing; that is, one forest after another, ensures that clearcutting happens sooner rather than later. Lähde (2015) describes how this clearcutting model was not received enthusiastically but required extensive lobbying wherein the industrial, intensive periodical growing was turned into a patriotic issue. Under this framing, all “forest men” who supported the national interests needed to adopt the new forestry practice in all forests. In fact, retaining set-aside forests for nonclearcutting practices was – and largely still is – framed as action that goes against the overall public, national, patriotic interest – meaning the interests of those within the pulping RDPE. This has made it difficult to change the forestry model into one where fragmentation, biodiversity loss, and degradation, loss of old-growth and natural forests, and loss of forest species due to excessive clearcutting would be transformed into a model where selective logging, ecological corridors, and conservation areas would also be allowed to exist to a greater extent. The reasons for not moving away from clearcutting, according to Lähde (2015: 14), have been “different kinds of laws, guidelines and regulations, fixed attitudes, poor forest knowledge, poor professional skills, and the power and money interests of organizations.” This

shows how, once it is established, a dominant and hegemonic RDPE can make it very hard to change the direction of how nature is used and the ensuing relations, even when change and the results of change would be rational.

While the 2014 Finnish Forest Act did reallow growing different age trees and forests, not enough resources, support, or guidance have been given for the shift by the key forest industry actors (Lähde, 2015; Kröger & Raitio, 2017). According to Lähde (2015: 14), this is because the forestry specialists have not been trained well enough on the selective logging practices and “do everything they can to impede continuous cover silviculture, not advising properly the interested forest owners.” It is common to hear in Finland that private forest owners are not being told about continuous cover forestry, which often is not even laid out as an option. Yet, knowledge does exist and there are test sites and training on different types of forestry, including CCF, which were also present in the twentieth century. The key explanation may thus not be the lack of knowledge, but the prioritization of the profit-making interests of the pulp and paper industry, along with active choices by leading governmental and corporate actors. The pulping RDPE still holds hegemony, although forest researchers, progressive state administrators, specialists, and environmentalists have become more aligned in their views since 2014, as they have been sidelined by the industry and government hard-liners supporting the productivist “bioeconomy” agenda (Kröger & Raitio, 2017).

In addition, many forest owners have become increasingly critical of clearcutting since the 1970s, as the bad sides of clearcutting have surfaced (Lähde, 2015: 144). There were trials in the 1970s–1980s against so-called *harsintahakkuu* (selection felling), for “destroying” forests (Juntti & Ruohonen, 2023). In peak years over 100,000 hectares of private landholders’ forests were “pacified” from their owners (in a quite Orwellian use of words, pacification in this case does not mean conservation, but the opposite). At times state officials forcibly clearcut these private forests (Juntti & Ruohonen, 2023). Since the 1940s, the state needed to control the forests to serve the continued development and growth strategy that it pursued, thus ensuring cheap prime resources. According to Kekkonen (2011: 78), “intensive forestry thinking penetrated the whole forest industry” and state programs subsidized mechanization, building a vast network of logging roads to private forests and plantations, draining especially wet areas and bogs, clearcutting, and aerial sprayings. In essence, an extractivist forest industry was created without proper research or consideration of what the most productive and sustainable form of forestry would be.

Finnish Forestry Extractivism and Political Power

This forestry extractivism can be considered as hyper-extractivist in the context of northernmost Lapland, in the Sápmi territories, where clearcutting ancient forests

that are required for the natural feeding of the freely roaming reindeer of the Sámi removes that forest land from use for an inordinately long time due to very slow Arctic growth rates and the fragile environments (Last, 2023). Clearcutting in Northern Finland and Sápmi is more akin to “mining of forest capital” than forestry (see Tahvonen in Jokiranta et al., 2019: 193). It is for these reasons that hyper-extractivism really is the most apt term to define this logic, practice, and its results.

The twentieth century and current extractivisms in Northern Finland are based on the colonization and taking of Sámi land rights by the Finnish state and settler colonialists in a violent and forced manner (Ranta & Kanninen, 2019). When the first forest laws were passed in 1886, all forests that were considered as not having a clear owner were moved under state ownership. Until this time, Sámi forests had been commonly owned by the Sámi communities and they had even paid taxes on them to the state, sometimes for centuries, but with the passage of the Forest Law of 1886 these forests were suddenly seen as wilderness areas without owners. There are no documents of transfer of these lands to the state, which is a reason many Sámi activists consider that these lands should still belong to the local Sámi families. There were also several cases where Sámi reindeer herders were murdered by Finnish settlers to gain access to their grazing grounds, as detailed by Ranta and Kanninen (2019).

Since the 1960s there has been a major shift in power in the political economy of forestry, from forest owners to the paper and pulp industry. In the early 1960s the common practice where private forest sellers felled the logs themselves and delivered them to factory gates waned. The power of “industry forest departments that took care of timber harvesting mostly as stumpage sales” increased (Kekkonen, 2011: 79), although the option of selling wood from roadsides continued to be exercised until the 2000s, when the industry stopped paying enough extra for this kind of “sale at delivered price,” according to Jyri Mikkola. The expansion of this model of stumpage sales is now dominant and has given the upper hand in wood procurement to the industry (Kekkonen, 2011). Horses and manpower were replaced “fast and dramatically” by mechanization of forest work, which took place due to the economic interests of the forest industry, not for some other reason, like the low availability of rural labor (Kekkonen, 2011: 82). This trend of clearcut-driving mechanization has intensified since the 1970s, harvesters becoming ever more heavy, expensive, and specialized, requiring their maximum usage to be able to pay back the loans needed to get the machine in the first place. This meant heavy pressure on forests and difficulties surrounding changing the model, as there were so many sunk costs. It has become practically impossible to use harvesters other than the heavy and expensive machines made by Ponsse, John Deere, and other leading companies (Vaara, 2013). A leading reason for this is because

the paradigm of heavy harvesters is based on cost-effectiveness and not on volume productivity, which means it is efficiently protected from competition.

The clearcutting model has been supported in politics, especially by the Agrarian Party (later Centre Party), which was “heavily funded in the 1960s by the forest industry,” causing the industry and party to become closely intertwined and offering a “direct connection to the government” for companies (Kekkonen, 2011: 88). The aim was economic growth, rather than offering enough raw material to supply the demand, and the forest industry was seen as the prime tool for this crucial national economic growth aim, which meant going beyond answering existing economic, social, and cultural needs (Viitala, 2004: 41). In the crucial consolidation period of 1960–1990, the forestry-planning network gradually developed into a “self-sufficient and inward-warming closed group of experts,” which got accustomed to being the strong, leading authority and using its power in forest-related decision-making and planning (Eriksson, 1995: 142–148). The forest economy and policymaking were centralized and hierarchized, forming what was essentially a closed network (Kekkonen, 2011: 98).

In the preparation for the 2014 Forest Act, separate stakeholders and experts were also included in the policymaking process (Kröger & Raitio, 2017). However, they were sidelined in the subsequent era of bioeconomy, where experts have not been listened to and forestry has intensified again in a kind of revenge of the extractivist RDPE. After the 2014 law change, the government drafted the “bioeconomy” policies mostly just with industry participation, which led to sidelining ecological and other forest researchers independent of the industry, as the former had to ensure some ways to continue the hegemony and dominance once it became legal for CCF to advance. This has taken place amid the neoliberal corporate globalization of the post-1990 period, where first there was a strong national consolidation of state and private forestry capital, followed by mergers and acquisitions that created global forest industry behemoths. The current corporate activities “are not driven by national interests,” and technical and organizational change have disconnected logging once and for all from the interests of the countryside (Kekkonen, 2011: 56). Decisions are now mostly made by large corporations, which were formed in the 1990s as Finland’s EU membership made it illegal to continue the pre-1990s practice of a sales cartel. In this sales cartel, smaller and bigger companies worked together to define prices and sales terms of international forest produce (Kauppi & Kettunen, 2022).

This consolidation of power with a small elite can be seen as a key reason when explaining the continuation of clearcutting and forest loss, as the forest sector has become a sort of private venture with a relatively small group of decision-makers. However, this group enjoys considerable support among forest owners and others in society and manages to retain an atmosphere of fear, which leads people to not

talk about any feelings related to forest loss, values, and valuations of the forest that fall outside of economics. Ultimately, clearcutting spreads because forests are not valued. It seems that money and the things you can buy with it are more valuable to key decision-makers. Yet, there is more at play here and economic gain cannot be the main reason, as objectively even more money could be made by less intensive forestry practices that minimize the need for clearcutting.

Consolidating the Logic of Pulp Capitalism

The political economic system has its own internal logic and hierarchy, which guides land use more than any pressure from society or the rational maximization of national gain. Kortelainen (1996: 85–94) unpacks how the nature relation of the forest industry has been governed by a particular economic logic. This type of anthropocentrism seems common among those involved in the forest industry job market. One hears qualms from forest owners and users, for example, from hunters who would like to have more game in the forest. There is a significant conflict of interest between those who would like to expand pine plantations and moose hunters, as the latter would want to retain a high number of moose in the forests and the former wants to diminish the number of moose to avoid seedlings being eaten. In both cases, there is anthropocentrism, but in the case of the forest industry the rational is to maximize pulp, paper, and other forest product revenue for the quartile economy and shareholders.

The period of forced clearcutting has been called by Kunttu (2017) a dark episode in Finnish forest history. Until 1975 the main (only) objective of the forest economy was maintaining maximum fiber wood production (Kuuluvainen et al., 2004). Kellokumpu and Säynäjäkangas (2022: 40) see this emphasis on increasing the fiber wood growth volume as creating the basis for the pulp sector to become the dominant form of the forest industry in Finland, which they label as fiber wood or pulp capitalism. This was very detrimental to the forest-dependent species and webs of life present in the forest ecology, as the aim to reduce the capital costs of expensive harvesters led to also harvesting in the summer and springtime, which is in radical contradiction with the principles of biological forestry, argues Vaara (2013). It is not necessary to harvest in the summer, as wood can be stored from winter harvests, but the capital costs of harvesters create a kind of technological push mandating the usage of machinery year-round. Lumberjack-driven logging was replaced by harvester-based forestry between the mid-1970s and 1990s. Modern forestry extractivism could thus be seen in its visible terms as a form of violence by machines against the web of life present and dependent on the forest. However, CCF is also done by heavy machines, which enable precision logging. Thus, the key issue in this sense is not necessarily the harvesters themselves, but

the underlying logic and practices of clearcutting and pulping, and the focus on wasteful energywood.

After clearcutting an area, one must engage in an expensive and mechanized process for tree planting, which is economically draining and time-consuming for forest owners (Kunttu, 2017). To capture this new market, there was a surge in specialist tree-planting institutions; for example, MHY, Forest Centers, and forestry research institutes like Tapio. These entities turned the plantation forestry model and the accompanying sapling trade into a lucrative business for themselves; for example, by the 1980s Tapio provided over 80 percent of the saplings used in private forests (Kunttu, 2017). This move toward specialist tree planting was criticized by MTK in 1978 (Kunttu, 2017), but to no avail. The inability of MTK to counter these changes suggests that in Finland the RDPE of pulping (including Tapio) had already become dominant, if not yet hegemonic. Later, the hegemony was further consolidated as MTK shifted to become a vehement defender of clearcutting, thus becoming part of the RDPE. Lauri Vaara, who worked as an expert for Tapio, describes this as a system where there were almost no constraints on how the centralized institutions used their power to direct forest owners via legal mandates. In short, the organizational and prerogative measures meant that political control “has been eliminated from the steering of [the] forest economy” (Vaara, 2013: 216). Vaara (2013: 216) argued that “advocacy for forest owners’ rights and interests, surveillance by the justice system and media, critical forest research, and labor services market management” have been eliminated, which suggests a very deep dominance and hegemony. In 1983, when Vaara was working for Tapio, he wrote about the alternative forest economy and the problems of governance and harvesting practices by companies. After that publication, a forest company representative in a leading position suggested that Vaara needed to be fired from Tapio (Vaara, 2013). Similarly, in 1989, the state-run Finnish Forest Research Institute (Metla), removed Erkki Lähde, another key critic of clearcutting, from directing the research on CCF and banned other Metla researchers from going to the Lähde-established test sites for continuous cover forestry. According to Jokiranta et al. (2019), through these actions Metla tried to silence the critical voices within forest research and halt the search for alternatives. Due to this elimination of counterpower and space for dissent, Vaara (2013) asserts that forest sector governance has become lopsided, requiring clearcutting and tree plantations to ensure the sales of saplings. Major moves are taken to retain this hegemony, “The distortion is hidden by the massive advertising of the forest economy efficiency by all the groups” (Vaara, 2013: 216). The RDPE dominance was particularly visible before the 2014 Forest Act, when the “services of forest economy” were “captured as the monopoly of the key actors” in the forest sector, argued Vaara (2013: 211). These moves turned the processes that molded the forest into being driven by producers, rather than being driven by demand.

I see that there is a general misunderstanding about the function of market economies, as there is often the claim that demand is the driving force in steering production. However, when observing RDPEs, one notices how huge chunks of the world economy are driven by the RDPEs interests, which are firmly on the producer side. In pre-2014 Finland the forest owners' lobby group (MTK) "sold as a monopoly the services of timber growing and guidance," while the forest companies sold as a near-monopoly the "services of harvesting and transport" and the Forest Centers sold "the planning, government-subsidized works, and saplings" (Vaara, 2013: 211). Due to this situation, Vaara (2013: 17) observed that the costs of tree growing, harvesting, and retaining the organizations that assist in these processes are borne by the forest owners, while the companies and centralized organizations reap the profits and retain the power. Forest owners were forced to adopt the clearcut–plantation model, as since the 1950s the state forest administrators started to demand, in collusion with forest companies, that wood sold needs to be prestamped and companies "would not buy un-stamped forest. After that one could refrain from stamping, if a forest owner did not agree to clearcutting and plantation" (Vaara, 2013: 25).

Meanwhile, forest and swamp trenching were heavily subsidized by the state. In the 1960s, a subsidy for drainage paid 10 percent of the value of a trenching contract to Forestry Boards, which therefore tried to maximize the size and cost of drainage extension (Vaara, 2013: 148). This led to over 800,000 hectares of futile trenching of swamps, alongside the destruction of huge numbers of lakes and rivers by muddying and overfertilizing them (*Turun Sanomat*, 2013). By 2019, only five per milles of the drained swamps had been restored ecologically, while the problem of trenches persists in creating damage environmentally and climatically.

In the 1960s–1970s, the private forest industry sidelined the state in steering and defining forest policy and economics. In 1964, MTK and the Finnish forest industry lobby group (Suomen puunjalostusteollisuuden keskusliitto [Finnish Confederation of Wood Processing Industries]), created a funding committee for forest economy, which "in practice led the forest sector between 1965–1972" (Vaara, 2013: 160). These private groups wanted to make forestry even more intensive than the state, creating a series of new funding programs for the forest economy, called MERA I, II, and III, funded by the state, bonds, and the World Bank, for example (Nöjd et al., 2021). This period marks the critical juncture when clearcutting and plantation expansion rose rapidly, as did forest leases and the introduction of harvesters. This was possible as the key forestry decision-makers, such as Forestry Boards, had been given independence. The state and the Ministry of Agriculture had withdrawn themselves from both steering and inspection functions. These changes essentially gave the corporations the right to govern, argues Vaara (2013). The World Bank even funded MERA, which shows how the RDPE

links to the deepening neoliberal, globalized world-ecology. Even though one of the three major multinational paper and pulp corporations in Finland, Metsä Group, is owned by the Metsäliitto, which is a cooperative of 90,000 Finnish forest owners (see *Metsä Group, n.d.*), the major organizations, including MTK, have strayed far from their original purpose of safeguarding forest owner interests, according to Vaara (2013).

The many lawsuits against the buying cartel in the past decades support the claims mentioned. There were suits brought by hundreds of forest owners against the three biggest paper companies, UPM, Stora Enso, and Metsä Group, which charged that the companies had created a cartel to pay lower, agreed prices, instead of allowing for market-based competition. The cartel resembled a monopoly situation. The companies were found guilty of forming a cartel between 1997 and 2004 and engaging in illegal price cooperation, which was to the detriment of forest owners who sued for the losses in wood sales (Varho, 2016). The court ordered Metsäliitto and Stora Enso to pay tens of millions of euros in 2009, while UPM revealed the cartel to competition authorities and thus avoided the fines. Over 400,000 forest owners had sold wood during the period to these companies, thus the losses and potential payout could amount to billions of euros. Those on the losing side also included the state-owned Metsähallitus, churches, municipalities, and others. Metsähallitus also sued the companies, but ultimately lost in court in 2016 due to a lack of evidence. They were then ordered to pay the legal costs of the forest companies, which totaled over 8 million euros. After this the companies demanded the 600 private forest owners drop their charges and pay the legal costs of the companies (Varho, 2016). This move baffled the sense of justice of many and was seen as intimidation tactic that sent the message to not meddle with the practices of the forestry sector. These are all signs of a dominant industrial sector. In 2021, the EU Commission carried out surprise inspections in the headquarters of UPM, Stora Enso, and Metsä Fibre, suspecting they had a pulp cartel in violation of the EU competition laws (Hiilamo & Pantzar, 2021). In June 2023, the EU Commission ended the investigation, claiming it did not have enough grounds to continue with the investigation; however, the Commission emphasized that this was not proof that the activities in the pulp sector were aligned with the EU laws (Demokraatti, 2023).

Current Politics of Forests: Carbon, Logging Volumes, and Bioeconomy Policies

In the overall setting, the large paper companies and energywood burners can avoid taking responsibility and paying for the costs of ecological-climatic transition, which are now being paid by the state, forest owners, other sectors, and other

forest users. The dominance of the pulp corporations has meant that harvesting is done too early and too extensively, which, as of 2021, has caused Finnish land use to turn from a net carbon sink into a source of emissions. Meanwhile the emissions in Finland in non-LULUCF sectors have decreased from about 80 million tons of CO₂ in 2003 to less than 50 million tons of CO₂ after 2021. Those sectors that fall under the LULUCF exemptions increased their emissions from approximately negative 25 million tons of CO₂ in 2003 to over zero by 2021 (thus turning from a sink to a source of carbon) (Statistics Finland, 2022). This was principally due to increased logging under the guise of “bioeconomy,” which has eaten away the benefits attained by lowering emissions in society at large. Pulp mills emit about double the carbon dioxide for each ton of pulp produced – remember these producers do not need to compensate or buy emission rights for these activities, as the sector is considered “green” in the current carbon regulation and trading schemes, and claims to be “carbon-free” in many of its mills (see Metsä Group, 2024). Thus, these “bioeconomy” mills have used the possibility of lowered overall Finnish emissions to increase their private wealth and revenue making, while simultaneously they are not participating in the common cause of combating climate change. The emissions are calculated at the LULUCF phase, when wood is harvested, but then the forest industry claims that it would store the carbon. This is not the case, as the processes required for paper pulping result in massive carbon emissions and is a direct cause of global warming. This is unjust to other sectors, which do have to pay compensation for their emissions, such as the metal industry, and to the taxpayers who need to pay for buying emission rights from other EU states.

To somewhat remedy the situation, Lauri Mehtätalo, a professor of forest planning, has suggested that the rotation cycle should be extended by 10–20 years, which postpones the harvesting and allows increased growth by shifting the harvesting age from the current 60–100 years to 70–120 years, which would be ecologically beneficial (Puttonen, 2023). The Chair of the Finnish Climate Change Panel, Professor Markku Ollikainen, argues that to meet the requirement of compensating the 49–81 million tons of extra emissions between 2021 and 2025, the forest industry should also participate, so that the high costs of buying emissions rights from abroad – which needs to be done if harvesting is not curtailed – are not passed on to the taxpayers (Ollikainen, 2023). Mehtätalo sees no other option to attain the EU carbon sink goals than to delimit harvesting levels. This is because Finland has reached the upper limit of forest growth of 110 MCM per year and the lack of growth is not expected to curtail the emissions.

Most wood harvested now quickly returns to the atmosphere as carbon, as only 4 percent of wood products constitute a long-term carbon sink (most go to pulp, paper, cardboard, burning, and even sawn wood is burned after used for a short time). In 2021, forest removal in Finland was 91.6 MCM, of which 9.7 MCM were

wasted in harvests and 6.8 MCM was used by households, mostly for heating. The industry used 69.5 MCM, of which 36.7 MCM went directly for pulp, 29 MCM for timber, and 3.8 MCM to wood chips for energywood. As the share of pulping is so high, and the amount of wood carbon stored in longer-term products such as housing, furniture, and infrastructure is low, Mehtätalo sees that postponing the harvesting age would help in the transition from pulp to lumber and long-term wood products. Yet, the figures given hide the fact that in processes of pulping and making sawn timber most of the wood parts are used directly or indirectly for wood energy. Thus, when the usage of dry wood is measured in tons, about 15 million tons were used for forest products in 2022, while about 22 million tons were used for wood energy. Until 2007, these figures followed each other closely, with both between 15 and 19 million tons, but since then wood energy usage has grown substantially (Luke, 2023b). Meanwhile, the added value of the pulp and paper sector per 10 cubic meters of wood has decreased dramatically, from 1.5 to 2.3 billion euros per year during 1995–2005 to about 0.7 billion euros in 2018. Thus, Professor Ollikainen thinks that curtailing harvests would guide the forest industry to use wood in less wasteful ways and to compete for wood with the energywood sector, which now uses 60 percent of dry wood (Vadén & Majava, 2023).¹

As the average added value in the forest industry in 2024 was just half of what it was approximately 20 years ago, this drives the trend of “trying to all the time increase volumes” of logging, according to Jyri Mikkola. “When paper does not sell then pulp is sold,” this meaning that a cubic meter of wood “brings just half of the profit” as pulp in comparison to being processed into wood products. This trend has led to increasing logging volume to retain quartile profits; without this lowering of added value of wood “the forest nature would on average be doing quite well,” but instead, now, “all growth is foreclosed.”

Nevertheless, in 2022, forest industry exports still represented about 18 percent of the value of goods exports of Finland (Luke, 2023a), which totaled 14.6 billion euros and helps to explain the continued political support for the sector. Wood product industries (sawn goods and plywood) represented €4.1, while pulp and paper industries €10.5. The large export share of the fiber industry partly explains why the state has continued to actively promote the clearcutting–pulping model, instead of the wood product sector that could be maintained and grown by the continuous cover model. The usage of sawn wood in Finland has decreased dramatically, from over 5 MCM in 2005 to less than 2 MCM in 2024, with practically all

¹ According to Vadén and Majava (2023), using forests as sources of energywood is the most wasteful form of (forest) land use. For example, in Finland an estimated 1,300–1,500 km² is required to produce a terawatt hour of energy. Other forms of producing energy are much more energy efficient and require fewer land areas to be removed of forests.



Figure 9.1 Logs and sawdust at the frontlines of clearcut logging in Finland. In this location, which is next to houses, an old spruce forest with tall trees once existed. South Karelia, November 2022. Photo by author.

the sawn wood produced in Finland going to construction (Aalto, 2024). The government has discontinued programs that support wood construction and watered down the demands for considering climatic impacts in laws, as asserted in 2024 by Tino Aalto, the chief operating officer (CEO) of Sahateollisuus RY, the industry association of the sawmill sector in Finland (Aalto, 2024). This was lamented by the sawn wood and construction industry, showing how the pulp and energywood sectors are supported by heavy subsidies, while more climate-friendly sectors, using trunks, are not. The sawn wood industry can be seen as subjected to the paper and pulp corporations, which also own sawmills. Currently a smaller part of a single log brought to a sawmill will end up as sawn timber, as a larger part than before of the log is purportedly taken as pulp chip wood (interview with Jyri Mikkola, March 2024). That pulp chip cannot contain bark, so “now all logs are debarked,” while earlier bark was not removed so there was more board wood. Previously before being sawn into lath, the other log parts such as stump edges were used in construction, “but now this also goes to pulp chip at the sawmill as this has a better profit margin than lath” (see Figure 9.1).

The government has actively tried to increase production volumes of pulp- and energywood, and create new and added-value product segments through several forest policies, such as the Forest Cluster Research Strategy (passed in 2006 and

updated in 2010 to shift attention back to pulp from other bioproducts, as it was noticed then that pulping was not ending in Finland as expected, Jyri Mikkola explained), the 2014 National Bioeconomy Strategy (updated 2020–2021), the 2020 Low Carbon Roadmap of the Forest Sector, and the 2019 National Forest Strategy (see Vadén et al., 2021). The last one of these aims to turn private forest owners' forestry into a more corporate form to make them more "active," "growth-centered," and "profitable" (Ministry of Agriculture and Forestry, 2019: 44, 59). However, these measures have mostly just increased production volumes and have not led to new product lines or added value, as Jakob Donner-Amnell has documented extensively (Puukila, 2023).

A key rupture took place in the 2000s, when paper demand collapsed; yet, due to the power and inertia of the RDPE, the sector clung too long and too intensely to paper production. The only new sector the paper sector betted heavily on was wood-based biofuels, with UPM opening a large biodiesel plant in Lappeenranta. However, these ventures flopped as the price of oil did not skyrocket and electrification became the key driver in car markets, which the forest industry did not manage to foresee (Puukila, 2024). Since 2013, cardboard, wood products, and especially pulp have been the key products, not paper. According to Donner-Amnell, with whom I have spoken several times at length throughout the past several years, the forest sector is in a crisis, but this is not yet recognized by the companies, which makes it harder to remedy the situation. He sees that it is difficult to try to increase the economic value-adding by the forest sector without a considerable increase in state and EU investments. Even with additional investment the economic future of the sector depends on the global market and technology developments, as well as other sectors such as the petrochemical sector, which are more powerful globally than the forest sector when it comes to designing the key policy and subsidy lines for raw material usage. China has also become the core of the global paper and pulp sector in many senses, as it is actively trying to establish its own pulp sector, which could lead to a lesser demand for pulp from Finland (Donner-Amnell, personal communication, 2023).

New Contentious Forest Politics and Debates

Since 2016, the clearcutting focus of Finnish forestry has received increased criticism and outright resistance by more vocal activist groups. This is due in part to the rise of pulping, the increase in harvesting, and the overall rise in environmental and climate consciousness and movements, especially among young people. This has resulted in the development of *Metsäliike*, which is an active and more radical forest movement. This forest activism is aligned with the views of many experts, researchers, and environmentalists who have been largely sidelined in the forest

policy decision-making, which is mostly revolving around productivism under the guise of “bioeconomy.” This dominant pathway “is based less on science, (self-) criticism, or autonomous state bureaucracies, and more on governmental decision-making that is strongly aligned with the wishes of industry, landholders, and the Ministry of Agriculture and Forestry” (Kröger & Raitio, 2017: 12).² In 2017, over 60 worried researchers made a public statement calling for the government to follow science and not increase logging levels through its bioeconomy strategy, which would cause major negative impacts to the climate and biodiversity (BIOS, 2017). In 2022, the country’s leading conservative newspaper, *Helsingin Sanomat*, published an article based on the Finnish Climate Change Panel’s report on the state of forestry, titled, “Finnish Forests are being Logged for Reasons that Have No Scientific Basis” (Saavalainen, 2022). The report assesses the claims made about the supposed climate benefits of the current forestry practices, showing how the increase of harvesting is not an act combating climate change, nor is it increasing wood construction or the use of wood products (Seppälä et al., 2022). The loss of carbon sinks in forests is due to harvesting practices that outweigh the benefits gained from carbon storage in wood construction. Seppälä et al. (2022) recommend 72 MCM per year as the upper limit of harvesting, which should then be decreased year on year. Between 2000 and 2014 an average of 60 MCM were logged yearly (Landström et al., 2021: 116), the jump after that represents too drastic an increase.

For years I have observed the public debates and discussions around forests in media, social media, and different events and places in Finland. Based on these observations, it seems that it has been very hard for the industry, pro-industry decision-makers, forestry professionals, and quite a few forest owners “inside the system” to give space to recognize or accept the findings of latest scientific research on forestry and forest situation. This is because clearcutting has been established based on private interests rather than interdisciplinary research and debate (Jalonen et al., 2006; Parkatti, 2021). This means the proponents of clearcutting find it very hard to accept other viewpoints. Forestry research in Finland focused for a long

² However, Jyri Mikkola from SLL told me that he and other experienced forestry and conservation professionals have had some influence on decision-making since 2015 as both experts on the use of state forests and within the FSC, which is a global timber certification scheme. In his opinion, there is still space for environmental experts to influence decision-making. Yet, other critics told me that if researchers and environmental organizations would have been actually listened to, FSC would function as more than just a “greenwashing stamp,” clearcutting would have been banned or radically curbed, and more forests would have been protected. Mikkola defended FSC and argued that in practice “only FSC retained (also then) a large group of forests valuable in terms of conservation that would have been logged otherwise.” Nevertheless, the FSC practices have been under very heavy criticism globally and in Finland due to lack of due diligence, the inability to verify the ethicality of wood sources, the practices used to certify tree plantations, and the feeling that it is driving further logging (Kröger, 2018; Moog et al., 2015). Greenpeace, one of the founders of FSC, ended up leaving FSC in 2018, citing a lack of transparency and monitoring, and not guaranteeing protection well enough (Greenpeace International, 2018).

time on only “advanc[ing] the clearcutting model” (Pihlajaniemi, 2018). For this reason, a forest professional and owner, Heikki Ala-Aho, argues that:

If the forest sector wants to make a real sustainability transformation, the science of nature conservation biology should be considered in forest decision-making and steering recommendations, that is a requirement of life. The surface extent of actions by forest economy is manifested not only in the endangering of forest habitats and the species needing them but also for example in the weakened state of springs, streams, and larger bodies of water. (Siikajokilaakso, 2023a)

Ala-Aho shows a growing standpoint among forest owners by counterarguing in his newspaper opinion piece against the claim that “nothing is enough” for nature conservationists (Siikajokilaakso, 2023a). For example, he mentions that of the Northern Ostrobothnia land surface 79 percent is covered by forests, of which only 4 percent are protected. He argues that it is a reasonable aim to try and adhere to scientific finding that at least 10 percent of all nature types should be protected (Siikajokilaakso, 2023a).

In real-world politics, the rising demand and need for retaining forest cover and increasing carbon sinks has meant that the industry proponents in Finland have promulgated a view that it is better to log now rather than wait for your forests to be conserved by force. This has led to fear-based preventive logging by many forest owners in the last few years to avoid having their forest areas turned into conservation areas (Sirviö et al., 2023). *Maaseudun Tulevaisuus* (*The Future of the Countryside*), the leading newspaper of farmers in Finland, surveyed the population in remote areas in rural Finland about their feelings toward conservation: 44 percent resisted the increase in conservation and 37 percent asked for more conservation (Koivula, 2022). Of all respondents to the survey, 58 percent had a positive opinion on the Finnish and EU plans to increase conservation in 2022 (Koivula, 2022). The high level of conservation criticism coming from the countryside is important, as farmholders are in a key position to decide whether to cut their trees or not. There is a deep-seated fear among Finnish forest-owning farmers of losing control of their lands, especially to top-down forest conservation and green measures coming from the capital and the EU. They experienced this situation in the early 1990s when Natura was established in a top-down process, where forest-holders’ viewpoints were not considered and they were not asked if they wanted to protect their forests. In my view, this emphasis on the control of one’s own lands is a key feature that helps to explain why people clearcut and why they would side with the pulping impetus on the clearcut–plantation replacement of natural forests. This way they can feel they retain control and can maintain the possibility in the future to sell wood. Many are also fearful of losing control over their forests when they die, which is a reason they demand that their forests are clearcut before they die or they mandate it in their will. The basis of this moral economy is grounded

in the concept of having private ownership of the tree biomass, which, in the ideal setting of these landholder imaginations, should be passed on in the family as an inheritance.

A further obstacle in steering away from the pulping RDPE is that clearcutting has become quite consolidated as part of the identity of forest owners and forestry professionals (Halla et al., 2020). They feel that the propositions of decreasing clearcutting and offering other methods are not respecting their knowhow and expertise and, thus, they need to resist all other suggestions. Other studies on the extractivism–identity linkage worldwide have shown how it is connected to populist politics and the rise of authoritarianism and (re)enforcement of traditional gender roles, where, for example, men working in the coal mine feel threatened by the climate change mitigation pressures and subsequently started voting for Trump in the US presidential elections (Kojola, 2019). Similar tendencies toward polarization and taking more extreme positions related to environmentalism and activists have been visible in Finland in social media and in the articles in forestry professionals' newspapers, which are more often becoming part of the post-truth media phenomenon with their nonfactual positions, science denying, and hostile claims. The issue is framed and understood, in the deep cores of identity, as defending one's job and way of life. According to Jokiranta et al. (2019: 55), a large part of forestry professionals cannot fathom that there could be alternatives to clearcutting, since that means that they would need to question the validity of the 70 years of clearcutting experimentation in Finland. It is psychologically almost impossible for these forestry practitioners to accept or voice this. Such psychological impediments to moving away from clearcutting's dominance are also linked to patriarchal structures and tight gender roles regarding masculinity and a lack of the emotional skills to allow oneself to be wrong.³ This confluence of circumstances and attitudes

³ According to Jyri Mikkola, there are also many women in the forestry sector and as farm heads, and many men working as key environmentalists. This is a reason he saw that attitudes learned at home and in professional education are more important in perpetuating the current situation. However, Ida Korhonen saw that “although women are active in the forest sector,” there are still strong patriarchal structures in the sector (and among older environmentalist organizations). This impression is formed by her experience of having to be “always a bit tougher, more insensitive, and masculine than elsewhere to be taken seriously.” For Korhonen, a student of forest sciences at the time, “The valuation of this insensitivity and toughness is present also in forest research and communication (who has the right to have an opinion on forests).” To me this kind of view resembles ecofeminist and world-ecology and Amerindian political ontology views. These criticize structural problems, such as the patriarchy and capitalist seeking of profit on top of profit without considering the externalization of costs and the creation of negative value by causing emissions and extinctions. These strands of thought and feeling also guide research attention to the web of life with its existences (Kröger, 2022). These issues cannot be addressed simply by increasing the number of women in an industry without changing its fundamental practices. This kind of understanding of the patriarchal roots of capitalism is aligned with ecofeminism, wherein deep modern nature dualisms are seen as violently structuring many aspects of life still (see Mies, 2014). As Korhonen saw it, “the problems of forest economy are not diminished by hiring women to the sector who have to replicate the same ways of acting and working as men before them to be taken seriously.” Thus, Ariel Salleh (2017) has called for an ecofeminist politics that simultaneously struggles for ecology, gender/class equality, and postcolonialism, broadly understood, including Indigenous ways of knowing and being with the land. This ecofeminism must then challenge the

does not help when trying to solve the polarization, which is spurred on by a culture hostile to discussion in social media and society.

In the current public debate events around forests, such as at the 2021 Environmental Dialogue event on forest certifications (Ympäristötieto, 2021), clearcutting is taken as the norm and CCF is seldom mentioned. The certification schemes such as the FSC and especially Programme for the Endorsement of Forest Certification (PEFC) have been heavily criticized for greenwashing and not providing real solutions to the problems at hand.⁴ The “alternatives” that are presented include leaving a few retention areas or seed tree stands within the clearcut. This kind of logging has increased as a tactic to avoid calling the areas clearcut, but such areas are in practice still mostly clearcut. The critics of clearcutting are framed as pursuing the complete and strict protection of all forests, which is not the case. Forest owners are being manipulated so that they make “premonition loggings,” fearing the EU will protect their forests against their will. This happens also when someone marks their forest as having high nature value (HNV) or a high conservation value (HCV), which leads to them to log these forests before they are protected, as for example Samuel Uusitalo, a rural entrepreneur, shared in the 2021 event where he was talking with researchers and industry representatives.

In May 2024, an activist and scholar battling for over two decades to promote forest conservation gave me insight into the kind of responses in the debates around clearcutting in Finland. Clearcutting is such a “central part of forestry” that “if you want to do something else,” “immediately” someone starts to “talk for example about the storage of forests in a museum, as if just a few percent protection would lead right away to 100 percent, if wanting for example more conservation areas.” These kinds of arguments are typical.

An anonymous politician who is a member of one Regional Council in Finland (Finland is administratively divided into these regional, provincial boards) said to me that “no one except me talks about nature there.” It should be noted that these councils are highly important in establishing landscape planning, possible ecological corridors, and other planning actions that affect forests:

root cause of patriarchal capitalist nature relations. Patriarchy in relation to Finnish forests, land use, and nature have, for example, been addressed by the Skolt Sámi activist and artist Pauliina Feodoroff in the Matriarchy performance part of the 2022 Venice Biennial (Tanssin Talo, 2024). In the critique of bioeconomy visions, especially in Europe, researchers have called these out as having roots in patriarchy and extractivist attitudes and thus sharing their onto-epistemic violence and injustices, not tackling, for example, patriarchy as another root cause of clearcutting besides economic growth fixation (Ramicovic-Suominen et al., 2022). A key way to tackle these issues is to increase care, reciprocity, respect, and recognition of varying existences.

⁴ The two largest certificates in Finland are FSC and PEFC. The PEFC is not really a certificate, a forest carbon researcher described to me in a May 2024 interview, saying that in practice PEFC means just that “the law should be abided.” However, PEFC is still referred to by logging decision-makers as “securing biodiversity, as if following PEFC would secure this.” This certificate “does not secure biodiversity” in forests, but “means that they are in economic use,” with economic forests covering over 90 percent for Finland’s forests.

It is difficult to try to get even green connectivity markings to the regional plan, even those are resisted. There is a strong lobbying in the nature group of the county, many forest sector representatives.... If trying to advance these things in any position of trust, no one knows anything, no one wants to familiarize oneself with [forest protection] ... and then they refer in the committee for example to not understanding themselves [about forest issues], so they follow what the chief forester says, as he is the expert.

This politician saw that the forest sector has been able to somehow fully root into Finnish spoken language that the forest expert is now the forester and that some biologist who knows about forests from a scientific perspective is not an expert. He explained further, “That they do not understand about tree growth and economic viewpoint apparently anything, so they are not listened to, but the forestry expert is listened to. So, in a way that conversation has already been cordoned off, so that we cannot enter into the area of another expert to say something.”

This kind of system-internal power hierarchy and inability to even voice dissent resembles a doxa situation, in terms of Pierre Bourdieu (1991, 1977), where the debate has not even been divided into one between orthodoxy and heterodoxy, with doxa referring to the unquestioned truths in a society, not open to differing opinions which are openly discussed (Bourdieu, 1977). One grows into, socializes into a society, learning in this environment the “truths,” which are, however, created by argumentation by certain entities. The maintenance of doxa is related to creation of expert habituses by practices and language, where it is taken as granted. In the case of Finnish forests, according to the regional council politician, this is expressed through the sentiment “They know best....We have it so that regarding forests, the expert is like a god.” This stance does not allow the decision-makers to use their voices fully in relation to regional planning (as so much of Finland is forest land). Rather, the chief foresters can sideline the actual, trained land use planning experts “who are more deeply trained experts.” It was hard to get any land changed in the regional plan according to them to anything other than forest land, “as this is seen as [an] possible impediment to forest economy. That is really a holy cow, in this province.” There were not tools to their knowledge in Finnish legislation to allow for the creation of green corridors and increased connectivity of the very fragmented remaining natural forests, although the industry claims that Finland is one of the world’s most forested countries.

Especially problematic are the directed mass-scale campaigns that serve to perpetuate false claims. Kajander (2020) lists campaigns funded by forest industry actors and the state that spread erroneous information. Started in 2020, the Forests of Finland campaign (Metsien Suomi, n.d.), spread false information about forest protection through major television, radio, and outdoor advertising. A key message in this campaign is that half of the protected forests in the EU are in Finland, which is not true. The aim is to garner an image of Finnish forest policy

as sustainable and ecologically responsible. This campaign also claims that 13 percent of Finnish forests are protected, but arriving at such a high figure requires counting swamps, fells, and other practically nonwooded areas as forests. It should be noted that it would not even be possible to do clearcutting on many of these areas (such as swamps, meadows, open fells, barren lands, and so on). The 13 percent figure also includes areas that have been conserved only partially, not wholly, and where logging, even clearcutting, are allowed (such as ridge protection areas). That figure would also have to include areas that companies have voluntarily – for the time being – left outside of logging (until the company decides to log them in the future). In addition, temporary protection areas (protected for certain number of years only) are also counted in the figure. This includes the many forests that are important to reindeer herding in Sápmi, which will soon be losing their protection status because Metsähallitus protected them for only 20 years in early 2000s. Therefore, the legally binding share of actual wood-based forest land protection on a national scale is only about 6 percent (Kajander, 2020). Most of these wood-based forests are in Northern Finland, as approximately 97 percent of the Southern Finland forests are on nonprotected lands. The Forests of Finland campaign is being funded by the Finnish Forest Foundation (Suomen Metsäsäätiö), the Industrial Forestry Association (Metsäteollisuus ry), Metsähallitus, MTK, the MMM (Maa- ja metsätalousministeriö), the Bioenergy Association (Bioenergia ry), the Finnish Forest Center (Suomen metsäkeskus), the Wood Processing Engineers Association (Puunjalostusinsinöörit ry), the Forest Workers' Foundation (Metsämiesten Säätiö), and by 380,000 euros of taxpayer money. This is just one example of the widespread distortion of facts and information that legitimizes the continuation of current forestry practices. This has been especially visible in the decades-long dismissal and misrepresentation of CCF, which continues unabated in the current bioeconomy and carbon-capture debates.

There are also many other myths that are repeated by forestry practitioners although science has proven them wrong. Ala-Aho lists three such myths, starting with the claim that clearcutting would mimic natural forest disturbances such as fire, which is myth because after a fire the dead wood stays in the forest, unlike in logging (Siikajokilaakso, 2023b). Second, another detrimental and continuing practice is the drainage that is needed in lowlands after clearcutting, as the trenches are dug to compensate for the lower evaporation caused by removing the trees. These trenches have ravaged lakes and rivers, yet the practice of renewing old trenches continues, even though the RDPE proponents claim that the trenching had stopped. I have personally witnessed these differences when I have walked in forests before and after clearcuts. After clearcutting, the shallow and walkable old, moss-covered trenches have been dug very deep, much deeper than ever before. Third, there is an understanding that taking dead wood out of forests would be

a virtue as this practice makes forests “hygienic” and there continues to be buyers for the dead wood. However, retaining this wood in the forest would also be economically beneficial as dead wood is the home of thousands of forest species, including the natural enemies of the tree-eating pests and parasites that have recently turned into an epidemic that significantly impacts the health of forests and paradoxically drives the further expansion of the clearcutting–plantation nexus, especially in old spruce forests. Ala-Aho sees that “we have become estranged from the natural cycle of forest,” and because of this estrangement “insane decisions on forest health and biodiversity” are taken, such as removing the dead wood (Siikajokilaakso, 2023b).

Myths are often spread from current forestry professionals to forest owners. For example, these forestry professionals claim that CCF would be suitable only in certain places and times, or it would weaken the quality of trees and forest wood; however, these claims mostly do not apply if the method is used correctly. These claims are perpetuated by different actors in Finnish forestry, for example the MHY. The director of South Karelia’s MHY, Markku Vaario, argued in 2019 that adopting continuous cover forestry “is not advisable” as “it is not an economic solution to the forest owner” (Tolpo & Hakkarainen, 2019). However, the forestry specialist Aapo Latvajarvi from the Pirkanmaa MHY argued that there are some exceptions; for example, he asserted that the economic returns can be the same or better in CCF, in an optimal situation (Tolpo & Hakkarainen, 2019). Currently there is a growing body of rigorous academic research in forestry analyzing the best forestry methods (e.g. Lundmark et al., 2016; Pukkala et al., 2011; Rämö & Tahvonen, 2014). The growth of this kind of academic research was especially important in pushing for the 2014 repeal of the CCF ban in the new laws (Forest Act 1085/2013 and Forest Decree 1308/2013). Even with increased popularity of the research field, CCF literature remains scarce in comparison to RFM literature (Parkatti, 2021).

In sum, there is a very deep-seated narrative where Finnish forestry has been framed as a sustainable, world-class system that can be and has been exported abroad. The so-called successful Finnish forestry model is used abroad to market mega pulp mill projects to the Global South, where people wish to develop as Finland did. However, this cannot and will not happen in these areas of the Global South as the Finnish corporations own or control the bulk of the lands, not the local small forest owners as is the case in Finland (Kröger, 2013a). Challenging forestry in Finland means stepping on the many vested interests that form the core of the Finnish node of global forestry capitalism. Finland is a frontrunner and core proponent of global forestry in terms of selling pulping plans, machinery, knowhow, and worldviews. This generates huge revenues for those working in the broader forest consulting and technology sectors. Thus, what happens in Finland and its moral

economy does not stay in Finland. There have been truly global repercussions due to how the key players in Finland understand forests. In this overarching climate and moral economy, resistance means challenging a development narrative where the stench from pulping processes is called the “smell of money” in Finnish pulp mill towns.

Who Would Lose with Diminished Clearcutting?

In trying to understand who has the interest and motivation to try to retain the clearcutting–plantation RDPE, it is useful to look at who stands to lose their established business revenues if clearcutting is reduced and/or the pulping model is challenged. To begin, Finland’s largest forest management consulting company, Tapiio, which is owned by the state and whose tree seeds account for about half of the currently planted Finnish forests (Tapiio, *n.d.*), would lose massive revenue streams if clearcutting is curtailed as there would be less demand for tree seeds and saplings since they are not required in the same way under CCF practices. Thus, in their advising there is strong interest to give preference to clearcutting methods. In addition to the one-on-one work they do with forest owners, they also publish *Metsälehti* (*Forest Magazine*), which has approximately 200,000 subscribers and is the major opinion forum among private and other forest owners. Given their reach and dominance in the market, they are a key professional organization for forest management, but they also own the companies that produce the saplings.

In the 1980s, Tapiio and the regional forest boards (also called Forest Centers) produced over 80 percent of the saplings used in reforestation, which were “sold by force to reforesters” according to Lähde (2015: 77). One had to clearcut, one had to replant, and there was an almost monopoly by the state company in providing the saplings and seeds. Due to this conflict of interest, during the 2000s the MMM recommended that Tapiio and the Forest Centers would give up their own sapling and tree seed production (Halkonen, 2013). In 2013, Tapiio, the Finnish Forest Center, and Tornator sold their Taimi-Tapiio firm to its two acting directors. Taimi-Tapiio was the second largest sapling company in Finland, producing approximately 25 million saplings annually (Vaara, 2013). This example shows how benefits are shared in a closed-in group of company directors within the Finnish natural resource sectors. I say sectors here because the measures taken in forestry are also typical in the mining sector (Kröger & Lalander, 2016).

In addition to the conflict of interest outlined, MHY, which are regionally based, profit-making companies whose membership was obligatory until 2014, have sales targets for saplings, fertilization, tillage, and other measures that cost and are sold with the clearcutting–plantation package. Due to the need to meet specific sales

targets, these regional forestry experts have an incentive to recommend as many maneuvers as possible in the forests. This is at odds with what the professional role of MHY is supposed to be as they should be offering objective advice about different methods. In 2021, in one MHY team the sales targets were as follows: 275,000 saplings, 137,000 plantings, 125 hectares of land modification, 200 hectares of young forest thinning, 125 hectares of fertilization, 42,500 m³ of wood sales by warrant, 5,750 MCM of harvesting services (including energywood), 1,250 hectares of forest planning and evaluation services, and 25,000 meters of trenching. In the tweet that shared this internal document, the commentator Jussi Alanko (a writer who has published books, including one on the massive negative impacts of forestry-driven bog drainage on lakes and emissions), argues that “A forestry professional must sell all kinds of nature-destroying services to forest owners. They generate profit for MHY. Recommending continuous tree-growing is unprofitable for MHY, so it is dissuaded in every way” (Alanko, 2021). Yrjö Haverinen (interview, April 24, 2024) put this bluntly: CCF would allow “amassing the paycheck every twenty years,” which would be “much more nature friendly forestry in comparison to the current rotational [RFM], where all are logged at once and even the natural seedlings are crushed, and then saplings are bought expensively, and the ground is broken and thus soil organisms are destroyed.” He said that new teaching material about CCF should be created, forestry schools should adapt this, and MHY should adopt these teachings in their advising repertoire. “As a simple answer has been, that there is no information. And who would like to bring forth their ignorance,” Haverinen said in his interview, referring to MHY and other forest professionals on advising about CCF.

CCF does not require so many salable forestry services. In 2019, the WWF found in a survey among forest owners on their experiences with the MHY, that about half of the owners were not asked by MHY what their aims and wishes are in relation to their forests. Only one-third of the forest owners had been offered the option of CCF or were even told about the possibility of joining the forest conservation Metso program (Fritze, 2019). The situation is now problematic as the MHY should be the organization advancing the interests of forest owners, who are MHY members, and thinking of their best interests. Yet, there is a conflict of interest as MHY sell forestry services, with forest owners and taxpayers (in the form of industry subsidies) paying the costs of this cheap wood strategy. According to surveys, in 2011 a quarter of forest owners were ready to change to CCF, which was not allowed until 2014, and half were interested in knowing more about the method (Jokiranta et al., 2019). Haverinen saw that if the MHY, MTK, “and others that should defend the side of the forest owner” would give good advice, it would start a “total” distribution of information about CCF to the “field,” “then there would be hope that this would start to change a bit more nature friendly, this

concept of forest.” The forest industry would “still get a good amount of wood” by CCF, but “should invest much more in research, new products with less wood.”

Solution Suggestions

In the current uncertain world situation with rapid, unexpected changes in climatic-ecological conditions and a growing danger of crises and problems, the CCF system is a much more reliable way to manage forestry. This is because it allows and relies on making logging interventions much more often (every 15–20 years), whereas the RFM system, with its end clearcutting happening only after 50 years or more, produces mostly just cheap pulp and energywood. Under the CCF model one can adjust the growth and at the same time pursue other-than-wood growth aims. This system also allows for new tree species to take over, which is important as the climate rapidly warms. In addition, when the species are more varied one can more easily avoid the danger of pests and diseases that could strike and devastate an even-aged monoculture. That said, while CCF is a more beneficial form of logging than RFM when considering forest nature and human needs according to current knowledge, there should still be areas conserved and left outside of forestry altogether. There are also many types of CCF definitions and practices, some that are not great for forest ecosystems – the misappropriation of the term is also a problem. Furthermore, some critics of CCF have argued that in some cases CCF could be used to justify the extension of forestry to natural or old-growth forests, which have been left aside thus far, arguing that this milder forestry could be used in these places. I experienced this personally when the old, beautiful forest I had been walking through in our family lands in Eastern Finland was logged by CCF. Even this method completely transformed the forest to such a point where one could not walk there anymore. After that logging, done badly by a heavy machine, the rest of the trees next to the clearcut area have fallen in storms, which has meant that now the whole forest has turned into a clearcut, as the fallen trees have been taken out (see [Figure 9.2](#)). The best in that situation would have been to not to touch the forest at all, or treat it as my grandfather did, taking out just a few trees each year by chainsaw and pulling the trunk out with a winch behind a small tractor from the roadside in the winter, taking care even in the details of the forest landscape, so that it remained beautiful and walkable.

In general, there seems to be a tendency and a real danger that the pulping-plantation RDPE adherents may tarnish the reputation of CCF as a concept, by making harvests that they call CCF, but which are very badly done or should not be considered CCF. They can use the term as an excuse to enter new areas. For example, Metsähallitus had an earlier rule to not log above a certain altitude, this applying mostly to areas in Northern Finland. Now they have started to say those



Figure 9.2 An example of an old, natural forest, which was first logged by CCF, but then clearcut as the remaining trees fell due to the clearcutting of an adjacent forest, usage of heavy machinery damaging roots, and winds. Since this photo was taken even the remaining trees have fallen or been felled, the clearcut expanding itself in this way naturally. The image also shows the heavy footprint of the harvester's muddy tracks. Northern Savo, June 4, 2021. Photo by author.

areas can be logged by CCF methods, which is against the tenets of CCF as coined by its key proponents, for example Erkki Lähde, Timo Pukkala, and others. Forest activists managed to discontinue the loggings in Karttimonjoki, Suomussalmi, by Metsähallitus, which in 2020–2021 started to cut down an over 120-year-old forest with over 350-year-old trees under the guise of doing “research” on CCF methods.

Greenpeace wrote that this 129 hectare forest had several endangered species living in it and forests like this should be protected by the EU biodiversity strategy and by the guidelines of Metsähallitus (Greenpeace Suomi, [n.d.b](#)). Jyri Mikkola from SLL was the first among the environmentalists to make a survey on Karttimonjoki, which was then continued by Luonnonmetsätyöryhmä (a natural forest work group). He explained to me that the CCF researchers of Luke rigged this logging, which was unintelligent, which is the reason he and others participated in a resistance action and managed to postpone the start of the loggings.

Once the loggings started, Greenpeace took over and managed to stop them. I will return to the Karttimonjoki case in more in detail in [Chapter 10](#), on resistance.

Another issue is cities that are purporting to be “green,” such as Lappeenranta, which has a dominant and hegemonic paper and pulp industry (the UPM Kaukas mill and Metsä Group pulp mill). According to local experts I interviewed, Lappeenranta actively and savagely logged inside the city and within people’s beloved neighborhood forests to guarantee cheap wood flow to the city pulp mills. For example, the city ravaged a beautiful forest that originated in the 1890s in Voisalmi, which caused the local people shed tears when they saw the forest was gone ([Värtö, 2022](#)). A local politician shared with me that the problem is the overarching power given to the city chief forester, who responded to calls for turning to CCF by claiming this would “cause carbon sinks to become clogged up and other similar stuff,” myths that researchers had showed were wrong. However, currently the chief forester claims that CCF “would be applied,” for example in this Voisalmi loggings “where he had done these with his own so-called expertise … taking out for example all the underwood and turned the ground upside down.” An expert shared with me the following, “I have a bit of a fear that this continuous cover forestry is quite a wild jungle, that you can claim to be doing it in many ways, and that kind of expertise single people do not necessarily even have.” The expert continued to share that the bulk of loggings still focus on plain clearcutting with no talk of CCF. According to a city councilor I interviewed, even the paper companies would be more careful not to log inside the city perimeter in such a way, but the chief forester – and the city decision-makers in general – have an old-school understanding where they support heavy forestry and want to ensure enough wood from city forests to the companies. “No biologists work for the city … and [the] biodiversity program was created only a year or two ago,” “and forests have been left out of the biodiversity program although about 70 percent of city land area are forests,” commented the councilor (interview May 2, 2024). Yet, all this did not bar the city from being granted the European Green Leaf 2021 title by the European Commission and boasting that “nature and green values are centerpiece to our actions” ([VisitLappennranta, n.d.](#)). It is in these moral economic struggles and power hierarchies that CCF has entered as a potential tool to be wielded to support not only milder harvests, but also to frame whatever actions under the guise of CCF, to garner support for logging expansion.

A key bottleneck for the more nature-considering and milder version of CCF (there are many variants of CCF, some focusing more on profit and thus having more negative impacts) is also the availability of suitable harvesters, as most are currently too heavy and big. Heavy harvesters do, however, also have an advantage of having the mass and power to make the needed precision fallings (that do not damage the other trees remaining in the forest), Jyri Mikkola shared with me.

While some CCF experts are developing suitable machinery, there would need to be a more general change in the forestry model so that large machinery companies would start to make their machines suitable for CCF. Now the lack of harvester drivers who know how to do CCF loggings, or the absence of harvester heads with modified parts for CCF (the crane and harvester heads), are used as excuses to not do CCF. Additionally, much more general expertise is needed. Although there are now some companies offering advice on CCF, this information should be streamlined across the MHY of the country, updating their business packages and knowhow of their personnel. Currently, new forestry consulting companies have been created by the experts on CCF, these competing with the MHY, including the Yhteismetsä Tuohi, a jointly owned forest, pooling private forest lands, treating them with CCF based on their expertise, generating “yield without clearcutting” to their shareholders (Yhteismetsä Tuohi, 2023). A forestry expert, who is also a part-owner of the company, said to me in a May 2024 interview that, based on her experience, they have a CCF forester, Jussi Saarinen, “who goes to look at each tree locally.” They also have expertise in planning and use of forestry machines, which has generated “good results” for forests “and money to the account quite often, so it works.” The situation is more worrying when a forester who is used to clearcutting “just looks through the Tapiio [general CCF] recommendations and then goes on and blindly follows”⁵ just a part of them, possibly not even watching over the logging or advising the harvester driver. “Then saying this is CCF can turn the public opinion against it.” She could see this scenario play out in Finland in areas under the weight of the forest industry if this is the way CCF is starting to be applied.

Therefore, while the book *Muuttuva Metsä* (Juntti & Ruohonen, 2023), a guide to CCF, details the pros and pitfalls of CCF, it struck me while reading how the key systemic power of the pulping RDPE was left practically unmentioned. While I understand the reasoning of not wanting to create enemies in the polarized atmosphere, reading the book made me realize there is much more need to speak out about the actual power relations and structures, which are likely to make the advance of CCF much harder than now described in *Muuttuva Metsä*. There, it is shown how CCF has grown slowly but steadily since 2014, so that now over a sixth of all forest owners say they have turned their forests completely under CCF and a much higher proportion say they have turned a part of their forests to CCF. However, this drive of CCF expansion needs to face and overcome the vested interests of the pulping–plantation industry, as this is pretty much a question of whether to produce cheap wood pulp or sturdy trunks. There are many different

⁵ One informant argued that one “needs to have goodwill” to find the good CCF recommendations from the Tapiio list; however, the list itself “is good.”

bottlenecks for transformation to CCF – principally, the role of MHY, “their level of knowledge and expertise,” and “then these chief foresters and similar” figures taking care of the implementation of forestry, as an expert explained to me in May 2024. Other, emerging bottlenecks are the generational transition of forest ownership to younger generations who often live far from the forests and do not know about forestry. It was explained to me that they “treat their forests then through the local MHYs, these just telling [them] what to do.” In these situations, forest stewardship and “all expertise” have been “kind of outsourced.”

Forestry for the Future

The climatic-ecologic disruptions and collapses expected in the coming decades might help in fostering a change in attitudes. However, it is hard to know what will happen in the future, as in the worst case, it will first become warmer and then the Atlantic meridional overturning circulation (AMOC) will be disrupted and average temperatures will drop about 20 degrees in winter and 5 degrees in summer in Finland, making the weather very cold (Finnish Meteorological Institute, 2024). Volatility like this is too much and too rapid for trees to adapt. Due to the possibility and likelihood of such extreme climatic events, existing models of forest growth, based on long-term data and test sites, are becoming less useful. “They are of no use, as they are so long,” argued Jyri Mikkola in our interview, “those conditions in that past 50-year period” are so different from current conditions that “part of that information is unusable.” Change should therefore be fast in forestry practices, toward adaptability and biodiversity of trees and other life, but this change is “being hindered by the people in the forestry field still clinging onto” clearcutting.

The current situation with high clearcutting rates and the negative effects on the climate, ecology, as well as the forest economy, could be eased through government decisions. The Finnish government has retained high yearly demands for Metsähallitus to sell wood because these sales count as income for the state’s yearly budget. This demand could be lowered and Metsähallitus’ freedom to log on its own initiative even above the actual demanded amount should be curtailed by capping the income level. In addition to these more direct means of decreasing overlogging, the state could make a strong indirect impact by not building or financing the required infrastructure to continue forestry extractivism and by putting in place stricter permit requirements for large investments. It is important to implement these changes sooner rather than later, as the window of opportunity to avoid catastrophic, cascading climate disruptions might be closing.

It is estimated that there will be a dip in the availability of wood from Finnish forests around 2040–2050, due to the bulk of clearcuts and plantations done after the WWII coming to an end-harvesting age around the same time. The current,

expensive machinery and pulp and paper lines will also be needing renewal by 2040 and it is likely that many mills will not be directly replaced, but rather just a few large mills (one to three) will replace the many medium-size mills (Kauppi & Kettunen, 2022). These tendencies suggest that around 2040 there is likely to be a major decrease in the volume of wood industry, as mills are not replaced and raw material is diminished. Some analysts estimate that there could be major downsizing of paper mills already in the 2030s, which would lower the price of wood and increase the amount used for pulping, and thus possibly further drive the pulping tendency (Donner-Amnell, 2024b). In this, there is also a slight difference in the focus on pulp or papermaking between companies. Stora Enso and Metsä Group have focused more on the pulping side, while UPM on paper mills.

However, this is the scenario if there are no major climatic-ecological disruptions, which are highly likely to take place. It is expected that especially expansion of beetle infestations will cause havoc to spruce forests, even younger ones, which will be cut even at 40 years of age for pulp and energywood. When wood is cut before it is log-size the losses are borne by those who have paid for the planting. In addition to pests, other events are likely to decrease the amount of reliable, good harvests available, for example, extreme weather, snow, drought, fires, diseases, and other yet unknown events. While these scenarios are known by climate science, they are seldom considered in the forest forecasts, which operate and see the world as if we are still be living in a stable Holocene. Next, I will delve into the new generation of forest resistance that frames the forest industry actions as driving the climatic-ecological crisis.

10

New Resistance to Clearcutting in Finland

Finland has an established tradition of protests at harvest sites by organizations like Greenpeace and Luontoliitto, which have affected the national-level and local policymaking. However, long-term daily Finnish forest activism has focused on observing public announcements or public permit applications for large, scenery-changing loggings and then activist experts have tried to convince the loggers not to log. A strategy here is to discuss the logging in question with local branches of the SLL. Activist Minka Virtanen (interview May 12, 2024) told me that because these permits are public and can be followed by forestry activists on a national level, they are one key knowledge source about where logging is planned in the natural or old-growth forests managed by Metsähallitus.

Seasoned activists and experts in the Finnish forest context, for example in the SLL, have also focused on building the knowledge base on the impacts of clear-cutting. In Yrjö Haverinen's view, when "so much factual information is known it cannot be denied or sidelined." In an interview with the author on April 24, 2024, he continued that, in his estimation, in the face of these truths even the forest industry "needs to think" how forests are handled in the long term. The NGOs have shed light on the aspects of forestry that are not brought up by industry or the state. This approach to activism is more akin to the older Finnish way of relying on expert knowledge, the power of information and facts, and soft negotiations behind the scenes directly with decision-makers. Jyri Mikkola from SLL saw that the rise of the new generation forest movement reflected "how far Finland's forest situation still is from where it should be." He added that "also the younger generation representatives have the will to act to remedy this." In this chapter, I will discuss this new resistance and the ways resisters have approached forestry activism in Finland.

Metsäliike, which is linked to XR and distinct from the wider forest movement, has organized many protests to demand that the devastation of forests be stopped, especially on state lands. As part of the broader forest movement, the



Figure 10.1 A march for nature that happened in the center of Helsinki. Photo by author.

2018-founded Meidän Metsämme (Our Forests) social movement has focused on organizing forest dialogues with all stakeholders to affect experts, researchers, and locals (Meidän Metsämme, n.d.). In contrast, Metsäliike has been more radical and focused on civil disobedience. For example, on February 9, 2023, I observed a protest in the streets in front of the MMM, which is in the heart of downtown Helsinki and near the University of Helsinki (see Figure 10.1).

The protestors demanded that the state stop logging in the Aalistunturi area in western Lapland. Ida Korhonen, an activist in the movement and one of the key characters in the prize-winning *Havumetsän lapset* (*Once Upon a Time in a Forest*) documentary film by Virpi Suutari (2024), spoke at the event. She had recently arrived from Aalistunturi, which at the time was covered in thick snow, and where trees were being harvested by machines. They had also been protesting at the logging site when the multiple police had come to forcefully remove the protestors. Ida shared her thoughts in the rally about why she participates in the movement (translated from Finnish):

I do not want nature to disappear ... [there should be] no factories, no log piles, and no heating plants, but the peace of a fell top ... and I no longer want to just watch as nature

disappears around me. I do not want to remain sleeping, I go wading in unbroken snow. To create a new history. Hello trees. Either we stay standing or we fall.

Korhonen spoke in the rally about how Finland has had a long history of forest activism, where people have risen against the destruction of nature, and that it felt great to be part of this history. She continued:

But at the same time this is really awful, since as we have a history of forest activism, we also have a history of destroying the nature. We have a state that systematically ravages, exploits our nature ... we are in a situation, where we need people to go camping in the middle of a logging road in the middle of the winter. It makes me really sad. Since I think Aalistunturi is a pretty perfect example for what is happening in Finland. That we have locals who make a proposal for a national park for a certain area and in a couple months, look, there are hundreds of hectares of logging plans for that place.¹

By this, Korhonen was referring to the area being suggested for the creation of a national park, as there are very few old-growth forests, nature areas, or national parks in that part of western Lapland. This is a telling example of how pro-forestry Finnish powerholders, such as the current Orpo government and its Minister of Forestry and Agriculture Sari Essayah, seem to systematically try to ensure that conservation is kept limited, which in turn dooms many of the remaining forests. The threshold criteria for forest protection in this concept is too high now, argued Jyri Mikkola, although some state lands are also moved away from economic use. The focus of the Metsähallituks has been on state forests, as it would be problematic to target the hundreds of thousands of private forest owners, many of whom gain an important part of their income from forestry. However, the logging carried out by Metsähallitus represents only 8 percent of all logging in Finland and the bulk of wood availability is decided by private forest sales (Frilander & Eskonen, 2020). Furthermore, there are about 50–80,000 hectares of state forests whose conservation value would be as high or higher than the Metso private forest conservation areas, making the protection of state forests more efficient (and less costly) than buying private areas for conservation (Frilander & Eskonen, 2020). The problem is that the state is letting forests be logged that would have at least the same value if protected as what they are spending to buy forest from private owners elsewhere to protect, Jyri Mikkola argued during our interview. Along these lines, Korhonen asked the protesters during the demonstration:

In the end this is about people going to defend something that is dear and important to them, which the state is trying to destroy. State forests are not of the Metsähallitus or of

¹ According to Jyri Mikkola from SLL, the proponents of the new national park had submitted the proposal to the Ministry of Environment, “thinking naively that the ministry would inform the Metsähallitus,” but instead the proposal was not distributed. The logging plans were made public therefore possibly before the national park proposal, but it is hard to ascertain the order of events, as some logging plans were issued even after the national park proposal became public. In any case, argued Korhonen, the park proposition was undecided, while Metsähallitus was able to carry out extensive loggings.

those people who made the national park proposition or us protesters, who camped there. State forests are common forests of us all and Metsähallitus should care for those forests according to the wishes of the forest owners. Or what do you think? Is Metsähallitus caring for our forests as well as we would like it to?

To this, the crowd replied by shouting: “No!!!,” after which Korhonen exclaimed how Metsähallitus “logs natural forests, conceals information, lies … fearing that researchers may find and protect natural forests. And at the same time Metsähallitus claims that we do not log any natural forests anywhere … we all know that they are being logged all the time.” Korhonen reminded the crowd that according to many surveys most Finns want more nature conservation and that it is high time to compensate for the logging that was done to create the welfare state. People can best pay nature back by protection and restoration.

There is also an important nonanthropocentric view of community present here that includes humans and forests being discursively reflected and built in the mobilization, which is a big difference in comparison to the materialist, economicistic, rational, and human utilitarian view to forests by the industry proponents. Korhonen was able to articulate this:

When I speak of our forests, I do not mean that they are something we own, to what we can do whatever we want. I mean that in the same way as when I am speaking for example of our family or my friends. I do not own them. But we share some important connection and companionship. It is our nature, nature to which we belong. Nature, to whom we belong. Our forests. Our forest economy, our responsibility.

Korhonen emphasized that what happens to nature and forests is the responsibility of everyone, but especially the people elected to parliament and those working at the Ministry. However, each blames the other for ordering or retaining clearcutting, for example in Aalistunturi. Metsähallitus asserts that they are ordered to act by the politicians, while the politicians insist that Metsähallitus has the autonomy and liberty to do what it wants. This maintains an image that no one is ultimately responsible, which is a common feature in RDPE settings where blame, responsibility, and agency are rarely assigned to the powerholders, as they often refer to these processes as running by themselves. Korhonen called for accountability:

Let’s ensure that these entities, Metsähallitus and the Ministry of Agriculture and Forestry take responsibility for biodiversity loss. Start to do real deeds to stop nature loss or at least stop the systematic advancement of nature loss … since I do not want any more a continuum of forest activism in Finland. I want a continuum of decaying wood. I want biodiverse forests … and until we get them, we will protest … if needed every day for the next seven years, so that we can ensure that biodiversity loss is really discontinued by year 2030 … before it, let’s see [each other] at streets and squares and logging roads and sites and pulp mill gates … [and] forests.

In this setting, with growing pressure toward a shift in business as usual, some corporations have taken reformative measures in their harvesting policies. For example, according to Jyri Mikkola, UPM has followed the FSC certificate demands and placed at least 5 percent of its productive forest land permanently outside of loggings. The company has also said it would not completely clearcut about 6–7 percent of its forest areas (some of these are drained spruce bogs). The Tornator and Metsä Group have similar initiatives, which seem like cosmetic changes in the overall picture, but which Lassila (2021) argues should be understood in the historical context where any idea of nonclearcutting harvesting was unheard of for decades and CCF was almost a “swear word to many forest directors.” Clearcutting in bogs is particularly harmful for the climate and water and companies fear this may be prohibited soon, which is a reason they might be trying to change some practices preemptively (Lassila, 2021).

New Media Activism

In March 2024, the Finnish government indicated that it would oppose the EU’s Restoration Act, which is a move made in collaboration with the Orbán government in Hungary. Critiques on social media platform X (formerly Twitter) were shocked by this alignment with Orbán’s far-right regime, which is openly hostile to nature. In a discussion of the EU Restoration Act on X on March 21, 2024, commentators referred to how the pulp industry has captured and dominated the Finnish government and several political parties’ key agendas. @NiklasKaskeala (Kaskeala, 2024) argued that the Finnish and Swedish forest industry, through their lobbying, managed to overturn the Restoration Act, “One sector firmly stuck on the wrong side of history manages to keep as a hostage the actions of the whole Union to stop nature loss.” To this, @TarmoKetola (Ketola, 2024b) added, “This is starting to get absurd when an industry that is becoming all the time less and less productive and employing is holding the rest of society hostage in its arsing around.” In another posting on the Restoration Act, @MariPantsar (Pantsar, 2024), the director of the Kone Foundation “Metsän puolella” (“On the Side of the Forest”) initiative, argued: “I thought the government would no longer be able to surprise with its anti-nature and anti-climate nature. I guess I was wrong again. #restoresetting [*ennallistamisasetus*].” Another commentator, @MaiKivelä (Kivelä, 2024), a Left Alliance MP, tried to explain how it is not beneficial to Finns and forest owners to go against the Restoration Act, “The restoration regulation is about the possibility of using money to improve the state of Finnish nature, while at the same time employing Finnish people, above all those living in rural areas. In other words, the restoration money is directed to Finnish landowners, machine operators and contractors.” In the end, on June 17, 2024, Finland, along with five

other EU states, voted against the Restoration Act (all of these, excepting Poland, have a right-wing government with a strong populist party), which was however passed, as, surprisingly, the majority of countries supported the Act.

These remarks are telling of the contemporary debates around clearcutting in Finland. In the past few years, many good new books critical of clearcutting in different ways have been published in Finnish. *Huuto kaupunkiluonnon puolesta* (A Yell for City Nature) (2022) explores how forest loss extends even to the cores of city forests across Finland, as city planners are ravaging forests for intensifying urban building. In the book, one of its writers, Sanni Seppo (Kanninen & Seppo, 2022: 255–256), asks while walking in a beloved forest under threat of being cut:

Would it be better for me not to wander anymore in forests, not to enjoy and become attached, as this is always followed by anxiety for the loss?... Should I say farewell to the forest now or start to fight for it?... Shall I struggle, although knowing that any obstacle [to logging] I find can be overturned, and they can always make an exception.

Similar tension between worry and action is reflected in *Puut puhuvat* (Trees Talk) (Forsberg & Jussila, 2023), inspired by Simard's (2021) *Finding the Mother Tree* and based on in-depth experiences of the Finnish Natural Heritage Foundation members, as the foundation buying natural forests for permanent protection (Finnish Natural Heritage Foundation, 2023). The book includes a long history of maternal forest relations in Finland, broken by the arrival of agriculture, Christianity, and paternalism. *Suomalainen metsäkylpy* (A Finnish Forest Bath) (Leppänen & Pajunen, 2019) explores the health and other myriad benefits of natural forest exposure and forest walks. The book also has an extensive discussion on the long-term history of forest relations in Finland before the modern forest industry, where forests and trees were central for culture, religion, and livelihoods. Juha Kauppinen (2021), a long-term nature activist and journalist, records the past decades of history of environmental activism in Finland, including those movements against clearcuts in the 1970s–1990s. In his book, *Heräämisiä* (Awakenings) (2021), he also details how one can become an activist in practice. These are just some examples – besides the other recent references in this chapter – on how scholars and activists are now becoming ever more active in voicing dissent and dissatisfaction over the continuation of clearcutting. This forest activism has spread in concert with a general resistance to rampant mining expansion and demands for climate action.

The Kone Foundation (2023) has started a new major funding scheme called “Metsän puolella” to support research and action around natural forests in Finland and internationally. The Foundation has given grants to many key activists, for example XR, and to a broad group of nature surveyors who worked across Finland mapping valuable old forests that should be conserved. After this enormous work,

this survey yielded a detailed and updated map on where to conserve first, considering biodiversity and importance. However, the government disregarded this mapping project and instead initiated its own mapping project, which experts have called a notorious debacle of continuing to sideline expertise and creating window-dressing to push down the bar of what can be clearcut, thereby decreasing conserved forest land size. Haverinen from SLL argued that the criteria that these Kone Foundation-funded mappers have used when evaluating forests “should be accepted by the government and politicians.” The mappers identified 201 public forests (totaling about 60,000 hectares) between 2020 and 2023 around Finland that should not be logged (Greenpeace Suomi, [n.d.a](#)).

The government announced in early June 2024 that it will water down the criteria for defining old-growth forests in Finland, making the criteria so strict that according to researchers and environmentalists, such as Panu Halme, there will be practically no old-growth forests left in Southern Finland because everything will be allowed to be cut (Hallikainen, [2024](#)). Green Party and other politicians criticized this as a scandalous rigging of ecological criteria, demanded as part of the EU biodiversity strategy to end nature loss. For example, Ville Niinistö, a Member of European Parliament (Greens), tweeted on June 5, 2024, “The impudent attempt to falsify the criteria for the old forest, so that the forests would not need to be protected, is completely exceptional in Finland. The EU Commission has the authority to intervene in an unscientific definition” (@VilleNiinisto; Niinistö, [2024](#)). The decision was made on June 3, but still on June 4 Orpo met with the Finnish Nature Panel (an independent panel of scientific experts, consisting of leading researchers gathering research data for decision-makers) to pretend his government would discuss the issue with researchers (as he had previously promised that old forests would be protected), which Kaisa Kosonen from Greenpeace saw as a sign of the current state of “science-based decision making” (Kosonen, [2024](#)).

Latest Conflicts and Trends

There is currently an unprecedented urgency in Finland to retain and protect conservation areas, as the status of Natura 2000 and all conservation areas is put into question by Anglo American, which has carried out – with state and police backing – mining prospecting on top of the Viankiaapa Natura area in Sodankylä, Northern Finland. This prospecting was resisted by the Metsäliike and XR activists in the spring of 2024, by actively blocking the machinery at the entrance (see [Figure 10.2](#)).

The activists fear that if this activity is allowed, all companies, including pulp companies, can start logging inside conservation areas, making them de facto unprotected. If these activities move forward, the so-called green transition can be



Figure 10.2 Protesters from XR block the entrance to the Metsä Group Kemi pulp mill complex. Kemi, Finland, September 2023. Photo by Elokapina.

considered more important than previous nature conservation legislation. The fear is that then companies would be allowed to enter protected areas, claiming they are doing this for the “bioeconomy” or “green transition,” Ida Korhonen told me in May 2024.

Meanwhile, the state has not been willing to grant self-governance rights to the Sámi, in fear of them attaining too much power to make decisions related to land use in Sápmi and thus, be able to ban all logging, mining, and wind farming. Therefore, the increasingly vocal movement of Sámi activists, and especially young Sámi activists, for their rights can be considered as an important part of the overall resistance to clearcutting in Finland, as most of the remaining old forests are in Northern Finland. The delimiting of Sámi rights as an action is aligned in this sense with retaining extractivisms rather than protecting nature.

However, slowly more and more people have started to defend forests, questioning the story from the forest industry that clearcutting would be sustainable way to interact with the forest. This growing expression of grievances also brings into question the framing that only those who own forests have the right to decide what happens to them (meaning in practice they have the right to remove them).

Typically, this forest activism starts with nearby forests. For example, on February 16, 2023, in Isnäs, a village in Loviisa, a local millionaire forest owner decided to clearcut and sell his forests to UPM. These forests were next to a school in the middle of town and were widely loved by the children. The locals resisted this and the parents of the children tried to block the clearcutting – although eventually most of the forest was destroyed, which shows the power of the RDPE. This example shows how people have started to defend loved places and dare to question the legitimacy of the current forestry system to act as it wishes. In the end, 16 hectares were logged, while about 5 hectares next to the school were retained, in a solution UPM called a “compromise,” due to the local resistance (Joukanen, 2023). Greenpeace noted how UPM company representative gave untruthful answers to questions from the children before the logging. When the children asked what would happen to the animals in the forest, the UPM employee responded that “nothing would happen to the animals” and that the animals “would continue to live here as before,” and that a “new home would be found for them” (Joukanen, 2023). In fact, such claims are representative of the underlying extractivist mind-sets and myopia that are required to carry out the foundational violence that is required by those in this line of work. Existences must be denied and hidden in the process of destroying entire habitats. For those that operate inside the extractivist and deforesting RDPEs, the range of existences actively registered and realized in their minds is very limited. This allows them to perpetuate the falsehoods that dominate the thinking about what happens to other living beings and their homes with clearcutting. Children have not yet succumbed to the trap of nontruths about existences that is omnipresent in modern consumer societies.

I tried to ask several activists and experts for some current examples of successful resistance against clearcutting, but, for example in South Karelia, the answers from the SLL regional environmentalists were bleak – with none really during the past 20 years. A Lappeenranta-based activist told me that, “I do not see any [successes] here, no victories. Or then they are really marginal,” such as possibly allowing CCF in some municipalities in theory, or agreeing on some spoken level that CCF should be favored on peat lands. Other locals also answered that there are no successes, as the clearcutting has expanded so much since 2014. However, Jyri Mikkola thought that there were some successes, “but not many,” including the forest-preserving alternations to the forest plan in the city of Imatra (which also has a major pulp and paper mill, owned by Stora Enso). However, in the bigger picture the situation remains bleak. This dire situation is the current reality; therefore, this book has focused far less on resistance and their successful strategies than my other books. This reflects the reality of the deforesting RDPEs that are currently in power. This means that first the root causes of the RDPE need to be identified, to be able to even understand the situation. Once the situation is understood, then it

is easier to start to affect and improve the situation. Even to talk about these things in Finland felt “therapeutic” for many informants, as many told me at the end of their interviews they have felt so alone under the crush of the pro-clearcutting and pulping hegemony.

In the past few years many former forestry professionals have turned to forest activism, trying to conserve forests by voluntary mapping and being active in conservation NGOs and movements. For example, Yrjö Haverinen (interview April 24, 2024), trained as forest products engineer at the Helsinki University of Technology in 1971, has been active since around 2010 in the forest conservation efforts in South Karelia. Previously, he worked for years for the Kemijärvi and Kuusankoski pulp mills and was a trainer for new paper engineers. As time passed, “the more worried I have become of the background history of Finnish forest industry. That greedy wood use, forgetting other things except mere wood growth, that forest is also so much more.” He thinks the root cause of the current clearcutting is the 1948 continuance of the practical ban on forestry methods other than clearcutting. In addition, he sees the pulp mills themselves as a huge part of the problem. He shared some thoughts about the state of affairs:

But now we have come so far in this usage of trees that our forests tolerance starts to be tested, and this has resulted in the forest scenery that, when you travel Finland east to west, or west to east, or south to north, or down, so, there is quite a bit of patchwork quilt, consisting of those clearcut, young forests.

This has negatively affected many aspects of the forest ecosystem, including “biodiversity, climate change, water pollution, human health, and recreation.” Haverinen felt that the real question is “what price and importance” should be given to these different aspects of the forest and the surrounding nature. When I asked Haverinen about what the role of civil society has been in affecting this state of affairs in South Karelia, he referred to the still important yet decreasing role of forest industry in offering jobs, tax income, and export yields. However, he indicated that as this role gets weaker “people start to value the local environment near forests as helping in recreation and health. They like to go mushroom picking, collecting berries, enjoying the nature on their free time.” When I asked if logging in important places has been stopped, the answer was negative. He said that “there have not been any larger confrontations here.” He referred to “dismal-looking” clearcuts on the shores of the Saimaa lakes that stand in stark contradiction to the promotion of tourism industry and job creation in the area. He said that when “the scenery turns baldhead does that please those coming from the south or elsewhere, as it does not even please the locals.” It was interesting to hear that very little contentious agency was actively and openly present, which again demonstrates the dominance and hegemony of the pulping RDPE in South Karelia.

Metsäliike Protests at Aalistunturi and Karttimonjoki

Meanwhile, the new Metsäliike, which, according to one member, has about 250 people in its communication list of insider activists, “with a few dozen really active coordinators,” has acted notably. This group has especially protested in Northern Finland in some very visible campaigns, such as Aalistunturi (see [Figure 10.3](#)). An activist of the movement, who wanted to remain anonymous, gave me some insight into the current setting of forest activism in Finland. Metsäliike “focuses especially on these old natural forests and particularly in state lands, and the means cavalcade includes direct action,” unlike most other forest activist groups that are more established in Finland. Metsäliike is a “quite horizontal grassroots level organization and [carries out] for example forest guard action, where some people have kind of recruited to watch over weekly some valuable state natural forests under a logging notice.”

I asked what their key strategies had been, he answered that the strategies most central for creating identity and recognition have been the logging stopping, nonviolent civil disobedience using and direct-action utilizing forest campaigns. Aalistunturi was perhaps the most visible, where we blocked by bodies or structures or tents the roads



Figure 10.3 Metsäliike members as forest guards in Aalistunturi, Finland, January 2023. Photo taken by Elokapina.

that harvesters would have used to go to log, and did use [later], but could not temporarily because of the protest go logging this kind of state-owned valuable forest area, which had had a local environmentalists' protection proposition, and a national park proposition.

The Metsäliike member relayed the story about how they went to Aalistunturi from Helsinki with others, after hearing about the action:

We drove there in the middle of the night, and it was snowing quite a bit, it was like fearing that the car would be stuck soon on the roadside, driving in fresh snow. We arrived and went in the middle of the night precisely as the aim was to set up a tent in the middle of the road, so that in the morning these forestry workers cannot pass to their harvesters. So, the harvesters were there, logging had started, but these workers left each night with their own cars, and as the distances were so long, we managed to block a fork in the road so far from the logging site that it would not have made sense for them to leave the car there and trudge in the snow to their harvesters.... We spent the night in the tent ... in the middle of the night, or maybe at five AM, a harvester driver came there ... and a friend went to say that there is a demonstration here and you do not need to go to work today, and then he was just that "this is clear and I will call the management."

The next day "there arrived an *erätarkastaja* [warden] of Metsähallitus, which is a kind of official who can give expulsion orders, that has some police like powers." He told them to leave even before the police arrived. The activist I was speaking to had to leave earlier than the others for other reasons and saw many more police driving to the spot (see Figure 10.4):

A pointless column of police cars to dismantle the demonstration ... that was completely unimaginable, the scale of the police operation, fully inconceivable, there came all the way from Oulu some like snow sledges, dogs, and rubber bullet weapons, goddammit.... So, I do not know for what they were then prepared, as there was such a cavalcade of that bunch. People stayed in the area for several weeks and made similar roadblocks or just walked to a 60–90-meter distance from harvesters, when they are not allowed to work, if people are inside the perimeter. Quite often the drivers respect this, but not always in Helsinki.

If a person managed to ski close to the machine and signal the driver, they stopped the logging. "We understood that Metsähallitus paid a compensation to them for the stalled time."

I asked how it felt to set up the camp: "Quite varied, if I remember, always before something like this happens there is a kind of nervous and tense feeling, but then when the tent was up there in the middle of the night, then you maybe relax, that the objective has been kind of fulfilled." He said it also felt like that way they

managed to at least for a very small part to help the local nature defense struggle, firstly, and secondly talk to people nationally about the problems of contemporary forest industry in Finland, and problematic policies of Metsähallitus. It felt that way useful, but then one does on the other hand think always that where are the concrete impacts ... as police continually with its mighty force removes activists from there and the loggings continue.



Figure 10.4 The police patrolling at Aalistunturi, Finland, January 2023. Photo by Elokapina.

This activist, like others, emphasized that Metsäliike goes to ongoing struggles to help when asked: “These struggles do not come from nowhere, and they are not invited by some national movement, but collaborations with local environmentalists. But this is often left invisible in the official campaigns, as these local actors do not necessarily want to be in the most heated direct-action phase so actively with their own face and name in publicity.”

He saw that in the state cases where they had campaigned they had “hardly attained conservation victories,” “as this protection is so difficult as we have this pulp industry that has left from a mitten [*lähteä lapasta*, a common idiomatic expression in Finnish meaning that a situation has gone out of control] during the past 15 years.” However, there were some places, like Karttimonjoki, where “a logging notice issued had not been executed, or had been postponed, due to campaigning.”

I talked to another activist, Minka, who has participated as a forest activist in many events, for example camping for two weeks at Karttimonjoki in Kainuu to serve as a “forest guard,” in case Metsähallitus wanted to restart logging there. This case had multiple meanings and was essential in forging the new Metsäliike.

According to Jyri Mikkola, the environmentalists first heard about these logging plans in the dialogue process between Metsähallitus, SLL, SLL Kainuu, and Greenpeace. Later, he checked the place and did a species survey as a member of the Luonnonmetsätöryhmä. As Metsähallitus did not completely withdraw from the logging, Greenpeace took over the retainment of the forests, after which Metsäliike and XR entered the picture. Minka was with them and, during our interview, she told me about the episode and the feelings she experienced in these forests:

So, we went off, we thought that it would be wonderful to get to do something like this to stop loggings. That it could feel like not being so frustrated and fearful of everything [referring to the unfolding climate catastrophe], to get to do something concrete. Then this case spread in social media, and we thought that if they need people, we will go there to help. Three people inexperienced in forest activism left there ... we had turns for mornings, days and afternoons ... to check that no harvesters were there ... and besides that we were learning all these things [of forest activism], doing social media and so on.

Then Greenpeace shifted the coordination to XR, and having stayed in the area for two to three weeks, Minka stayed to introduce newcomers to the forest area:

to spread the information, coordinating it.... I walked the new activists in the area, explained what the case was, and how it is connected to Metsähallitus practices The area is interesting, as on the way there are really dramatic clearcuts, and then different age planted areas or tree plantations. So, then you learn fast the difference between natural forests and others.

This happened in late autumn and winter of 2021. Minka said she was surprised to learn that in practice the activism was not so rough as is often thought and the general conditions were better. She was not expected to chain herself to a tree; instead the key tactics were making social media posts and walking close to the harvester. During this stay she learned how bad the situation of forests in Finland was and she said she “felt like I had been scammed. I was angry, why has no one told me, a silly feeling, that I had thought all is so nicely, and so possibly all others think ... while many things are going to hell.”

This is a sign of the doxa turning to heterodoxy, when the assumed state of affairs is shown to be something else, Minka expressing feeling that

the fronts [props] are tearing and creaking.... A shocked and angry feeling, and at the same time it is so unbelievably beautiful, that old, natural forest also there in Karttimonjoki, it was also so amazing. There was a beaver nest, and wolverine food deposits, and all kinds of beings, and a huge alder. In the end I remembered single trees and places, and that was really beautiful and incredible, the terrain in that kind of old areas, so I wrote there this ...

At this point she looked at her notebook and then proceeded to share what she had written, “I feel a bit like when being really enamored ... maybe I am then

enamored with those forests that carry the world ... I couldn't possibly be away from there!" She continued, "well, the whole place has become important to me, it has been somehow miraculous. I have been to natural and old forests also before," but in that region the drastic difference to clearcuts around "highlighted the gorgeousness of natural state," "when there was time to be" in that forest for weeks.

They had thought before arriving that the locals would be hostile to activists coming from Helsinki but found this was not the case. She shares that "there were locals we met, who said that also others share the opinion that enough has been logged here, but no one dares to say this aloud. We received this kind of half-furtive comments." They also made local friends and allies. She told me of one such interaction:

There was a reindeer herder who passed the area often. And when he saw us, he followed us, saying that finally I managed to catch you, I have been trying to find you here. Somehow, he was really pro-conservation, well he had his own motivations, hunting capercaillie [a bird in the grouse family], there was a lek [another type of grouse], so he did not want it to be logged. He was a guy who helped us a lot, and in the end started to watch the area ... promising to tell us if logging was starting.

The hunters in general, although not approving of XR or Greenpeace in many senses, were supportive of the logging protests, saying that it was "good that you are here." A young local politician also expressed support for them, but being from the Centre Party, quickly received reprimands from her "Centre party colleagues, especially older ones"; therefore, she had to backpedal, saying that she had only said her personal opinions. Yet, even despite the fallout she was "still visiting us and wanting to help us." There were also local tourism entrepreneurs who helped in the effort and were happy for them to be there, according to Minka.

I asked what the outcome was; she said simply, "Well, the forest is still standing." She continued to elaborate, "It is in a passive state, the logging announcement is still active." Yet, when they had actively watched over the area for two months and got good local and national publicity, "the logging thing was frozen" and continues to be as of February 2025. The activists also signaled they are ready to pursue more radical means if needed, which potentially makes the area more of a no-go for Metsähallitus. Greenpeace was there after the 2021 camp to put a lot of ropes between treetops (Greenpeace Suomi, 2023). Minka indicated that it did this "as this might slow down somehow the loggings, as it makes using harvesters hazardous, and also result in plastic powder" from the ropes possibly ending up in pulp digesters, there being also metal parts used to attach the ropes that make logging hazardous. She continued, "and then someone [from the company] went and saw this roping, and nothing has happened after that." This ended up saving the nest of a protected species of large bird, which if the presence of the nest was

verified would “protect a substantial area.” Minka shared that, “The area is being still watched over by us.”

The Karttimonjoki episode was important to forge the *Metsäliike*, as “it was realized that yes we do have all these different strengths, and that this thing is working well, this created connection between the forest sections.” The connections created most strongly were between XR and Greenpeace, and others, such as Luontoliitto. This action also allowed “*Metsäliike* to become independent as a kind of own social movement.” This was also an important battle “symbolically”:

[A]nd somehow also it became a loved place, and one remembers all single burls and some particular tussocks, or somehow remembers those areas and recognizes ... sometimes it comes to my dreams, that place so that I fear somehow that now [it has been logged]. Now that I say that the last checking I have done was two months ago, I get a kind of panic that what if it has been logged down in this time, some kind of sadness and fear is connected to it already beforehand, that what happens to that area, as one has become attached to it. A while ago I saw a nightmare that the reindeer-man called me that we have the case on in here, shutting off the call, and I did not know if that was real? And then I was calling to whom to call? What should I start to do?... I have seen nightmares that the loggings start, and it is something there deep in the mind, while I am not actively working on this case now ... there is some multi-meaning purpose to this case, a feeling of principles, that at least this will not be laid down on my time.

I asked if she felt a feeling of succeeding after the episode, she said, “Definitely yes, I feel that after activism I have had” a feeling that one can affect things:

Nothing could have made me feel more as part of this society than doing this activism, somehow one notices that we can tie together by a semi-small group these kind of nice ideas, and then execute them with different degrees of success, typically quite well. And then this suddenly shows in the public discussion, or affects something, or that forest is concretely there standing. That you kind of participate actively as a citizen to the discussions of this society or wake up those discussions, have a feeling of agency in oneself and in one’s life, but also in relation to the society.

And although there have been also many places of sadness, that some areas have been logged, then at least we have prolonged a case, or at least something has been left, one hectare out of six standing. Not all has gone according to *Metsähallitus* or some company plans, something has been saved or at least some kind of own sense here in the middle of modern world’s absurdity and oppression, that one remains somehow operational when acting. That leads to a kind of successful feeling, or hopeful feeling.

I asked what the current state of forest activism in Finland is, to which Minka replied: “I have heard from people having done this longer that in the past two years many new things have happened, with new interest, new things starting differently. Not a huge landslide [of activism] but a constant” interest by people to educate themselves and hear more. She has now talked to large masses, audiences of hundreds of people, and is known as one of the key characters in the

Havumetsän lapset (literally meaning *Children of the Coniferous Forest*) film. She felt that there was “a kind of hard consensus” reigning:

[T]he common feeling is that people are in the end quite busted [broken up] about what is happening here. Or then if they have not known, they are quite shocked, but somehow, they want that nature would be more protected and feel distressed of the current situation and the order of the modern society. This love and worry for nature have been a cross-cutting theme.... Some kind of a silent rupture is taking place, I feel.

This last sentence refers to more positive times in society in relation to forest conservation. Besides Minka, other activists also indicated that they felt the same, as another Metsäliike member said to me in May 2024:

[A] general critical attitude towards Finland’s forest industry has risen, but it is maybe delimited to such circles where it has not however managed to affect much what companies materially do, and what happens within the most important decisions. Or at what level Finland’s harvests are. How much money is put into forest programs. The current government program is a huge setback.

Thus, there is a kind of deepening rupture between what most people want and what the ruling elites and the RDPE do. This is a possible explanation of why Finland (and Sweden, where similar dynamics are taking place) is experiencing more hostile police responses to the new clearcutting and pulp company blockades put up by forest activists.

I asked Minka what a person could do upon seeing the destruction of their nearby forest. If they were feeling sadness and anger, how could they react? She said, “It is worth it to mourn those sorrows, it is worthwhile to feel those feelings, since they are really valid. If sorrow comes, agony.” During the press tour she had heard a lot of these stories:

Someone comes to tell that we had this and then it was logged, and I am so sad. We had a neighbor and then he went and cut that wonderful childhood forest right next to our house so that my father could not even talk for a week. Or that I have not been able to return to the area, or I have somehow a bad feeling or somehow feel pain otherwise.

There has been a surge of new literature on experiencing and feeling the painful emotions and distress caused by the ecological and climate crises, the traumas. Writing from an ecopsychology perspective, therapist Harri Virtanen (2022) argues in his book on surviving eco-anxiety, *Trauma ja Luonto* (*Trauma and Nature*), that these emotions are not individual *per se*, but they flow from the worsening quality of the environment, of which we are a part. It is a misunderstanding borne by the individualization of all issues and problems in modern society that one mischaracterizes the feelings as one’s own fault, while they should be seen as natural consequences of the cause of ecological degradation taking place and being witnessed. This eco-anxiety is becoming increasingly common and is a source of

serious mental distress, especially among the youth. However, activism could be considered a cure for these helpful feelings, which are themselves helpful signals to act. However, one needs to start by recognizing and not sidelining the emotions. Minka told me about encountering these feelings en masse due to Finnish clear-cutting, “People have huge experiences of losses, sorrow and anxiety for losing their nearby areas and even single trees.” This statement refers to the practice that many Finns still have of having important or sacred family trees (see *Tree People* by Kovalainen and Seppo [2014]). These feelings can have “gnawed the person for years or decades.”

Minka continued, it is “no small thing that a huge ecosystem is lost, so it is worth it to feel the sorrow. That is a huge thing, that it is somehow lost, that one should be near to the feelings, but not attach” oneself to them. “If one notices that there is something wrong, and feels bad, then one can try to stop it, that it would not happen again somewhere else. Or spread information about it.” She recommended that it is important to be active locally in different ways.

However, this is easier said than done, especially if one lives on the deforesting frontier in the rural areas of Finland, with a strong pulping hegemony present. Minka said that it helps her to put these actions into the perspective of where the planet is going, the predicted huge problems due to the climatic-ecological catastrophes, climatic collapse. She closed with the thought: “Relating one’s own personal fears to the enormous, bigger also personal fears can be what helps. At least it helps me at times if I am afraid in some protest or somewhere. So, then I think of those things, that really make me afraid, really really, and suddenly it feels a bit easier to be there.”

Part V

Global Deforestation

11

The International System, Global Crises, and Deforestation

In 2019, I was visiting Bogor near the capital Jakarta in Indonesia to present this book project at the Center for International Forestry Research (CIFOR). When I landed in Jakarta, I was struck by the endless expanse of buildings. It was truly a hulking modern metropolis, which had displaced the beauty that could still be found on other Indonesian islands. In addition to being ugly and polluted, the city was sinking, which caused the government to move the capital to Kalimantan, in the middle of Borneo Island. Thus building a new city from scratch in the middle of palm oil plantations that were actively deforesting the unique rainforests. These were sites where commerce had thrived for thousands of years, vessels from China passing Singapore, whose financial districts, refineries, and companies were now pushing for expanding the plantations on top of forests, in an unequal ecological exchange. Without this unequal exchange, the fancy city hotels and neighborhoods could not be built. This experience sparked my interest to read more about world-system expansion and its links to deforestation globally, beyond the Amazon and Finnish contexts I had already studied in detail. I concluded that also here – in the form of oil palm and pulp – there were regionally dominant political economic systems ravaging forests and tightening their grip on power.

The Negative Impact of Wars and Other Epochal Events on Forests

For centuries, the interstate system has been based largely on rivalry. Accumulation of economic capital and development via economic growth has been seen as necessary to secure national supremacy, security, survival, and competitiveness. Evans (1995) explores how states have been able to fund security measures by embedding the key industrial sectors that provide global leadership, markets, and technological advancement. The rivalry-based interstate system has sacrificed forests over and over for the sake of power struggles and the so-called development of cities, infrastructure, and agriculture. This dynamic is especially apparent during

what I call epochal moments, which are moments when deforestation activities have peaked. A key characteristic of these epochal moments is the widespread perception that a global crisis is present, which has opened a momentary possibility to accumulate much more than would be possible in times of peace. Wars are an especially impactful type of epochal moment due to the havoc they wreak on forests.

When the Spanish Armada was built so much wood was required that the Iberian Peninsula became depleted of its magnificent oak forests. Yet, what was there to show for the destruction of these forests after the war? Most of these wooden vessels were lost when the fleet was decimated by England in 1588, as were most other ships that were sent to colonial and inter-European wars. In the eighteenth century, an oak vessel lasted on average 12 years, yet needed about 4,000 thick oak trees to be built, which translates to approximately 40 hectares of forest. As the decimation of forests was essentially led by the European navies some scholars have characterized the wars fought by these navies, not only as wars against other colonial powers, but also as wars against trees across the globe (Thorne, 2022). At the time, European powers such as England and France also started major campaigns to plant oak and other trees commonly used in shipbuilding. Increasingly, issues around access to timber became a major problem for countries' continued world conquest, including timber depletion, taxes and levees on timber resources, and fights over the key commodity routes for importing timber (Braudel, 1992).

Wars also deforest by increasing the demand for wood, directly at battle sites as forests were purposefully eradicated for combat reasons (a well-known modern example of this is what the United States did in Vietnam with the widespread use of the herbicide Agent Orange) (Crouse, 2015), or to provide fuel (as the Germans did in Lapland during WWII, cutting and burning natural forests on fells to combat the cold. To date, these areas have not returned to forest, but are still tundra).

In fact, a strong military presence in a country's politics has been linked to increased deforestation (Chakravarty et al., 2012), which was visible in Brazil during its military dictatorship (1964–1984) when the deforestation frontiers were advanced over vast areas by infrastructural projects for ill-conceived geopolitical and developmentalist reasoning (e.g. to "secure" the Amazon from would-be invaders, by conquering and deforesting it themselves). The same kind of increased deforestation took place with the Bolsonaro regime, which was composed of even more military officials than the dictatorship governments. Many civil wars have also led militaries to deforest, to sell timber or open mines to fund warmaking; for example, in Myanmar and other parts of Southeast and South Asia (Chakravarty et al., 2012). During wars, commodity prices typically jump, which leads many to engage in quickly logging vast areas to reap the windfall gains. After the war is over, wood is needed for construction, which again increases logging.

Wars also create impediments for international trade. For example, the historic moments of Finnish forest degradation are linked to the epochal moments of major wars, including the “tar boom” during the American Civil War in the 1860s and the Korean War in the 1950s. During these two booms, logging was quickly expanded to try and capture profit from the increased prices of tar and logs in global markets. However, this led to an overall depletion of wood. This boosted the massive state support for tree plantation expansion, trenching, mechanization, and the clearcutting that was already ongoing. This system quickly took root in Finland during WWII as clearcutting was forced on many areas because wood was needed to provide fuel since oil was not available in Finland. Currently, the closure of the Finnish border with Russia due to the latter’s invasion of Ukraine has caused a major increase in clearcutting in Finland, as wood no longer flows across the border from Russia. Furthermore, as money is spent on warmaking, forests are cut to provide revenue. While the deforesting impacts caused by war are huge, so are the impacts of other epochal moments.

Another longer-term epochal moment is the broader setting of what I understand to be a new commodity paradigm, where, since 2005, the prices and production costs of most commodities have risen considerably and market volatility has increased. This is pertinent because some of the commodities, including timber, beef, and gold – all of which have seen record highs since 2019 – have a direct effect on deforestation activities. Unfortunately, this correlation has not been noted by most market or natural resource analysts. By building on the world-ecology argument about the end of so-called cheap commodities or “natures” (see Moore, 2015), one can see in practice how and why the prices for so many commodities continue to rise, even while volatility increases. This combination leads to more complex, chaotic, and difficult-to-organize supply chains and value webs. The theorists who are making more general claims (too broadly and vaguely in my estimation) have called this the end or demise of the capitalist world system (see e.g. Wallerstein et al., 2013), global capitalism, or a more general collapse of complex, industrial societies. I have offered a detailed, empirically grounded take on these broad schemes. This provides the bridge to my argument on the crucial role of RDPEs in world-ecology.

Geopolitics plays a key role in affecting what happens to forests, as geopolitics takes place within the capitalist world-ecology and world system (Moore, 2017). An expansion of the tar boom example mentioned is a good illustration of the impact of geopolitics on forests. During the American Civil War, access to the crucial tar of North America was seriously curbed, which led to a dramatic spike in demand and price paid for the tar made from deforesting Finnish pine forests (Toivanen & Kröger, 2018). This expansion of the tar frontier into Northeastern Finnish forests had tremendous socioenvironmental impacts. These forests had been perpetually

retained and maintained through a system of rotating swidden commons which allowed most forests to recover naturally, yet still produced food surplus. This system also functioned as a basis for the nonprivate property-based social system with forest commons. However, the war and the world powers needed tar, especially for tarring the ropes and planks of the British Imperial fleet. Thus, tar capitalists living in Finnish coastal ports and European cities such as Amsterdam and London saw great opportunities to take advantage of the peak prices by producing as much as possible as fast as possible. This led to great investments to open rivers and build other infrastructure that otherwise would not have been constructed. Once the epochal moment had installed the infrastructure, trade networks, debt obligations, interpersonal relations between important traders, and the other initial political economic characteristics needed for an extractive system, entire forests were burned in kilns for their tar, leaving a barren and void land, with most people who had lived in such areas turned landless and forestless. This in turn caused huge numbers of people to die during the “hunger years” of the 1860s (Toivanen & Kröger, 2018). After the epochal moment, the established infrastructure, sunk costs, and the relations and obligations between key players ensured that forests continued to be turned into tar. After the tar boom subsided, the same infrastructure and logic of using forests for their tree mass were followed by other types of forestry extractivisms.

Another epochal moment for Finnish and other forests around the world was the Korean War in the 1950s. This led to a dramatic increase in the price of lumber and other wood products. Finnish forestry decision-makers decided to try to maximize profits during the very few years they knew that the war would last, for example by rapidly deforesting remaining old-growth forests in Southern Finland. These imperatives were a rational management of national wealth, the accumulation of capital from and within the international system, and the rebuilding the Finnish nation after WWII. That war had been the midwife for birthing the modern model of clearcutting. A military logic was adopted toward forests – clearcutting huge areas to get wood for running the wood-gas generated (carbon monoxide)-based cars using a domestic raw material. By using wood-based energy, the Finns were able to lessen their dependency on foreign oil, gas, and coal. This logic of ensuring national security amid the existential threats due to the war with the Soviet Union replaced the prior notions of how to relate to a forest, where clearcutting and deforestation were interpreted as raping the forests and clearcut areas were called raped forests. After WWII, new forest practices were quickly imposed that made it impossible to do anything other than clearcutting; this is a policy that continued into the 2010s and still marks the situation, where over 97 percent of all loggings are clearcuts, although forestry studies indicate that at most 25 percent of loggings should follow that logic (Juntti & Ruohonen, 2023).

The perception of a global crisis, in epochal moments, opens a momentary possibility for industries to start to accumulate much more at the cost of forests than would be possible without these critical junctures. Even after the crisis is over, the fate of an area is practically already sealed once the infrastructure that supports deforestation has been established. It is all the interconnections and interests that make sure the forests are clearcut even after the epochal moment. However, these epochal moments are just the tip of the iceberg of the underlying characteristics of the interstate system that drives deforestation.

Interstate Rivalry and a World-System History of Deforestation

National security has become the key pursuit of most modern states, surpassing environmental and even economic aims. The pursuit of this development path by nations in the international system has meant the continued devaluation of forests and forest peoples. While especially realists have emphasized the rivalry omnipresent in the international system, some realists such as Hedley Bull (2012) highlight that there is also an “international society” aspect to this rivalry, where states and other actors can and do meet to make (some) positive decisions. Under this realism, the role of international society is emphasized, especially the role of the so-called great powers, whose existence and relations provide order for the international system, according to Bull (2012). This order is comprised of the rules, norms, expectations, and decision-making procedures that create international regimes (Krasner, 1983).

There is an urgency for this international society, especially the G20 countries – due to their key role – to create norms that do not cause humanity to surpass biosystem limits, which could cause biocapacity to collapse globally. Forests are an essential element in this normative goal. The role of the international society regarding conservation has been studied, especially by some branches of international relations. The literature on global environmental governance (GEG) has studied the role of the international system in governing aspects of the environmental regime, for example, the ozone layer. When the Montreal Protocol was established in 1987 to counter ozone layer depletion (which ultimately succeeded), scientific research was unclear and unfinished on the importance of the ozone layer and the causes of its depletion (Morin & Oberthür, 2013). Based on this and other cases – where well-established scientific facts do not lead to better policy outcomes – GEG has found that policies do not naturally flow from scientific knowledge, as politics and knowledge are different, often inimical, fields, and sometimes further scientific literacy even increases conflict (Morin & Oberthür, 2013). This seems to be especially true in relation to deforestation and climate change – as there are many potential solutions that are known but not yet executed. Certification

schemes have been in the limelight of forest-based studies in international relations, such as those from the FSC (Cashore et al., 2004), and other private politics, like informal corporate rules around logging (Dauvergne, 2004).

The GEG literature lacks a further analysis on the role of and resistance to economic and political powerhouses, such as corporations and economic sectors. This focus is needed to complement the existing GEG studies on global actors and institutions purporting to be for environmental protection (Newell, 2008). The RDPE theory addresses this issue as it addresses the interests that these actors become either a part of or a victim to, which helps to explain how bad global governance can continue despite scientific truths. Governments choose to do these things due to the invisible interest groups that manage to persuade them. This also happens due to the competition between states, especially between ecological imperialist, rival cores with competing imperial interests (see Frame, 2022).

Based on my findings thus far – although I concur with Hedley Bull (2012) that the interstate system composed of rivalling states is not in decline even today – I challenge the potential optimism of Bull in that “international society” can so easily find solutions to key issues such as deforestation and the climate crisis. This is because of the interpenetrating nature of capital and capitalism, whereby so many states, and the corporations owned or headquartered under their sovereignty via their pension and mutual funds, stand to lose in the short term though increasing regulations and barriers to trade. A clear example of this is the resistance that has been raised to the attempt by the EU to design an anti-deforestation law by restricting imports from high-deforestation risk regions. Key players in the resistance include both European farmers (wanting cheap commodities, especially feed) and those in exporting countries (such as Brazil and Malaysia) (Bounds et al., 2024). The EU Deforestation Regulation was passed into law in 2023. It became effective in late 2024, divides countries into three categories based on risk, and places 3, 6, or 9 percent of their exports to the EU in the six commodity categories that are under scrutiny. These measures are intended to compel the producers to show by certification and geographic positioning system (GPS) locations that they are deforestation-free. Even these measures have been heavily criticized by countries like Malaysia and Brazil. The interpenetration of capital suggests that the international society of great powers is less likely to be able to reach an agreement on curbing deforestation than solutions implemented at the regional or national level that are based on active local and national resistance. International regulators can play a role, but they do so under the delimitations of the RDPEs that compose the world as we know it. These global dynamics are rooted in the regionally dominant extractive sectors, which are the building blocks of global markets and production.

The hypothesis that the current structure and rules of the international system drive deforestation gains weight with a look at the most recent major deforestation

drives happening in the world. While palm oil and acacia plantations ravaged enormous areas of the Indonesian and Malaysian rainforests in the 1990s and 2000s, world powers did little to deter these events (Humphreys, 2006). Instead, companies like the Finnish Neste made new investments, which were widely supported by both the sending and receiving cities and governments, for example in Singapore and Rotterdam investments were made in biorefineries that made biofuels from palm oil and other commodities (Sherrard, 2019). Another example of this is when the American-based Cargill grain-trading corporation built a soybean export harbor in Brazil's Santarém city, at the confluence of the Amazon and Tapajós Rivers in the mid-2000s: No real action was taken by governments to block the port operations (Kröger, 2024). This port greatly accelerated deforestation in the surrounding Amazon forests to make room for soybean plantations.

In both cases, there were private negotiations between leading international environmental organizations and multinational corporations utilizing the commodities, to avert buying soybean or palm oil from deforested areas through voluntary moratorium deals (Cashore et al., 2006; Dauvergne & Lister, 2011; Garrett et al., 2019; Schleifer, 2023). However, while these measures did slow expansion to some extent, they also resulted in moving a considerable part of the Amazon soybean frontier to the Cerrado forest, which has had catastrophic impacts on the hydrology, climate, and soils. Thus, even though the frontier was moved, the overall impetus remained. Forests were still razed for the seemingly superior goal of producing commodities for the growing global economy and, importantly, for the needs of so-called rising global powers, especially China. This is to be expected, as it is common that modern global powers, during their ascension, typically rely on excessive and destructive extraction of raw materials (Kröger, 2020a).

This kind of extraction that happens on multiple frontiers and at multiple levels is referred to as global extractivism. Extractivism is the taking of resources without care or consideration for giving back, that is, without reciprocal and sustainable relations. Instead, the focus is on maximizing the yields from extraction at a very fast pace considering only short-term needs and goals (Chagnon et al., 2022; Ye et al., 2020). This causes major devastation ecologically, socially, politically, economically, and especially in terms of existences, which are wiped out en masse, leading to ecocides and even genocidal projects of expansion (Kröger, 2022). These extractivisms have been particularly harmful for forests, which have been used wantonly during the past centuries, and even earlier, during longer-term empire building. Wood products, in the form of lumber, mast wood, blanks, paper and pulp, tar, potash, and charcoal, among others, have been essential building materials for erecting new empires throughout centuries and even millennia (Perlin, 2005). The free flow of these commodities has been an imperative for the international system. Its key players, both the older and rising powers, have

wanted to retain these dynamics, to ascertain the possibilities for them to remain at the top or for their power to continue to grow, depending on their current situation. The depletion of these resources, or the ignorance of the environmental conditions on top of which all societies are built, has meant that within the 5,000 years of world-system history, the collapse of civilizations has happened repeatedly, according to Chew (2007). The key impetus for these collapses has been the power driven by what Ekholm and Friedman (1982) called “capital” imperialisms, running from Sumerians 5,000 years ago to today (Ekholm & Friedman, 1982). Frank and Gills (1994) theorize these expansionist dynamics of the world system are an impetus at the root of the system, which goes beyond the Westphalian order or the 550 years of the capitalist world system. Chew (2007) calls these collapses “recurring Dark Ages,” where deforestation ensued due to prior growth of the world system. This deforestation dynamic causes many other problems, such as erosion, floods, extinctions, and climatic havoc. However, now these changes are more rapid and dangerous than in previous periods due to being closer to global climate tipping points.

RDPE Sectors in the World System

In addition, RDPEs are reinforced by the ongoing actions of extractivist corporations, in much the same manner as prior deforesting RDPEs during the past 5,000 years. Perlin (2005) describes how aside from the obvious need for wood for the ship building of maritime empires, processes like urbanization need wood for construction, fuel for firing pottery in kilns, and food preparation. In fact, the Romans required so much wood specifically for smelting the silver in the Iberian Peninsula that the demise of the woods there required decreasing the silver content of their currency (Perlin, 2005). For Chew (2007), these Dark Ages, of which a new one is unfolding right now, also offer possibilities for transformations at the systemic and social levels, which could in theory lead to improved relations with nature and more sustainable technologies. The collapse of “civilizations” is not a negative thing for the victims of their ongoing violence, to those whom the system in power is killing at the moment (Dunlap, 2024) and who are waiting for the collapse of the current order (Scott, 2017). This is also possible in the present-day situation, as the future is still open.

This interstate rivalry can be seen as taking place within the global capitalist system and within several regional varieties of capitalism. There is the overarching global system, but then within that there are also different economic sectors, which sometimes have competing interests and claims over the forest. The key cleavage is between the sectors which are and are not premised on the exploitation of wood. However, in practice the sectors that seek to retain wooded lands has meant, in many parts of the world, turning primary forests or seminatural forests into ordered

lines of cloned, single-species, fertilized, and agrotoxic-filled tree plantations (Kröger, 2014). These monocultural tree plantations of hundreds of thousands of hectares are heavily managed using machines and pesticides, which leaves little to no possibility for species or populations – other than the selected wood-industry tree – to thrive in these areas. For example, in the Brazilian Atlantic Rainforest and the Southeast Asian tropical forests, the native forests have been decimated and replaced with eucalyptus plantations. In Finland and Chile native forests have been systematically turned into spruce and pine plantations, respectively, while in Indonesia, acacia dominates the landscape beyond its natural range mostly for the purpose of making pulpwood.

In contrast to the forestry sector, globally there are other, even more impactful, sectors that direct what happens to forests and can explain why it happens. While often valuable old trees are cut and used prior to the establishment of plantations, ranches, mines, or dams, this is typically a one-time, often illegal windfall gain for some specific, usually relatively small-scale actors. However, there are key businesses that make profits from the establishment of plantations and the ensuing rise in land property value. Thus, forests are not allowed to regrow. The qualitative change in forest cover is even more pronounced, since trees are often considered to be beings that can easily be erased for the plantation, dam, mine, or other capital expanders. In just a few decades, tens of millions of hectares of forests have been turned into soybean, corn, and sugarcane plantations in Brazil, while similar trends are visible in northern Argentina, Paraguay, and Bolivia, which since 2000 have seen huge areas of their forests annihilated and turned into crop monocultures (McKay et al., 2021).

What is curious about these agroextractivist deforestations is that they have often taken place under the umbrella of some sort of justifying and legitimizing framing and discourse, which has tried to posit these changes as solutions to the global ecological and climate crises, rather than being one of its key components. Concepts such as climate-smart agriculture, bioeconomy, and green economy have been introduced to try to change the productivist image of ethanol- and biodiesel-producing tree and crop monocultures. These concepts paint these sectors as beneficial because they function as a replacement for hydrocarbons and other fossil fuel-based industries, while obfuscating their role as agents of deforestation and emissions (Kröger, 2016). New techniques and technologies have allowed for some improvements to be made to the carbon emissions caused by these operations, but the overall impacts have been and continue to be replacing natural forests with plantations.

Importantly, these transformations continue to take place despite better options being available. For example, Brazil has approximately 160 million hectares of underutilized pastures (with an average of one animal per hectare), of which at least 100 million hectares could be turned into plantations (Carlos et al., 2022).

Yet, the reason they have not been utilized as the main frontier to expand new plantations reveals a key aspect of the interface of the international system and RDPEs. The real world is not the place that Ricardian economists imagine, with entities vying for the rule of competitive advantage. It is also not set up in way that those who believe in an invisible hand would have it. In practice what should be most reasonably produced in one place is often not produced there. Instead, path dependency and technological lock-ins (Clapp, 2021), as well as other political dynamics of historical contexts, have a large role in determining what is and is not produced in a particular location. Brazil's 160 million hectares of cattle pastures are mostly idle because they are owned by established elite landholders, who usually do not have a pressing need to sell their lands. Yet, they can secure tenure with the help of hired guns and their in-built leverage in the Brazilian political and legal system to assert their *de facto* rights over those lands, even though many have questioned the *de jure* rights to these lands by their current *de facto* holders (Dowbor, 2018). Many of these lands have been grabbed illegally by falsifying deeds, which is allowed as pro-poor agrarian reform and land rights are not politically supported (Carter, 2015). In this context, those who seek to expand the soybean plantation enclaves find it easier to target forest areas that are already inhabited by traditional and Indigenous populations. The motivation for targeting these lands is twofold, they can avoid intercapital competition and they often already have close ties with the ranching landholders. Thus, we have seen the expansion of the soybean/corn/cotton frontier from Brazil's south first to the center-west Cerrado forests and then continuing north and northeast from there to the Amazon, and again even further into the Cerrado. More recently this frontier has expanded to the states of Maranhão, Tocantins, Piauí, and Bahia, which are collectively called MATOPIBA, which uses the first two letters of each state (Hershaw & Sauer, 2023). Brazilian governments, whether leftist or right-wing, have supported these moves, framing these agroextractivist, corporate-led expansions as key aspects of the national development plan.

The imperatives and explanations for these moves, in terms of the post-2000s plantation expansion, stem from the Global South's and especially Latin America's historically built role within the international system as a key provider of plantation-based commodities for rising global powers. Over centuries, political economic groups have been built and consolidated, whose ways of relating with forests not only allows, but deepens this deforesting tendency, which is in essence international.

International Consensus Allowing the Flow of Commodities

For the current international system, forests do not seem to truly matter even in the face of today's ever-more clear global ecological crises and the deep threats they

pose for human and other existences. This argument is supported by a look at how the international system responded to the rise of Jair Bolsonaro as Brazil's president and the rapid rise of deforestations in places like the Amazon and Pantanal caused by his policies. China said practically nothing, nor has it taken responsibility for its actual role as the buyer of ever-larger shares of commodities produced through deforestation, such as Amazonian beef, minerals, timber, pulp, soybeans, and corn. The role of China has increased since the 2019 mega fires, which were set by Bolsonaro supporters. This is because some Western multinational companies have made pledges to no longer buy products that are produced at the expense of the Amazon, for example Brazilian leather. This move has led the large ranchers to instead sell all their cattle to China, a move which was apparent in late 2019 during my interviews with ranchers along the Transamazônica and BR-163 highways in Brazil. The leaders of some countries, such as France, have vocally condemned and protested against Bolsonaro's policies. Yet, these states have failed to place strong barriers or take notable immediate actions that would matter to the players on the ground and could potentially change the course of deforestation. The deforestation in 2019 was followed by many years of dangerously high Amazon and Pantanal deforestation rates from 2020 to 2022, as the deforestation regime stayed in power – nationally and internationally. Even during the first four months of 2024, although Lula was in power, there was the highest number of fires in the Brazilian Amazon in two decades, as the budget for fighting the fire starters was cut and environmental officers were not given enough compensation for their hard work. This resulted in a long strike that offered criminals an almost unchecked opportunity to expand fires and deforestation in the Amazon (Spring, 2024).

Despite calls for placing import bans on key deforesting commodities from Brazil, European and other governments have taken the stance that one cannot sacrifice good trade relations and flow of raw materials, even if this means increasing deforestation in the Amazon and other places. This became clear to me in 2019 during my public television talk with the Finnish foreign minister, who, although being from the Green Party and 2019 being a disastrous year for fires in the Amazon, argued with me after the public talk that one cannot anger other countries' leaders and that one needs to be extremely careful about not having other countries' blocking one's exports due to import bans. In addition, state representatives of the Ministry of Foreign Affairs and the Confederation of Finnish Industries gave highly favorable expert statements to the Finnish parliament regarding the Association Agreement between the EU and Mercosul that was under discussion for ratification by EU national parliaments. Ministry experts and lobbyists argued in fall 2020 in the hearing of the Committee of Foreign Affairs of the Parliament of Finland, where I had also been summoned to give an expert statement (Kröger, 2020d), that trade needs to be increased, and that the EU–Mercosul trade deal,

which would ease and augment exports of raw materials from South America to the EU (Kehoe et al., 2020), would not be problematic. Instead, the industry representative emphasized the importance of the EU supposedly needing to use its “first-mover” possibility by making that trade deal with Mercosul, to gain a benefit in the global competition for resources vis-à-vis North American and Asian powers (a claim not supported by studies on the supposed benefits of such a move). Forests were not present in any meaningful way in these international relations considerations. Nevertheless, other changes in world affairs, such as increased worries related to the climate crisis, led to drafting a new EU policy to curb the import of commodities from deforestation areas. Additionally, the EU–Mercosul deal was frozen given the problematic pro-dictatorship actions of Bolsonaro, but also due to other complex world affairs. Lula aimed to reopen these negotiations and get better terms for Brazil, which the experts I interviewed have consistently said influenced the collapse of the whole agreement, as Lula miscalculated that they could still bargain with the EU. Lula would have liked the deal to be more beneficial for Mercosul’s industrialization, which is something that the dominant agribusiness lobby does not support, given it would have to then give away some of the lucrative EU markets in exchange. Later Lula said that even the new EU proposition, which included some Amazon deforestation safeguards, would be okay. While many thought this meant the end of the deal, on December 6, 2024 the deal was surprisingly approved by the EU and Mercosul, after secretive negotiations. However, the deal still needs to be approved by national parliaments, many of which oppose the deal in Europe. Not passing the agreement would be good news for reducing deforestation and expansion of extractivisms.

It is interesting to see, in comparison to the issue of forests, how the Russian war against Ukraine was an event that merited the imposition of trade barriers and other means to pressure the government of Russia. However, even there, the flows of the most important commodities – oil, gas, fertilizers, and minerals – have mostly remained in place. This holds true even with those commodities going to many EU countries, although there have been some decreases in production. Another regime that merited this type of large-scale divestment campaign was the Apartheid regime of South Africa in the 1990s. These same kinds of moves have not been seen to a similar extent in relation to deforestation or ecocide. In the international system, forests are something which can be sacrificed if security, building of nation-state power, or capital accumulation are at stake.

Theorizing Deforesting World-Ecologies

There is a strong ontological take on forests in so-called Western civilization history which fails to see forests as places important to sustain. This is perhaps because

trees do regrow; however, to reach the ecosystem complexity of old-growth forest is something that does not happen within a human lifetime. I have discussed in detail the role of specific extractivist sectors, highlighting how they are locally deforesting, but globally connected. I will now provide a brief historical analysis of the key features of the world-ecology which sustains deforestations.

The central world-systemic argument of the book, based on what has been and is happening to forests, is that the key characteristic of the current international system is rivalry between nation-states and powerful non- or partially statist actors such as corporations, which are partially linked to certain nation-states. The imperatives of these international dynamics have meant that struggles for international hegemony, dominance, security, and maintaining sovereignty have reigned over other kinds of considerations, such as saving forests.

Deforestation is happening due to the low valuing of forests in the world system – illustrated by this chapter – as forests are considered as material sources for building states, empires, and capital. For example, prior research on Brazilian elites and developmental policies has emphasized that these need to be understood within the Global South semiperipheral positioning of Brazil, where the role of the state has been one of intermediating and opening space for capitalist advances by foreign and national elite capital (Evans, 1979). Therefore, those who have been the regional or sectorial elites – in this case situated mostly within agribusiness – have depended on the world-systemic linking of Brazil and the given region during the period in question. As Nugent (2002: 63) elucidates in his study of Amazonian elites, these elites need to be understood as “episodically shaped by the role of the state in the world system.” This can be said to also apply in the Peruvian and Finnish contexts. One cannot distinguish these processes from the expansion of modern states and thus the interstate system, which has been largely capitalist since the fifteenth century. This expansion has happened on top of forest areas and has simultaneously offered these forests as a commodity-producing playground for the elites, who themselves are made elite precisely by these resource and commodity frontier expansions.

In Peru, the deforesting mining system, with its elites, has its roots in the 1537 opening of silver, mercury, and other colonial mines, which served to feed the Spanish and European-led world system at the time. Mining capitalists and linked politicians still define the bulk of Peru’s natural resource and other politics, but they do this within the world-systemic positioning of Peru – both this longstanding positioning and the particularities of the mining elites – which serves to explain the ill-fated policy decisions that have led in the past decades to rampant gold mining in Madre de Dios province in the Amazon. In this sense, Moore (2019) argues that it is wrong policy decisions rather than some kind of evil agency by elites that should be seen a key explanation of Peru’s deforestation. The roads the

state built in the 1960s and 1970s to Madre de Dios were also a decision to bring in Andean colonizers, who razed valuable forests, ranched for a while, and then abandoned the area. This colonization policy, alongside the decision to feed the loan-based international commodity market by building the Interoceanic Highway (it should be noted that this decision was made in 1983 but was carried out by Brazil's Odebrecht-led consortium in 2005–2011) explains the world-systemic linking of these Amazon forests (Moore, 2019). In Finland, the international demand for wood products, especially paper and pulp in the twentieth century, led to the dominant hegemony of the paper and pulp industry, whose leaders are key political economic elites in terms of having the power to define forest usage. In Brazil, the post-2000 spike in demand from China, and other rapidly growing and established economies, for commodities, especially soybean, corn, beef, pulp, metals, and minerals, is the episodic context that explains – at the broader level – why the Brazilian state has brokered in elites for these sectors, enabling and driving their dominance over regional territories. These vary depending on the region and sector, but there is sectoral unity and a large degree of national-level power for the new soybean elites and the older ranching and land-grabbing elites. In this sense, the elites at the helm of RDPEs are shaped by their interstate positionings and the current system's drives for a developmentalist agenda, quartile profits, security, and competitive advantages.

Summary

I have argued in this chapter that due to a several thousand-year process of rivalry and building of capital for empires to get or grow power, forests have been depleted, converted, and removed in alignment with the expansion of the world system. This process has expanded in both pace and scale during the past 550 years of capitalist world-ecology. The commodity frontier expansions have been truly dramatic for forests especially since the post-WWII expansion of global extractivisms and the consolidation of RDPEs based on or causing deforestation. What I call epochal moments have been especially detrimental in this larger-scale and world-systemic view on global deforestation because during these ruptures deforestation peaks for several reasons. The epochal moments of war in particular have led to major damage to forests, because during and after war the logic, fear, and rage of rival nation heads has turned from the battlefields to the forests. In addition, pandemics, financial crises, and other unexpected market crisis events in the world system have led to increased deforesting commodity demand and prices and deforestation through multiple channels. We are treading a very dangerous path if the interstate system based on rivalry continues to reign supreme, wherein the key goals of states are to secure supposed national security, development, and warmaking capacity

without due caution and care for the planetary limits and climatic-ecological tipping points – in which natural forest play a key role. The global, systemic problem persists, but there are natural and planetary limits to how long this interstate rivalry can continue if we want to maintain the possibilities of life on Earth.

One way to begin to counter the problem, as I have explained in other chapters of this book, is to focus attention on the RDPEs as the root, sectorial, and systemic causes of deforestation. The solutions to curbing their power need to include the local and national levels and regional politics, including resistance and good solution suggestions, through which policies are made. Besides this, forests should gain a more protected status and level of importance in the interstate system. The implementation of new rules to curb the trade of deforestation-originating goods is a good first step in this direction. There would be so many more opportunities to craft new kinds of governance tools and understandings and norms wherein retaining forests is taken seriously in the international, regional, interstate systems. However, this means that the political and lobbying power and reach of deforesting sectors and corporations must be curtailed on all scales, from local to national to international. Unless that political economic power is tackled head on, it is difficult to envision how effective plans for global deforestation countering can be crafted, as politically that becomes practically impossible, due to the compound effects of different regionally powerful extractivists lobbying together for multilateral and plurilateral state institutions to allow them to continue their business as usual. In this case, business as usual means that everyone should have the so-called freedom to buy, sell, and consume whatever commodities or goods that are produced wherever on the planet and by whatever means necessary. To counter this tendency, the flow of commodities in the international system should be regulated and curbed. This would also mean that the international system does not finance new infrastructure and extractive projects to tap into new raw material sources. The curbing of finance, support, and deforesting commodity trade would also start to erode the position and power given to current RDPEs and their key actors. That would be a world-systemic-level challenging of the root causes; that is, structures perpetuating deforestation at the international level. However, that alone would not be sufficient across the board as I have discussed in previous chapters, as there are many local and regional causes of deforestation that need to be dealt with by other means.

12

Conclusions

Being in proximity to the destruction of old-growth forests has been a heavy experience for me over the past few years. Whether I am in the Amazon or in Finland, there are threats to the forests coming from many different angles, yet life continues. On a beach in the Amazon, I see fire and breathe smoke, yet the other people on the beach swirl around me swimming as if the forest were not on fire on the other side of the shore (see [Figure 12.1](#)). When I am in the countryside in Finland, I see so many people silently absorb sadness, anger, loss, and futility as they see another remnant of the shattered and fragmented forest being clearcut, trucked away log by log. The pace is astounding as the world walks toward the flames, drought, floods, storms, and unforeseen havoc that most people do not even want to hear about.

To connect with nature in the midst of all of this, I have often gone to forests for walks, but nowadays this gets harder and harder to do. I hope someday in the future I can return and see the forests, which at the moment are clearcut, thriving without the fear of also losing them. I know I am not alone in these feelings, I see a new wave of people, around the world, who are gathering the strength to use their skills to improve the situation in myriad ways. Humans can find ways forwards from here. By working together to protect the other beings in the web of life, one can make the world even a tiny bit more habitable for the humans and other-than-humans here now and for generations to come.

Political Economies of Deforestation in Contemporary Brazil, Peru, and Finland

There are several different lessons that can be learned through the study of Brazil, Peru, and Finland, to be able to make remarks on what causes deforestation.

Brazilian Amazon

In Brazil, the study of deforestation dynamics has helped me to develop a deeper understanding about the relationship between a very strong cattle capitalism,



Figure 12.1 Swimmers on the Green Lake of Alter do Chão in the Brazilian Amazon, disregarding the burning of the forest on the other side of the lake. November 2023. Photo by author.

perhaps Brazil's strongest variety of extractive capitalism, and rampant deforestation that does not eschew the use of uncontrollable fires as a tool of expansion. Cattle capitalism appears to be such a strong political economy that it is currently expanding even within the formal and in the past also *de facto* conservation areas, such as the CMER, an iconic multiple-use conservation area. In addition to spreading into conservations area, Indigenous lands and the INCRA settlement lands are under pressure by the power of this cattle capitalism, which pushes for rural-dwellers to adopt cattle ranching and make way for ranching at the cost of forest cover and other economic activities.

Prior studies on the relationship between cattle ranching and deforestation in the Amazon have argued that the global or regional demand for beef by consumers is the key cause of deforestation. However, Acre is mostly a case of a local consumption, which has legitimacy despite the continued environmental damages (Hoelle, 2017). This observation complements these kinds of analyses that emphasize the responsibility of the consumer and the magic of fetishized commoditization to hide the link between consumption and damages. My research differs because it looks in detail at the underlying cattle capitalism as a system with its local and broader-scale power. Markets are not created out of nothing, but the establishment of commodity networks requires many political economic maneuvers, which cannot be explained simply by the demand for beef.

In the case of the current deforestation in the Brazilian Amazon, the key impetus is the land speculation business, wherein it is expected that the much more

profitable soybean/corn/cotton plantation sector will buy the land areas that are first cleared by ranching, even within conservation areas. This process can lead to doubling of land prices in as little as a year, as I documented in 2022 during my ranch visits in Acre and my interviews with large ranchers. These ranches were among the first to adopt putting soybean and corn plantations on old pasture sites and displacing herds to the neighboring conservation areas, where incomers from Rondônia state were illegally buying the *colocação* lots of ex-rubber tappers. The soybean consultants that I traveled with emphasized that the best, flattest, and most fertile lands for soybean planting lay in the RESEX, which they wanted to open to these activities both by *de facto* buying the lots illegally and by pushing for a change in the conservation status of those lands.

While most studies on deforestation typically focus on documenting the extent of the deforestation and studying the proximate causes, it is the ultimate causes that often remain understudied. In most cases these are the powerful political economic groups and interests behind the policies and actual practices. Due to these causes being understudied, I specifically investigated the different varieties of deforesting capitalisms (or political economies). To extrapolate the reasons for the relatively different impacts of cattle–land speculation capitalism within the same polity, I compared Acre with the state of Pará. During my field research I identified several important substate differences. The Tapajós-Arapiuns RESEX forms a nice point of comparison with the Chico Mendes RESEX in Acre, as they are both very large (750,000–1,000,000 hectares), but since 2005 they have been on quite different deforestation trajectories, with Acre showing far more dangerous tendencies of deforestation. Based on my ethnographic research, the reasons for such differences include:

- (1) the proximity of major highways (in Acre);
- (2) differences in tenure systems (family-based *colocações* in Acre, large commons in Pará);
- (3) access to river-based livelihoods and proximity of major urban centers offering wages and services (in Santarém, not available to such extent in Acre);
- (4) presence of a major ranching frontier and capitalist class (in Acre); and
- (5) well-formed and continued resistance, contentious agency (in the Santarém region), but a splintered resistance and even acceptance of deforestation by ranching among former forest activists (in Acre).

Besides the Santarém region, many of Pará's other regions form globally significant arcs of deforestation, which help when trying to understand the role of violence in major contemporary deforestation moves. For example, this has been visible since 2019 through the fires set by land grabbers along the BR-163 highway in the Amazon to support the policies put in place by the Bolsonaro government.

These fires were set to extend pastures and plantations. This phenomenon was driven by large landholders and speculators – many who were criminals – crossing the political-economic elites’ lines, but also included many smaller players who enabled the expansions of illegalities. These driving, enabling (and possibly resisting) dynamics are important to understand different capitalist systems of extractivist expansions that deforest. For example, the internal logics of cattle capitalism, wherein Pereira et al. (2016) have assessed how smallholders in many parts of Pará show little interest in anything but cattle. The same sole interest in cattle is true elsewhere in Brazil, but not everywhere, as shown by the Tapajós-Arapiuns RESEX case. Yet, while they are seemingly only interested in cattle, this positions them within a set of exploitative terms of trade with large ranchers, which makes these smallholder operations a subtype of land rush (referred to as “contract farming” land grabs).

Peruvian Amazon and Inter-Amazonian Dynamics

Peru’s Madre de Dios province in the Amazon clarifies how a rampant informal and illicit gold-mining boom and the construction of roads and other infrastructure that service this industry leads to increased deforestation, especially alongside rivers and the new roads. For example, the construction of the new Interoceanic Highway allowed much easier access to the places where mining is occurring. These changes expose the relation(s) between small- and medium-scale gold-mining operations, infrastructure projects (like continental highways), and deforestation. It should be noted that under this set of relations the landscape changes at a relatively smaller scale compared to how it changes under the influence of cattle capitalism in neighboring Brazil.

Peru is also an important example of how the overall extractivist push places communities – especially Indigenous communities – under enormous pressure and internal conflict. This often happens when a part of the community begins to mine (sometimes as a measure to prevent others or outsiders from mining within their territory), while others resist deforestation. There are complex ethno-territorial politics at play here, including identity, territorial rights, and absence of rule of law, affecting how politics play out in practice. Peru’s mining, including Amazonian gold mining, is closely tied to the political elites in Lima and the regional capitals, who do not have an incentive to try to effectively govern the situation, as they benefit from and make up a part of the gold-mining RDPE. This sector is also linked to global machinery providers and especially and increasingly to international drug trade and money-laundering schemes, which means mafia-type organizations are penetrating the gold-mining business. It is a mutually beneficial relationship, as those in charge of mining gain a way to export illegal gold, while the drug

traffickers get a way to launder their cash coming from abroad. These dynamics are not bound only to Peru, as the route of illegal gold and laundering can quickly change between Amazon regions and countries if a particular place is faced with international regulation. The problem here is not only the devastation of social, cultural, and labor rights due to the spread of all sorts of wanton illegalities in the gold-mining frontiers, including murders and violence and human rights abuses, but also a longer-term and far-spread health crisis caused by using mercury in gold-mining activities. In addition, the excavation of deep pits and the mining side-waste that is left along the rivers are huge problems that cause natural reforestation to cease. These activities leave the land unavailable for other uses, destroying the potable water sources and causing habitat losses for Indigenous populations and other-than-humans near and far. However, there has also been resistance to this expansion of gold mining across the Amazon, by both progressive state actors as well as by active Indigenous organizations, with notable results in barring the expansion of mining. While more could be done, significant regulatory improvements are already underway to improve the situation, for example, in Brazil there are many moves to undo the extreme havoc caused during the Bolsonaro era.

The investment in infrastructure has major impacts on the increase of deforestation, as prior studies have established; focusing, for example, on the key role of Chinese financing (Creutzfeldt, 2016) and particularly the financing of the Interoceanic Highway (Dammert, 2018). Major infrastructural projects of neoextractivist regimes like the Interoceanic Highway, which was built between 2006 and 2012, were key in enabling the expansion of Peru's gold-mining RDPE. The highway's planning and execution were central to the Brazilian Odebrecht company and Lula's South–South and Pan-Amazonian corruption-filled infrastructural projects that aimed to increase commodity exports to China. The role of extractivist infrastructures is therefore strongly correlated with increases in deforestation, but this mostly has to do with the existence of deforesting extractivist RDPEs that push for and abuse the road networks created.

In 2022, I interviewed Elsa Mendoza, a Peruvian consultant who had been part of the Interoceanic Highway project from its inception, doing participatory baseline and impact studies in 2001 and 2009 for the whole road, on both sides of the border (Mendoza, 2012). When she started this project, she said there was not as much deforestation as in 2017, or gold mining. However, in 2009–2010 they started to see the potential for deforestation, not from cattle, but from gold mining. While gold continues to be the main cause, the highway has also led to some ranching expansion coming from Brazil, pushed by certain interregion families, which also increased deforesting ranching in Peru, according to Malu from CPI in Acre (interview, 2022). Malu told me, “Today it [the roadsides] are equal with the side of Brazil and they are spreading the cattle-raising ... they are bringing

the worst in Brazil ... this experience of cattle-raising to there as well.” Mendoza explained that this was a similar situation as the case of Pando in Bolivia, which was also done primarily by Brazilians, who also brought the habit to Peru of opening huge areas by clearcutting ranching. However, she saw that the large conservation areas make ranching and plantation expansion hard in Madre de Dios and that there ranching cannot really compete with the powerful cattle sector in Acre, which exports to Peru and manages to produce and sell much cheaper beef. In this way, paradoxically, a strong extractivist RDPE on the other side of a polity line can support, by its relative competitiveness, in the presence of a competing RDPE on the other side (gold in Peru), the efforts stifling interregional and international expansion of a particular RDPE. This is an important point, since this situation created state-extractivist sector competitiveness in political economy, by subsidies and preferential territorial access. This also helps to explain the path dependencies and inter-RDPE dynamics, where, for example, the very efficient palm oil plantation sector in Indonesia does not jump to Mato Grosso to compete with the soybean sector for the land use.

In comparison to Acre and Madre de Dios, Mendoza saw that Evo Morales has opened Pando, on the Bolivian side, more to ranching than the Peruvian side, where mining is the “predominant activity” in Madre de Dios. She continued, “They are entering by all the rivers there ... where they find traces of gold, they are entering, there is no way to slow down this, the landscape changes.” In her words, the region’s landscape has changed “totally.” “When we passed there in 2001, by the Highway,” there was “no mining along the highway that today is asphalted, but in 2015 when we returned it was already a ‘boom,’ it was fast, the highway was asphalted and it did not take even 2 or 3 years” for “them to come and start to open, and they come heavily, with heavy machinery, it is not that artisanal activity they call it.” The arrival of roads is the key factor to explain how the dominant extractivist sector has enabled a further expansion to forests. This is something that the neodevelopmentalist regimes do not seem to understand, as they think the issue could be controlled by good governance and the creation of set-aside zones. First, the economies of deforestation need to be curbed and divested of their current social, symbolic, and physical control of space. Only then can nondeforesting sectors’ valuations and networks retake these spaces.

Finland

Lastly, the Nordic setting of Finland, in comparison to the Peruvian and Brazilian versions of deforestation, offered nuances on how deforestation takes place in a supposedly modern forestry extractivist sector, which replaces seminatural forests with single-species (mostly spruce) tree plantations at an astonishingly rapid

pace given the context. While in the case of Peru and Brazil deforestation occurs mostly due to the activities of nonforest industry users of forestland, in the case of Finland, the highly industrialized and modern forest industry, with major ongoing pulp and bioenergy investments, is a main driver and pusher of deforestation, utilizing forestry practices that seriously change the landscape and ecosystem of the forest. The bioeconomy hype and policies, with many new investments that need increased wood inputs, are pushing to increase deforestation (Kröger & Raitio, 2017). Finland is a key global case to understand what could happen in other areas around the globe that might adopt the model of building new pulp and bioenergy facilities that source their inputs from trees (Kröger, 2016).

Finland was used as a case study of how industrial forestry has become a nationally dominant political economy because it has the most power in defining forest land usage and steers the land usage to its own interests. I argue that this situation is possible due to a specific kind of forestry extractivism perpetrated by the paper and pulp industry, whose demand and sourcing of pulpwood (fiber wood) determines the bulk of Finnish land use. Due to the prevalence and power of this industry, old-growth forests are very rare in Finland, especially in the southern part of the country. Additionally, while forestry is a longstanding industry, since the mid 1990s there has been a marked increase in harvesting rates. The so-called bioeconomy boom has ushered in a new wave of government-sanctioned increases in logging and a boom in mega pulp mills. Simultaneously, these mills are marketed as biorefineries or bioproduct mills, while in practice most of the products are not replacements for plastic or other fossil-fuel products but are bulk products in the form of pulp. Most of this pulp is then exported, increasingly to China, which is currently in the process of replacing Finland as the development hub of the global industrial forestry and paper industry, as it leads in general processing and innovation in the global political economy of trees.

The widespread use of clearcutting is a perceptible sign of the supremacy of the pulp and paper industry and the role of wood-fiber-based capitalism in the Finnish economy, politics, and the key forest owners' moral economy. These political economic interests are seldom raised in public discussions on clearcutting, which is often framed as the only wise, possible, and profitable way to manage a forest. This messaging can be found in popular television programs, newspapers, and political debates. This is a sign of a deeply transformed moral economy that supports the interests of the pulp industry by creating "truths" about forestry that directly benefit the interests of the forestry sector. These interests are hidden under the moral economic guise of what is best for forest stewardship. These industry views have been incorporated by thousands of forest owners who mostly assume that the interests of the pulp and paper industry are also their interests. This false alignment of interests has developed after decades of propaganda by the state and the whole

pulping RDPE apparatus. Outside of the city, few even dare to openly criticize this pulping and clearcutting hegemony.

The 1980s and 1990s saw activism grow, including blocking logging sites. This resulted in some large conservation areas in Northern Finland (Kauppinen, 2021), but there was a gap in direct action until the 2020s, when the effect of post-2015 bioeconomy boom started to show. A new forest movement *Metsäliike*, linked to XR, began to vehemently question and actively resist by protesting these assumptions. Longer-term forest activists, such as Yrjö Haverinen, linked for about 15 years to SLL, which uses more conventional resistance tactics, saw the actions of XR and other new similar movements with their radical acts “as good awakeners. So that people are woken to see that forest has also other than wood growth value.... Awakenings are really needed to maintain and protect the biodiversity.” In terms of forest activism, in comparison to some other places like the Amazon, Finland is not currently a forerunner but a place where people are slowly waking up, or more precisely, where some courageous youth are calling for the bulk of population to wake up, to speak up, and to stand up for the remaining forests, propositions that were previously considered not possible under the pressure of the pulping RDPE hegemony.

The doxa of the pulp dominance in Finland has been questioned in recent years, but not unilaterally across the country. This building of heterodox voices has been focused especially on the capital region and some other bigger cities such as Tampere and Turku. However, despite this movement, many regions have remained mostly under doxa, especially the pulp and paper production bulwarks such as South Karelia and much of the countryside.

Global Extractivist Sectors

These studies also offered crucial insights on the characteristics of global, financialized extractivist sectors – ranching, mining, forestry – and how they are related to specific contextual deforestations. This is crucial for understanding the dynamics between driving and enabling factors, which can aid in identifying these dynamics in other contexts. This allows one to see how ranching–land speculation, illegal and dispersed gold mining, and tree-based bioeconomy as extractive systems – each with their own logics and economies – can influence deforestation and the political dynamics through which this deforestation happens.

My political ethnographic studies also highlighted regional variations, such as the case of Acre, Brazil, where a supposedly benign and even green PT government not only witnessed but promulgated an increase in deforestation even inside conservation areas, based on the principles of neodevelopmentalism. Nationally, the PT government overruled court orders to discontinue building the destructive

Belo Monte Dam, which resulted in opening large parts of the Amazon to further deforestation, downgrading the effectiveness of state's regulatory and inspection functions. The dam was built largely due to corrupt relationships between construction companies and the government, without real benefits for electricity generation or development. Research has shown that environmental monitoring and law enforcement, which reduce deforestation, are not inimical to local economic development, but stricter monitoring improves economic performance and conditions (Merkus, 2024). Yet, the PT allocated even more public money on expanding deforesting extractivisms in different parts of Brazil, which bolstered the power of extractivist sectors and corporations. These decisions paved the way for the rise of Bolsonaro and his allies. In Acre, a literal cutting away of the forests that had sustained socioenvironmentalist movements before their forest-based existence began to be eroded by the neodevelopmentalist agendas of so-called progressive governments, happened. This yielded an understanding that extractive capitalisms are systems, with their accompanying impacts and territorial reaches.

In all the studied cases there were expressions of extractivist capitalist expansions of different types and degrees, and resistance and other types of responses among the local populations, including internal divisions, conflicts, and enabling participation in the extractivist pressures. Yet I have only included some examples from my rich ethnographic material, which is comprised of hundreds of pages of transcribed interviews. In each case, the lesson learned at the regional and sectorial levels were reflected in the global and international systems; thus, uniting the analyses.

These findings underline the hypothesis that the Peruvian Amazon has an illegal gold-mining RDPE, while in Brazil there are several different deforesting RDPEs, including gold mining, ranching-grabbing, and soybean/corn monocultures in the Amazon. In other parts of Brazil, deforestation is driven by other sectors, which are also RDPEs in their respective regions. A clear example is the eucalyptus monoculture plantations for pulp production that are owned and operated by a few corporations in the Três Lagoas region of Mato Grosso do Sul state, making this Cerrado biome region the largest pulp-producing region. In the Atlantic Rainforest biome, which is in the extreme southern part of the state of Bahia and in the Espírito Santo state, there are also pulping RDPEs that cause deforestation. This said, not all of Brazil – or the other countries discussed herein – are completely covered by deforesting or other kinds of RDPEs.

Changes may be forthcoming as localities start to face the new realities of excessive deforestation. This is especially apparent in those nations whose existence, stability, and strength rely on continued raw material production, such as Brazil with its agroextractivist enclaves for plantations reliant on rainfall and stable climatic conditions. While most of these changes may come too late, due to the

dynamics of tipping points, forests may start to become more important. Such a change in the role given to forests would entail altering a very old and established set of dynamics through which forests are treated as nonissues within the current international political economy. The interstate system, with its competition for power and the resulting wars, has been the ultimate driver that explains why forests have been so wantonly destroyed for thousands of years and especially during the past 550 years. This type of analysis challenges prior notions on nation-state centrality, offering regionally dominant and globally tied extractivist sectors as the key units of explanation.

Epilogue

In early November 2019, I traveled to Brazil for another field research trip to study the causes of deforestation in the Amazon. Landing in Rio de Janeiro felt wonderful. Rio was my former hometown where I lived for years and immersed myself in the Brazilian culture and lifestyle. The city surprised me again with its beauty and life: from the lovely beaches and mountains with lush green plant life everywhere, to meeting again old friends and colleagues and having deep and important conversations. Clouds covered the many hills at dusk as I wandered on the shoreline of Flamengo with two friends, looking at the cloud-covered top of the Sugar Loaf and wondering with them what the fate of the world will be.

From Rio's rather chilly weather I traveled next to the hot furnace of Brasília, the capital city. When I flew into the city, for a long time I could see from the plane's window soybean fields that had ravaged forest areas: red and yellow fields with red roads that ran between circle-shaped plantations. There were numerous ravines whose edges had been licked bare of trees, sometimes with just a thin line of forest running along the shore of the river. These areas had also been burned, as the Bolsonaro supporters have set fires here as in other places across the country. My colleague living in Brasília came to pick me up and pondered that maybe the fires lit by Bolsonaro supporters – that had grown scandalously large – had caused the delay of rains. I have no proper words to describe how hot it felt when I stepped into the Brasília air. It felt like some god, spirit, or spirits were taking revenge on the capital for setting the fires and the increases in activist murders and rural violence that had skyrocketed in an unforeseen way in 2019. The general atmosphere was one of lawlessness, reflecting the speeches of Bolsonaro urging the populace to deforest. The air and energy were heavy, thirsty. I stayed overnight in the middle of the downtown, between skyscrapers, with concrete walls as my scenery. The atmosphere was negative, completely different from a year ago, when Bolsonaro was not yet in power. Something bad seemed to hang in the air and all I wanted was to get away from downtown. I craved to be in a smaller village – closer to nature and greenery. In this post-apocalyptic,

post-nature environment there was only glass, cement, and steel, as if highlighting the direction in which we were headed.

I went to Brazil's Congress house to do interviews with politicians and was greeted after the scanners by men who looked like soldiers, wearing military pants, and distributing tracts of God to everyone passing by. My colleague explained to me that these evangelists, including politicians who were part of the phenomenon, used Christianity as a smokescreen for unscrupulous businesses and to increase power, with the aim being to forbid critical thinking and collect money for the leaders of these new churches. Their speeches on television echoed and felt full of hate, lies and slander, fearmongering, and revenge, misleading the people and trying to root out independent thinking and education. This was a big, fast-moving cultural change and it was not only taking place in Brazil. The whole experience of arriving in this city of money and devastation, the visit to Congress, and the Bible, bullet, and bull-touting evangelists' presence set the mood for the forthcoming trip from Cuiaba to Santarém by car.

When leaving Brasília, I had gotten food poisoning and stayed in bed for two days with a high fever; however, after fasting I was feeling better – calmer. Perhaps the food poisoning was a way of expelling all the bad energy that had collected in the city. A storm wind was rising, even though the rains were also late here and coming more feebly. The drought was even worse down south in Pantanal, with massive fires. Still, farmers were waiting for the situation to somehow normalize – as if climate change did not exist and their nature-ravaging actions would not have any impacts. The wind buffeted the trees so that they were bending and sighing, the air was filled with all sorts of loose debris, the sky was cloudy and pink, and there was a rainbow in the distance although there had not been rain. It was 35 degrees Celsius (95 degrees Fahrenheit). Amid this scene, I observed a line of cars, studded with the flags of Brazil, which drove past honking, playing Brazil's national anthem loudly. Some cars were also playing a parody of "YMCA" by The Village People, whose lyrics mocked the Supreme Court and the left. The message of this car cavalcade made up of rich soybean farmers was that the Supreme Court judges should be removed and the court dismantled. After the long line had passed, night was setting in Cuiaba, but despite the strong winds, no rain came. It had been like that for weeks I heard and heavy rain should have already come. Outside, it constantly looked as if it would rain, but then it did not rain, at most just a little sprinkling.

I pondered if this was what the beginning of the end looks like. The areas north and south of here had been poisoned by large amounts of agrotoxics, which were found even in mothers' milk. The water was depleted, as springs and the beginnings of rivers had been destroyed. Toward the south the destruction was even worse, as before they could get rain it needed to rain here. Yet, a full 24 hours a day television channels were screening videos and commercials on soybean cultivation



Figure EP.1 A soybean farmholder eyeing his crop at dusk in the endless fields that used to have tall forests. Nova Mutum, Mato Grosso. November 2019. Photo by author.

and ranching, an endless message of continued growth. Canal de Boi, the Channel of Bull, was showing a live auction of bulls, advertising Ruminar, a powder to make cattle grow better. I thought that there is not much space for the Amazon or other forests and life-worlds within that space.

On our way north to visit soybean farmers in Nova Mutum, we drove past endless soybean fields (see [Figure EP.1](#)). The lines of soybean trucks we passed on the highway were like trains, carrying away the Amazon and Cerrado to be fed to animals to support meat production in distant places. The landscape was soybean plantations, huge silo complexes, large agribusiness storage facilities, sales points for Bayer agrotoxics, large machinery shops – one after another in seemingly endless succession. The whole BR-163 was filled with this monotonous, repetitive landscape for hundreds of kilometers in northern Mato Grosso. Like carbon copies, there were corn ethanol plants, soybean silos, tractor sales points on roadsides. It seemed almost as if they were reproducing themselves; as if it was an artificial intelligence that had become blind to its own productivity. I thought that this system is so powerful that it is the real reason behind deforestation and will drag down all that tries to stand against it: As long as there is growth in the demand of feed for meat production genetically modified soy and poisons will travel from these fields of death to a useless protein overload.

In Sinop, the town with the most sawmills in Brazil, over 400 running at any given time, we visited huge piles of logs. Dust hung in the air at sawmills, as fresh



Figure EP.2 A Munduruku man looking at a bird on a tree at the perimeter they created around their territory in Sawré Muybu, Pará, Brazil. November 2019. Photo by author.

tropical wood was cut into blanks. Large machines moved loads back and forth. We talked for a long time to the municipal environmental director, who told how heart-breaking it was to see the illegal logging of large trees, but also that further away in the Amazon there was still a tree that took 20 people holding hands to fully circle. As I listened, the sun scorched the ground and sweat pearled on my forehead. In the muddy yard of the sawmill the owner told me his story, of how he had arrived at a forest and it was just gone, every last tree. Shortly after this encounter, we visited a protected city forest, which was our first contact with an Amazon forest on this trip. In contrast to the sunblasted sawmill yard, here the air was cooler – the surroundings were green, there were still thick, old trees, and here the forest spirit was still alive.

After several visits to gold-mining areas and burning forests, we also visited an Indigenous village of the Munduruku by the Tapajós River. We drove on the Transamazônica until Bubure port and from there took a boat driven by a young Munduruku man. We stopped after some rapids and gorgeous tall trees on the riversides to the place where the Munduruku had recently marked the borders of their territory by signs and cutting a patrolling route. To walk the length of the route through the forest took three days (see Figure EP.2). The sign showed a

Munduruku holding a human head, with the text in Munduruku and Portuguese saying, “Mother Earth we have respect [for],” which sent a clear message to trespassers. Our Munduruku guide was standing attentively and silently, being present, in the woods. It was a distinct sight of another time-space, after the business of the city of Itaituba and gold-diggers’ hastiness. He pointed to a large bird in the canopy that I had not seen before. We continued the boat ride. A heavy rain and thunderstorm followed us, leaving us completely soaked. The skipper was excellent; I do not know how he managed with the boat, as I could not see much at all. The rain was pouring so hard that it felt like being in a hailstorm. This was a dramatic arrival to the Sawré Muybu village, which rose up on a steep hill among vegetation. I was happy, the rain felt purifying, and it was energizing to walk up the hill carrying our gear amid the thunder strikes and heavy rain.

We stayed for two nights in hammocks in the village. I walked into the forest alone at the end of each day. It was magical, hearing monkeys and feeling the presence of something even bigger than the big trees next to the swidden cultivation areas. The sunset was beautiful and the villagers were playing football, with kids running and playing on the field. Earlier we had swum in the Igarapé, a serene, tranquil stream down in a gorge in the middle of the trees. The Cacique and other villagers gave beautiful interviews on what the Amazon and its forests mean to them, revealing how different their way of relating with and being in the world is in comparison to most people. The Cacique explained that they are the trees, the animals, and the food because everything needs everything else to continue to exist. Visiting this home of the original people of the Amazon was a striking contrast to the scenes of colonization on all the roadsides on the way here. Luckily, there are still many places in the Amazon and elsewhere in the world where reciprocal, respectful ways of living in the web of life are upheld and perpetuated, offering a good life not only for those safeguarding these lifeways by their daily acts, but to all around the planet enjoying of the benefits of forests near and far.

Glossary

aldeia a village, often referring to Indigenous villages in Brazil

autodefensas right-wing paramilitary groups

bandidagem criminal actions

bandido a criminal

caciques Indigenous leaders

Cadastro Ambiental Rural Rural Environmental Registry

cartórios notary offices that register land deeds

castaño Brazil nut collectors

chagra a forest garden for food, feed, medicinal, and other purposes

colocação land lots of ex-rubber tappers

companheiros activist fellows and companions, friends, sharing the cause, in Brazil

compra some purchased goods or food

dono de facto owner/controller of the area

erätarkastaja warden

fazendeiro large farmer

fiscais inspectors, environmental police officers

fronteira frontier

garimpeiros small-scale gold miners, typically mining illegally in small to medium-scale mechanized mines

garimpos illegal gold-mining sites

grande latifundio large landholders

grandes “big men”

grilagem falsification of documents

grileiros professional land grabbers specializing in the violence needed to dispossess people and retain the lands obtained through land title frauds.

harsintahakkuu selection felling

jokaisenoikeudet “everyone’s rights” in Finland, which refers to the freedom to roam the whole country, to collect mushrooms and berries, irrespective of who owns the forest.

lähteä lapasesta a traditional Finnish phrase “Left from a mitten,” meaning something that is getting out of control.

latifundiários landholders

latifundios landholders

Luonnonmetsätyöryhmä a natural forest work group

Luontoliitto Finnish Nature Association

madereiro logger

mãe Terra Mother Earth

mandantes those ordering the killings

Meidän metsämme a forest movement in Finland called “Our Forests”

Metsähallitus the forest government

Metsälehti *The Forest Magazine*

Metsäliike Forest Movement

Metsänhoitoyhdistys a regional forest stewardship association

muito chucras super rude

narcogarimpeiros those carrying out the criminal activities in the interlinked gold-mining and drug networks

narcogarimpo the linking of organized drug traffickers and criminal networks with gold-mining activities

Osaran aukot the Clearcuts of Osara

pajé shaman

pariuás white people, outsiders, as referred to by them

peão de gado ranch manager

polacos brancos white Polish people

posse usage rights

posseiros squatters

prostibares localities known for mafia-run prostitution of minors and Indigenous women from distant lands

raiskata to rape, comes from an older Finnish word “raiskio,” which means “clearcut”

raiskio ravaged forests, older Finnish word for “clearcut”

ramal unpaved access roads

Suomen puunjalostusteollisuuden keskusliitto Finnish Confederation of Wood Processing Industries

terras devolutas nondesignated public lands

References

Aalto, T. (@TinoAalto). (2024). “Kuva siitä, miten puurakentamisen edistäminen sujuu. Hiilivarastoja olisi tarjolla puutuotteissa, mutta ei Suomessa oikein lähde homma pyörimään. Viimeisimmät vastuuministeriön teot: ajetaan alas puurakentamisen edistämishojelma ja kevennetään ilmastovaateita rakentamislaisissa [A picture of how the promotion of wood construction works. Carbon stocks would be available in wood products, but it doesn't really work in Finland. The latest actions of the responsible ministry: The program for the promotion of wooden construction will be rolled back and the climate requirements in the Construction Act will be eased].” X, May 2, 2024, 3:03 p.m. <https://x.com/TinoAalto/status/1786003481603559633>.

Agência Senado. (2022). “Relatório aponta desmonte de órgãos e grilagem na Amazônia com uso de cadastro ambiental [Report points to the dismantling of organs and land grabbing in the Amazon using environmental registration].” Senado Federal, November 1, 2022. www12.senado.leg.br/noticias/materias/2022/11/01/relatorio-aponta-desmonte-de-orgaos-e-grilagem-na-amazonia-com-dados-do-car.

Alanko, J. (@bepop10). (2021). “Tässä se on nyt räntättynä: Metsäammattilaisen tulee myydä metsänomistajille kaikenlaista luontoa runtelevaa palvelua. Niistä syntyy MHY:lle katetta. Jatkuvan kasvatuksen suositteleminen on MHY:lle kannattamatonta, joten sitä dissataan kaikin tavoin [Here's how it boils down: A forestry professional must sell all kinds of nature-destroying services to forest owners. They generate profit for MHY. Recommending continuous tree-growing is unprofitable for MHY, so it is dissuaded in every way].” X, November 15, 2021, 2:11 p.m. <https://twitter.com/bepop10/status/1460218969151975429>.

Alarcón, G., Díaz, J., Vela, M., García, M. & Gutiérrez, J. (2016). Deforestación en el sureste de la amazonía del Perú entre los años 1999–2013; caso Regional de Madre de Dios (Puerto Maldonado–Inambari) [Deforestation in the southeast of the amazon of Peru between the years 1999–2013; the regional case of Madre de Dios (Puerto Maldonado – Inambari)]. *Revista Investigaciones Altoandinas*, 18(3), 319–330.

Ali, N. G. (2015). Reading Gramsci through Fanon: Hegemony before dominance in revolutionary theory. *Rethinking Marxism*, 27(2), 241–257. <https://doi.org/10.1080/08935696.2015.1007793>.

Alteridad. (2021). “Respuesta a la Carta Abierta de Boaventura de Souza [Response to the open letter from Boaventura de Souza].” Last modified March 14, 2021. www.alteridad.net/2021/03/14/respuesta-a-la-carta-abierta-de-boaventura-de-souza/.

Amazon Watch. (2022). *Dossiê Ouro de Sangue: Cumplicidade na Destrução V* [Blood Gold Dossier: Complicity in Destruction V], 2022–09.

Angelo, M. (2020). “Amazônia tem 4,5 mil locais de garimpo ilegal identificados, mais da metade no Brasil [Amazon has 4,500 illegal mining sites identified, more than half in Brazil].”

Observatório da Mineração, December 8, 2020. <https://observatoriodamineracao.com.br/amazonia-tem-45-mil-locais-de-garimpo-ilegal-identificados-mais-da-metade-no-brasil/>.

Aprosoja Brasil. (n.d.). "Social." The Soybean. Accessed May 28, 2024. <https://aprosojabrasil.com.br/en/the-soybean/social/>.

Arriarán, G. (2019). *Frontera Pirata* [Pirate Frontier], 1st ed. Lima, Peru: Planeta.

Asner, G. P. & Tupayachi, R. (2017). Accelerated losses of protected forests from gold mining in the Peruvian Amazon. *Environmental Research Letters*, 12(9), 094004. <https://doi.org/10.1088/1748-9326/aa7dab>.

Atkinson, C. L. (2014). Deforestation and transboundary haze in Indonesia: Path dependence and elite influences. *Environment and Urbanization Asia*, 5(2), 253–267. <https://doi.org/10.1177/0975425315577905>.

Baker, S. & Eckerberg, K. (2014). The role of the state in the governance of sustainable development: Subnational practices in European states. In A. Duit, ed., *State and Environment: The Comparative Study of Environmental Governance*. Cambridge, MA: MIT Press, pp. 179–202. <https://doi.org/10.7551/mitpress/9094.003.0012>.

Banco do Brasil. (n.d.). "Custeio Agropecuário [Financing farming]." Accessed February 15, 2024. www.bb.com.br/site/agronegocios/custeio-agropecuario/.

Barbosa, F. A., Soares Filho, B. S., Merry, F. D., Azevedo, H. D. O., Costa, W. L. S., Coe, M. T., ... & Rodrigues, H. O. (2015). Cenários para a pecuária de corte Amazônica [Scenarios for Amazonian beef cattle farming]. *Universidade Federal de Minas Gerais: Belo Horizonte, Brazil*, 154.

Bedinelli, T. (2022). "Por que os garimpeiros comem as vaginas das mulheres Yanomami?". Sumaúma [Why do the miners screw the vaginas of Yanomami women?]. Sumaúma. Accessed February 21, 2024. <https://sumaua.com/por-que-os-garimpeiros-comem-as-vaginas-das-mulheres-yanomami/>.

Belcher, O., Bigger, P., Neimark, B. & Kennelly, C. (2020). Hidden carbon costs of the 'everywhere war': Logistics, geopolitical ecology, and the carbon boot-print of the US military. *Transactions of the Institute of British Geographers*, 45(1), 65–80. <https://doi.org/10.1111/tran.12319>.

Benites, G. V. & Bebbington, A. (2020). Political settlements and the governance of Covid-19: Mining, risk, and territorial control in Peru. *Journal of Latin American Geography* 19(3), 215–223. <https://doi.org/10.1353/lag.2020.0081>

BIOS. (2017). "Tutkijoiden julkilausuma: Suomen metsänkäytösunmitelmat kiihdyttäisivät ilmastonmuutosta ja heikentäisivät luonnon monimuotoisuutta [Researchers' statement: Finland's forest management plans would accelerate climate change and weaken biodiversity]." March 24, 2017. <https://bios.fi/julkilausuma>.

Bispo, F. (2022). "Mesmo sob ordem judicial, Funai não pretende reeditar portaria que protege indígenas isolados da Ituna-Itatá [Even under court order, Funai does not intend to reissue ordinance that protects isolated indigenous people of Ituna-Itatá]." InfoAmazonia (blog). January 27, 2022. <https://infoamazonia.org/2022/01/27/mesmo-sob-ordem-judicial-funai-nao-pretende-reeditar-portaria-que-protege-indigenas-isolados-da-ituna-itata/>.

Blackman, A., Corral, L., Lima, E. S. & Asner, G. P. (2017). Titling indigenous communities protects forests in the Peruvian Amazon. *Proceedings of the National Academy of Sciences*, 114(16), 4123–4128. <https://doi.org/10.1073/pnas.1603290114>

Blaikie, P. & Brookfield, H., eds. (1987). *Land Degradation and Society*, 1st ed. London, UK: Methuen.

Borras, S. M., Franco, J. C., Gómez, S., Kay, C. & Spoor, M. (2012). Land grabbing in Latin America and the Caribbean. *The Journal of Peasant Studies*, 39(3–4), 845–872. <https://doi.org/10.1080/03066150.2012.679931>

Borras, S. M., Hall, R., Scoones, I., White, B. & Wolford, W. (2011). Towards a better understanding of global land grabbing: An editorial introduction. *The Journal of Peasant Studies*, 38(2), 209–216. <https://doi.org/10.1080/03066150.2011.559005>

Bounds, A., Hancock, A. & Beattie, A. (2024). “EU delays stricter rules on imports from deforested areas.” *Financial Times*, March 8, 2024. www.ft.com/content/8dab4dc6-197b-4a2f-86f0-d5e83ce00b09

Bourdieu, P. (1977). *Outline of a Theory of Practice*. Cambridge, UK: Cambridge University Press. <https://doi.org/10.1017/CBO9780511812507>

Bourdieu, P. (1986). The forms of capital. In J. G. Richardson, ed., *Handbook of Theory and Research for the Sociology of Education*. New York, NY: Greenwood Press, pp. 241–258.

Bourdieu, P. (1991). *Language and Symbolic Power*, 1st ed. Cambridge, UK: Polity Press.

Bratman, E. (2015). Passive revolution in the green economy: Activism and the Belo Monte dam. *International Environmental Agreements: Politics, Law and Economics*, 15, 61–77. <https://doi.org/10.1007/s10784-014-9268-z>

Bratman, E. Z. (2019). *Governing the Rainforest: Sustainable Development Politics in the Brazilian Amazon*, Illustr. ed. Oxford, UK: Oxford University Press.

Braudel, F. (1992). *Civilization and Capitalism, 15th–18th Century, Vol. I: The Structure of Everyday Life*, 1st ed. Oakland, CA: University of California Press.

Brindis, D. (2009). *Slaughtering the Amazon*, Greenpeace USA 2009–06–09.

Brito, B., Almeida, J. & Gomes, P. (2021). *Legislação Fundiária Brasileira Incentiva Grilagem e Desmatamento na Amazônia* [Brazilian Land Legislation Encourages Land Grabbing and Deforestation in the Amazon,], Brazil: Imazon.

Browder, J. O. (1986). “Logging the rainforest: A political economy of timber extraction and unequal exchange in The Brazilian Amazon (Tropical Forestry, Trade, Mahogany).” PhD diss., University of Pennsylvania.

Bull, H. (2012). *The Anarchical Society: A Study of Order in World Politics*, 4th ed. London, UK: Red Globe Publishing.

Bunker, S. G. (1988). *Underdeveloping the Amazon: Extraction, Unequal Exchange, and the Failure of the Modern State*, 1st ed. Chicago, IL: University of Chicago Press.

Büscher, B. (2016). Reassessing fortress conservation? New media and the politics of distinction in Kruger National Park. *Annals of the American Association of Geographers*, 106(1), 114–129. <https://doi.org/10.1080/00045608.2015.1095061>

Caballero Espejo, J., Messinger, M., Román-Dañobeytia et al. (2018). Deforestation and forest degradation due to gold mining in the Peruvian Amazon: A 34-year perspective. *Remote Sensing*, 10(12), 1903. <https://doi.org/10.3390/rs10121903>

Campbell, J. M. (2015). *Conjuring Property: Speculation and Environmental Futures in the Brazilian Amazon*, Illustr. ed. Seattle, WA: University of Washington Press.

Cannon, J. (2017). “Deforestation from gold mining in Peru continues, despite govt crackdowns.” *Mongabay*, August 22, 2017. <https://news.mongabay.com/2017/08/deforestation-from-gold-mining-in-peru-continues-despite-govt-crackdowns/>.

Carlos, S. M., Assad, E. D., Estevam, C. G. et al. (2022). *Costs of Recovering Degraded Pastures in the Brazilian States and Biomes*. São Paulo, Brazil: Observatório de Conhecimento e Inovação em Bioeconomia, Fundação Getulio Vargas – FGV-EESP 2022–08.

Carrero, G. C. & Fearnside, P. M. (2011). Forest clearing dynamics and the expansion of landholdings in Apuí, a deforestation hotspot on Brazil’s Transamazon Highway. *Ecology and Society*, 16(2). <https://doi.org/10.5751/ES-04105-160226>

Carrero, G. C., Fearnside, P. M., do Valle, D. R. & de Souza Alves, C. (2020). Deforestation trajectories on a development frontier in the Brazilian Amazon: 35 years of settlement colonization, policy and economic shifts, and land accumulation. *Environmental Management*, 66(6), 966–984. <https://doi.org/10.1007/s00267-020-01354-w>

Carrero, G. C., Walker, R. T., Simmons, C. S. & Fearnside, P. M. (2022). Land grabbing in the Brazilian Amazon: Stealing public land with government approval. *Land Use Policy*, 120s, 106133. <https://doi.org/10.1016/j.landusepol.2022.106133>

Carrillo-Hermosilla, J. (2006). A policy approach to the environmental impacts of technological lock-in. *Ecological Economics*, 58(4), 717–742. <https://doi.org/10.1016/j.ecolecon.2005.09.001>

Carter, M., ed. (2015). *Challenging Social Inequality: The Landless Rural Workers Movement and Agrarian Reform in Brazil*, 1st ed. Durham, NC: Duke University Press.

Cashore, B. W., Auld, G. & Newsom, D. (2004). *Governing through Markets: Forest Certification and the Emergence of Non-State Authority*, 1st ed. New Haven, CT: Yale University Press.

Cashore, B., Gale, F., Meidinger, E. & Newsom, D. (2006). Forest certification in developing and transitioning countries: Part of a sustainable future? *Environment: Science and Policy for Sustainable Development*, 48(9), 6–25. <https://doi.org/10.3200/ENVT.48.9.6-25>

Chagnon, C. W., Durante, F., Gills, B. et al. (2022). From extractivism to global extractivism: The evolution of an organizing concept. *The Journal of Peasant Studies*, 49(4), 760–792. <https://doi.org/10.1080/03066150.2022.2069015>

Chakravarty, S., Ghosh, S. K., Suresh, C. P., Dey, A. N. & Shukla, G. (2012). Deforestation: Causes, effects and control strategies. In C. Akais Okia, ed., *Global Perspectives on Sustainable Forest Management*. Rijeka, Croatia: InTech, pp. 3–28.

Chavez, A. B. & Perz, S. G. (2013). Path dependency and contingent causation in policy adoption and land use plans: The case of Southeastern Peru. *Geoforum*, 50, 138–148. <https://doi.org/10.1016/j.geoforum.2013.09.003>

Chavez Michaelsen, A., Huamani Briceño, L., Vilchez Baldeon, H. et al. (2020). The effects of climate change variability on rural livelihoods in Madre de Dios, Peru. *Regional Environmental Change*, 20, 1–16. <https://doi.org/10.1007/s10113-020-01649-y>

Chew, S. C. (2001). *World Ecological Degradation: Accumulation, Urbanization, and Deforestation, 3000 BC-AD 2000*, 1st ed. Walnut Creek, CA: AltaMira Press.

Chew, S. C. (2007). *The Recurring Dark Ages: Ecological Stress, Climate Changes, and System Transformation*, 1st ed. Lanham, MD: AltaMira Press.

Chumpitaz, Ó. (2020). “Madre de Dios: Mafias ‘devoran’ Tres Islas para extraer oro ilegal [Madre de Dios: Mafias ‘devour’ Tres Islas to extract illegal gold].” *La República*, February 9, 2020. <https://larepublica.pe/sociedad/2020/02/09/madre-de-dios-mafias-devoran-tres-islas-para-extraer-oro-ilegal>.

Clapp, J. (2021). The problem with growing corporate concentration and power in the global food system. *Nature Food*, 2(6), 404–408. <https://doi.org/10.1038/s43016-021-00297-7>

Cleary, D. (1993). After the frontier: Problems with political economy in the modern Brazilian Amazon. *Journal of Latin American Studies*, 25(2), 331–349. <https://doi.org/10.1017/S0022216X00004685>

Coelho, M. C., Wanderley, L. J. & Costa, R. (2017). Garimpeiros de ouro e cooperativismo no século XXI. Exemplos nos rios Tapajós, Juma e Madeira no Sudoeste da Amazônia Brasileira [Gold prospectors and cooperativism in the 21st century. Examples in the Tapajós, Juma and Madeira rivers in the Southwest of the Brazilian Amazon]. *Confins. Revue franco-brésilienne de géographie/Revista franco-brasileira de geografia*, (33). <https://doi.org/10.4000/confins.12445>

Comissão Pastoral da Terra. (2023). *Conflitos no Campo Brasil 2023 [Conflicts in the countryside Brazil 2023]*, Goiânia, Brazil: Centro de Documentação Dom Tomás Balduíno – CPT.

Cortés-McPherson, D. (2019). Expansion of small-scale gold mining in Madre de Dios: 'Capital interests' and the emergence of a new elite of entrepreneurs in the Peruvian Amazon. *The Extractive Industries and Society*, 6(2), 382–389. <https://doi.org/10.1016/j.exis.2019.01.002>

Crabtree, J. & Durand, F. (2017). *Peru: Elite Power and Political Capture*, 1st ed. London, UK: Bloomsbury Academic. <https://doi.org/10.5040/9781350221758>

Creutzfeldt, B. H. (2016). Not all plain sailing: Opportunities and pitfalls for Chinese investment in Peru. *Asian Perspective*, 40(4), 603–626. <https://doi.org/10.1353/apr.2016.0027>

Crouse, C. W. (2015). The use and effects of Agent Orange in Vietnam. In K. A. Clark, T. R. Shaul & B. H. Lower, eds., *Environmental ScienceBites*. Columbus, OH: The Ohio State University.

Crutzen, P. J. (2006). The "Anthropocene." In E. Ehlers & T. Krafft, eds., *Earth System Science in the Anthropocene*. Berlin, Germany: Springer, pp. 13–18. https://doi.org/10.1007/3-540-26590-2_3

Dammert, J. L. (2018). "Financing infrastructure projects in the Southern Amazon of Peru: Its relation with environmental and social safeguards." GEGI Working Paper 017, Safeguarding Sustainable Development project, Boston University Global Development Policy Center, October, 2018.

Damonte, G. H. (2016). The "Blind" state: Government quest for formalization and conflict with small-scale miners in the Peruvian Amazon. *Antipode*, 48(4), 956–976. <https://doi.org/10.1111/anti.12230>

Damonte, G. H. (2018). Mining formalization at the margins of the state: Small-scale miners and state governance in the Peruvian Amazon. *Development and Change*, 49(5), 1314–1335. <https://doi.org/10.1111/dech.12414>

Damonte, G. (2021). Limited state governance and institutional hybridization in alluvial ASM in Peru. *Resources Policy*, 72, 102118. <https://doi.org/10.1016/j.resourpol.2021.102118>

Dargent, E. & Urteaga, M. (2016). State response by external pressures: The determinants of the state's strengthening to face the illegal gold mining boom in Peru (2004–2015). *Revista de Ciencia Política*, 36(3), 655–677. <http://doi.org/10.4067/S0718-090X2016000300003>

Dauvergne, P. (2004). The environmental challenge to loggers in the Asia-Pacific: Corporate practices in informal regimes of governance. In D. L. Levy & P. J. Newell, eds., *The Business of Global Environmental Governance*. Cambridge, MA: MIT Press, pp. 169–197.

Dauvergne, P. & Lister, J. (2011). *Timber*, 1st ed. Cambridge, UK: Polity Press.

Dawson, N. M., Coolsaet, B., Sterling, E. J. et al. (2021). The role of Indigenous peoples and local communities in effective and equitable conservation. *Ecology and Society*, 26(3), 19. <https://doi.org/10.5751/ES-12625-260319>

de Area Leão Pereira, E. J., de Santana Ribeiro, L. C., da Silva Freitas, L. F. & Hernane Borges de Barros Pereira, H. B. (2020). Brazilian policy and agribusiness damage the Amazon rainforest. *Land Use Policy*, 92, 104491. <https://doi.org/10.1016/j.landusepol.2020.104491>

de Belmont, L. (2024). Mass atrocities against Indigenous peoples: Atrocity structure and the Brazilian Amazon under Bolsonaro. *Global Responsibility to Protect*, 1–30. <https://doi.org/10.1163/1875984X-20240007>

de la Cadena, M. & Blaser, M., eds. (2018). *A World of Many Worlds*, 1st ed. Durham, NC: Duke University Press.

de Souza, E. G. & Borda, J. C. (2019). *Arco de Fogo* [Fire Arch], 1st ed. São Paulo, Brazil: Novo Conceito.

Dehm, J. (2021). *Reconsidering REDD+: Authority, Power and Law in the Green Economy*, 1st ed. Cambridge, UK: Cambridge University Press.

Demokraatti. (2023). “EU:n sellukartellitutkinta ohi – tässä tulos [EU pulp cartel investigation over – here’s the result].” *Talous*. Last modified June 15, 2023. <https://demokraatti.fi/eun-sellukartellitutkinta-ohi-tassa-tulos>.

Diele-Viegas, L. M., Pereira, E. J. D. A. L. & Rocha, C. F. D. (2020). The new Brazilian gold rush: Is Amazonia at risk? *Forest Policy and Economics*, 119, 102270. <https://doi.org/10.1016/j.forepol.2020.102270>

Dietz, S., Rising, J., Stoerk, T. & Wagner, G. (2021). Economic impacts of tipping points in the climate system. *Proceedings of the National Academy of Sciences*, 118(34), e2103081118. <https://doi.org/10.1073/pnas.2103081118>

Diringer, S. E., Berk, A. J., Marani, M. et al. (2019). Deforestation due to artisanal and small-scale gold mining exacerbates soil and mercury mobilization in Madre de Dios, Peru. *Environmental Science & Technology*, 54(1), 286–296. <https://doi.org/10.1021/acs.est.9b06620>

Doherty, S. (2023). “Brazil targets illegal gold miners with force and legislation.” *InSight Crime*, March 7, 2023. <https://insightcrime.org/news/brazil-targets-illegal-gold-miners-with-force-and-legislation/>.

Domingues, M. S. & Bermann, C. (2012). O arco de desflorestamento na Amazônia: Da pecuária à soja [The arc of deforestation in the Amazon: From livestock to soy]. *Ambiente & Sociedade*, 15(2), 1–22. <https://doi.org/10.1590/S1414-753X2012000200002>

Domingues, G. & Sauer, S. (2023). Amazonian socio-environmental frontier: Struggles, resistance and contradictions in confronting the agrarian extractive frontier. *Third World Quarterly*, 44(10), 2208–2226. <https://doi.org/10.1080/01436597.2022.2124965>

Donner-Amnell, J. (1991). Metsäteollisuus yhteiskunnallisen kysymyksenä Suomessa. *Ympäristökyysymys* (January): 265–306.

Donner-Amnell, J. (2000). Suomen ja metsäteollisuuden muodonmuutos?: Kansainvälistymisen vaikutukset yhteiskunnan ja metsäyhtiöiden valintoihin [The transformation of Finland and the forest industry? : The effects of internationalization on the choices of society and forest companies]. *Alue ja ympäristö*, 29(2), 4–22.

Donner-Amnell, J. (@AmnellJakob). (2024a). “Metsät eivät riitä kaikkeen, vaan vain siihen, mikä koetaan arvokkaimmaksi.” *Puupula ja korkea hinta matalasuhdantees-sakin on johtamassa uuteen tilanteeseen metsien käytössä. Ruotsissa. Meillä sen sijaan kaikki kuten ennenkin?* [“Forests are not enough for everything, but only for what is perceived as the most valuable.” The shortage of wood and the high price even in a low economy is leading to a new situation in the use of forests. in Sweden. Instead, we have everything as before?].” X, May 6, 2024, 7:44 a.m. <https://x.com/AmnellJakob/status/17873426188559663>.

Donner-Amnell, J. (@AmnellJakob). (2024b). “Jos/kun UPM vähentää painopaperituotantoa Saksassa, antaa se tdnk hieman jatkoikaa FI tehtaille koska kulurakenne parempi. Koska kysytty yhä laskee, jatkoikaa tuskin huiman pitkästi. Onko paperituotantoa FI:ssa enää 2030-luvulla? [If/when UPM reduces printing paper production in Germany, it will most likely give a little extension to the mills in Finland because the cost structure is better. Since the demand is still falling, the extension is unlikely to be very long. Will there be paper production in FI in the 2030s?].” X, May 29, 2024, 8:18 p.m. <https://twitter.com/AmnellJakob/status/1795867362622583106>.

Dou, Y., Da Silva, R. F. B., Yang, H. & Liu, J. (2018). Spillover effect offsets the conservation effort in the Amazon. *Journal of Geographical Sciences*, 28, 1715–1732. <https://doi.org/10.1007/s11442-018-1539-0>

Dourojeanni, M., Ráez Luna, E. & Valle Riestra, E. (2016). *Ambiente y Recursos Naturales en el Perú: Quinquenio 2011–2016* [Environment and Natural Resources in Peru: Five-year period 2011–2016], 1st ed. Lima, Peru: Derecho, Ambiente y Recursos Naturales.

Dowbor, L. (2018). *The Age of Unproductive Capital: New Architectures of Power*, 1st ed. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Duff, P. M. & Downs, T. J. (2019). Frontline narratives on sustainable development challenges/opportunities in the ‘illegal’ gold mining region of Madre de Dios, Peru: Informing an integrative collaborative response. *The Extractive Industries and Society*, 6(2), 552–561. <https://doi.org/10.1016/j.exis.2019.01.005>

Dunlap, X. (2024). *This System Is Killing Us: Land Grabbing, the Green Economy and Ecological Conflict*, 1st ed. London, UK: Pluto Press.

Dunlap, A. & Jakobsen, J. (2020). *The Violent Technologies of Extraction: Political Ecology, Critical Agrarian Studies and the Capitalist World-eater*, 1st ed. London, UK: Palgrave.

Durand, F. (2015). *Poder Político y Gobierno Minero* [Political Power and Mining Government], 1st ed. Lima, Peru: CooperAcción – Acción Solidaria para el Desarrollo.

Durand, F. (2016). *Cuando el Poder Extractivo Captura el Estado: Lobbies, Puertas Giratorias y Paquetazo Ambiental en Perú* [When Extractive Power Captures the State: Lobbies, Revolving Doors and Environmental Package in Peru], 1st ed. Lima, Peru: Oxfam.

Durante, F., Kröger, M. & LaFleur, W. (2021). Extraction and extractivisms: Definitions and concepts. In J. Shapiro, & J-A. McNeish, eds., *Our Extractive Age: Expressions of Violence and Resistance*. London, UK: Taylor & Francis. <https://doi.org/10.4324/9781003127611>

Ebus, B. & Martinelli, T. (2022). Venezuela’s gold heist: The symbiotic relationship between the state, criminal networks and resource extraction. *Bulletin of Latin American Research*, 41(1), 105–122. <https://doi.org/10.1111/blar.13246>

Ehrnström-Fuentes, M. & Kröger, M. (2018). Birthing extractivism: The role of the state in forestry politics and development in Uruguay. *Journal of Rural Studies*, 57, 197–208. <https://doi.org/10.1016/j.jrurstud.2017.12.022>

Ekholm, K. & Friedman, J. (1982). “Capital” imperialism and exploitation in ancient world-systems. *Review (Fernand Braudel Center)*, 6(1), 87–109.

Enbuske, M. (2010). *Pohjois-Pohjanmaan ympäristöhistoria* [The Environmental History of North-Ostrobothnia]. Oulu, Finland: ELY-keskus.

Eriksson, O. (1995). Seedling recruitment in deciduous forest herbs: The effects of litter, soil chemistry and seed bank. *Flora*, 190(1), 65–70. [https://doi.org/10.1016/S0367-2530\(17\)30626-6](https://doi.org/10.1016/S0367-2530(17)30626-6)

Eskonen, H. (2021). “Metsäteollisuuden avohakkuille tyrmäys EU-komissiolta: niitä pitäisi ‘välttää’, linjataan uudessa, julkii vuodetussa metsästrategiassa [EU Commission slams forest industry’s clearcutting practices: they should be ‘avoided’, according to new, leaked forest strategy].” *Yle*, June 22, 2021. <https://yle.fi/a/3-11991896>.

Espin, J. (2023). Legal but environmentally harmful practices involved in gold mining in Madre de Dios, Peru. *Critical Criminology*, 31(2), 563–579. <https://doi.org/10.1007/s10612-023-09685-w>

European Commission. (n.d.) “Land use sector.” Climate Action. Accessed June 13, 2024. https://climate.ec.europa.eu/eu-action/land-use-sector_en#eu-rules-on-land-use-land-use-change-and-forestry-lulucf.

European Environmental Agency. (2011). “SC Opinion on Greenhouse Gas Accounting in Relation to Bioenergy.” European Environmental Agency. Accessed January 15, 2024. www.eea.europa.eu/en/about/working-practices/docs-register/sc-opinion-on-greenhouse-gas.

Evans, P. B. (1979). *Dependent Development: The Alliance of Multinational, State, and Local Capital in Brazil*, 1st ed. Princeton, NJ: Princeton University Press.

Evans, P. B. (1995). *Embedded Autonomy: States and Industrial Transformation*, 1st ed. Princeton, NJ: Princeton University Press.

Eyvindson, K., Duflot, R., Triviño, M. et al. (2021). High boreal forest multifunctionality requires continuous cover forestry as a dominant management. *Land Use Policy*, 100, 104918. <https://doi.org/10.1016/j.landusepol.2020.104918>

Fearnside, P. M. (2008). The roles and movements of actors in the deforestation of Brazilian Amazonia. *Ecology and Society*, 13(1).

Fearnside, P. M. (2015). Amazon dams and waterways: Brazil's Tapajós Basin plans. *Ambio*, 44, 426–439. <https://doi.org/10.1007/s13280-015-0642-z>

Fearnside, P. M. (2016). Brazilian politics threaten environmental policies. *Science*, 353(6301), 746–748. <https://doi.org/10.1126/science.aag0254>

Fernandes, S., Fernandes, G. W. & Fearnside, P. M. (2023). Sovereignty and reversing Brazil's history of Amazon destruction. *Land Use Policy*, 133, 106868. <https://doi.org/10.1016/j.landusepol.2023.106868>

Ferrante, L. & Fearnside, P. M. (2019). Brazil's new president and 'ruralists' threaten Amazonia's environment, traditional peoples and the global climate. *Environmental Conservation*, 46(4), 261–263. <https://doi.org/10.1017/S0376892919000213>

Ferrante, L. & Fearnside, P. M. (2020). Military forces and COVID-19 as smokescreens for Amazon destruction and violation of Indigenous rights. *DIE ERDE – Journal of the Geographical Society of Berlin*, 151(4), 258–263. <https://doi.org/10.12854/erde-2020-542>

Ferreira, A. G. & Coelho, F. J. (2015). Product involvement, price perceptions, and brand loyalty. *Journal of Product & Brand Management*, 24(4), 349–364. <https://doi.org/10.1108/JPBM-06-2014-0623>

Ferrer Velasco, R., Köthke, M., Lippe, M. & Günter, S. (2020). Scale and context dependency of deforestation drivers: Insights from spatial econometrics in the tropics. *PLoS One*, 15(1), e0226830. <https://doi.org/10.1371/journal.pone.0226830>

Finnish Meteorological Institute. (2024). "New Policy Brief addresses the need for governance of risks related to climate system tipping points." Finnish Meteorological Institute, May 28, 2024. <https://en.ilmatieteenlaitos.fi/press-release/7xhhOhLOQe6R1eSHI6oGy4>

Finnish Natural Heritage Foundation. (2023). "We purchase forest areas and protect them permanently." <https://luonnonperintosaatio.fi/en/>.

Flach, R., Abrahão, G., Bryant, B. et al. (2021). Conserving the Cerrado and Amazon biomes of Brazil protects the soy economy from damaging warming. *World Development*, 146, 105582. <https://doi.org/10.1016/j.worlddev.2021.105582>

Forests & Finance. (2020). *Seu dinheiro está destruindo florestas tropicais ou violando direitos humanos? [Is your money destroying rainforests or violating human rights?]*, 2020–09.

Forsberg, P. & Jussila, A. (2023). *Puut puhuvat [The Trees are Talking]*, 1st ed. Helsinki, Finland: Minerva kustannus.

Foweraker, J. (1981). *The Struggle for Land: A Political Economy of the Pioneer Frontier in Brazil from 1930 to the Present Day*, 1st ed. New York, NY: Cambridge University Press.

Foxon, T. J. (2013). Technological lock-in. In J. Shogren, ed., *Encyclopedia of Energy, Natural Resource, and Environmental Economics*. Amsterdam, Netherlands: Elsevier Science, pp. 123–127.

Frame, M. L. (2022). *Ecological Imperialism, Development, and the Capitalist World-System: Cases from Africa and Asia*, 1st ed. London, UK: Routledge.

Frank, A. G. & Gills, B. (1994). The 5,000-year world system: An interdisciplinary introduction. In A. G. Frank & B. Gills, eds., *The World System: Five Hundred Years or Five Thousand*, 1st ed. London, UK: Routledge. <https://doi.org/10.4324/9781315005072>

Frilander, J. & Eskonen, H. (2020). "Valtion kokoinen hakkuuaukko [A clearcut the size of a state]." *Yle*, November 18, 2020. <https://yle.fi/a/3-11632010>.

Fritz, J. (2019). "Tutkimus: Metsänomistajille tarjotaan edelleen pääasiassa avohakkuita – satojen lajien ahdinko uhkaa pahentua [Research: Forest owners are still mainly offered clear-cutting – the plight of hundreds of species threatens to worsen]." *Mediatiedotteet* (blog), *WWF Suomi*. May 8, 2019. <https://wwf.fi/tiedotteet/2019/05/tutkimus-metsänomistajille-tarjotaan-edelleen-pääasiassa-avohakkuita-satojen-lajien-ahdinko-uhkaa-pahentua/>.

Fuhrmann, L. (2019). "Milícias e fuzis: as más companhias de Nabhan Garcia, o homem de Bolsonaro para a reforma agrária [Militias and rifles: The bad company of Nabhan Garcia, Bolsonaro's man for agrarian reform]." *Intercept*, Brasil, February 19, 2019. www.intercept.com.br/2019/02/19/milicias-nabhan-garcia/.

G1. (2022). "Eleições 2022: No Acre, Bolsonaro foi o candidato mais votado em 18 das 22 cidades [2022 Elections: In Acre, Bolsonaro was the most voted candidate in 18 of the 22 cities]." g1, Globo. Last modified October 31, 2022. <https://g1.globo.com/ac/acre/eleicoes/2022/noticia/2022/10/31/eleicoes-2022-no-acre-bolsonaro-foi-o-candidato-mais-votado-em-18-das-22-cidades.ghtml>.

Garrett, R. D., Levy, S., Carlson, K. M. et al. (2019). Criteria for effective zero-deforestation commitments. *Global Environmental Change*, 54, 135–147. <https://doi.org/10.1016/j.gloenvcha.2018.11.003>

Geist, H. J. & Lambin, E. F. (2002). Proximate causes and underlying driving forces of tropical deforestation: Tropical forests are disappearing as the result of many pressures, both local and regional, acting in various combinations in different geographical locations. *BioScience*, 52(2), 143–150. [https://doi.org/10.1641/0006-3568\(2002\)052\[0143:PCAUDF\]2.0.CO;2](https://doi.org/10.1641/0006-3568(2002)052[0143:PCAUDF]2.0.CO;2)

Gilpin, R. (2018). The retreat of the state? In T. Lawton, J. Rosenau & A. Verdun, eds., *Strange Power*. London, UK: Routledge, pp. 219–236.

Gimenez, R. B. M. (2023). The pandemic's golden touch: (Neo)extractivism, coloniality, and necropolitics on Brazil's Indigenous territories. *Canadian Journal of Law and Society/La Revue Canadienne Droit et Société*, 38(3), 352–371. <https://doi.org/10.1017/cls.2023.28>

Goldstein, R. E. (2015). *The Triangular Traffic in Women, Plants, and Gold: Along the Interoceanic Road in Brazil, Peru, and Bolivia*, 1st ed. Berkeley, CA: University of California Press.

Gonçalves Pereira, J. A. (2022). "Comando da Fiscalização do Ibama Teve 19 Ocupantes no Governo Bolsonaro [Ibama's inspection command had 19 occupants in the Bolsonaro government]." *((o))eco*, December 21, 2022. <https://oeco.org.br/reportagens/comando-da-fiscalizacao-do-ibama-teve-19-ocupantes-no-governo-bolsonaro/>.

Gonzales, J. (2017). "Soy King Blairo Maggi wields power over Amazon's fate, say critics." *Mongabay*, July 13, 2017. <https://news.mongabay.com/2017/07/soy-king-blairo-maggi-wields-power-over-amazons-fate-say-critics/>.

González, N. C. & Kröger, M. (2020). The potential of Amazon indigenous agroforestry practices and ontologies for rethinking global forest governance. *Forest Policy and Economics*, 118, 102257. <https://doi.org/10.1016/j.fopol.2020.102257>.

González, N. C. & Kröger, M. (2023). The adoption of earth-observation technologies for deforestation monitoring by Indigenous people: Evidence from the Amazon. *Globalizations*, 20(3), 415–431, <https://doi.org/10.1080/14747731.2022.2093556>.

Governors' Climate and Forests (GCF) Task Force. (2021). *Estrategia Regional de Desarrollo Rural Bajo en Emisiones – Nuestra Tierra* [Low-Emission Rural Development – Our Land. Región Madre de Dios, Brazil.

Gramsci, A. (1971). *Selections from the Prison Notebooks*, 1st ed. New York, NY: International Publishers Co.

Gray, A. (1996). *The Arakmbut: Mythology, Spirituality, and History*. New York, NY: Berghahn Books.

Greenpeace International. (2018). "Greenpeace International to not renew FSC membership." March 26, 2018. www.greenpeace.org/international/press-release/15589/greenpeace-international-to-not-renew-fsc-membership/.

Greenpeace Suomi. (2009). "Lapin metsäkiista: Torvella naamaan [Lapland forest dispute: Horn in the face]." Uploaded on August 19, 2009. Youtube video, 0:59. www.youtube.com/watch?v=SLn4za3U_Xs.

Greenpeace Suomi. (2023). "Greenpeacen aktivistit ripustavat köydet luonnonmetsään Karttimonjoella – valtion metsää suojelevat 500 000 hehtaaria [Greenpeace activists hang ropes in the natural forest in Karttimonjoki – 500,000 hectares of state forest needs to be protected]." March 1, 2023. www.greenpeace.org/finland/tiedotteet/metsat/greenpeacen-aktivistit-ripustavat-koydet-luonnonmetsaan-karttimonjoella-valtion-metsaa-suojelevat-500-000-hehtaaria/.

Greenpeace Suomi. (n.d.a). "201 suojelevat valtionmetsää [201 state forests to be protected.]" Accessed June 20, 2024. https://metsat.greenpeace.fi/pages/201_metsaa.

Greenpeace Suomi. (n.d.b). "Karttimonjoki Suomussalmi." Accessed May 25, 2024. <https://metsat.greenpeace.fi/karttimonjoki>.

Guardian, The. (2021). "Brazil environment minister quits amid inquiry into illegal Amazon logging." News. Last modified June 24, 2021. www.theguardian.com/world/2021/jun/24/brazil-environment-minister-quits-amid-inquiry-into-amazon-logging.

Gudynas, E. (2012). Estado compensador y nuevos extractivismos: Las ambivalencias del progresismo sudamericano [Compensatory state and new extractivism: The ambivalences of South American progressivism]. *Nueva Sociedad*, (237), 128–146.

Gudynas, E. (2015). *Extractivismos: Ecología, Economía y Política de un Modo de Entender el Desarrollo y la Naturaleza* [Extractivism: Ecology, Economy and Politics of a Way of Understanding Development and Nature,], 1st ed. Cochabamba, Bolivia: CEDIB/CLAES.

Gudynas, E. (2016). Natural resource nationalisms and the compensatory state in progressive South America. In P. A. Haslam & P. Heidrich, eds., *The Political Economy of Natural Resources and Development*. London, UK: Routledge, pp. 103–117.

Gudynas, E. (2017). Post-development and other critiques of the roots of development. In H. Veltmeyer & P. Bowles, eds., *The Essential Guide to Critical Development Studies*. London, UK: Routledge, pp. 84–93.

Gudynas, E. (2020). Disputes over capitalism and varieties of development. In H. Veltmeyer & E. Lau, eds., *Buen Vivir and the Challenges to Capitalism in Latin America*. London, UK: Routledge, pp. 194–213.

Guimarães Filho, C. (2021). "Brazilian agribusiness booms despite international tensions." *Dialogue Earth* (blog). February 23, 2021. <https://dialogochino.net/en/agriculture/40462-brazilian-agribusiness-booms-despite-international-tensions/>.

Halkonen, V. (2013). "Yksityismetsätalouden edistämis-organisaatioiden kaksoisrooli [The complex role of the Finnish private forestry organisations]." Master's thesis, University of Helsinki.

Hall, A. & Branford, S. (2012). Development, dams and Dilma: The saga of Belo Monte. *Critical Sociology*, 38(6), 851–862. <https://doi.org/10.1177/0896920512440712>

Halla, T., Karhunkorva, R. & Laine, J. (2020). Metsäsuhteet metsäkulttuurisen kestävyyden rakentajina [Forest relations as builders of forest cultural sustainability]. *Vuosilusto / Lustu, Suomen metsämuseo ja metsätietokeskus*, 13, 24–37.

Hallikainen, I. (2024). "IS paljastaa hallituksen kohu-päätöksen metsistä: Sari Essayahin raju esitys voitti [IS reveals the government's controversial decision on forests: Sari Essayah's fierce presentation won]." *Ilta-Sanomat*, June 5, 2024. www.is.fi/politiikka/art-2000010478166.html.

Hartikainen, J. (2017). "Suomen eliitti lähti vuosi sitten 'talvisodan hengessä' ajamaan yhtä asiaa Brysselissä – näin EU:n metsäpäätös lobattiin teollisuudelle sopivaksi [Finland's elite set out a year ago 'in the spirit of the winter war' to push for one thing in Brussels – this is how the EU forest decision was lobbied to suit the industry]." *Helsingin Sanomat*, September 22, 2017. www.hs.fi/talous/art-2000005377851.html.

Häyrynen, M. (2024). "Tutkimus: Puolitoista promillea omistaa kymmenen prosenttia yksityismetsistä [Study: One and a half per mille own ten percent of private forests]." *Metsälehti*, May 8, 2024. www.metsalehti.fi/artikkelit/kansankapitalismia-vai-onko-sittenkaan/#6e48844f.

Hayter, R. (2007). *Flexible Crossroads: The Restructuring of British Columbia's Forest Economy*, 1st ed. Vancouver, Canada: University of British Columbia Press.

Hecht, S. B. (1993). The logic of livestock and deforestation in Amazonia. *Bioscience*, 43(10), 687–695. <https://doi.org/10.2307/1312340>

Hecht, S. B. (2005). Soybeans, development and conservation on the Amazon frontier. *Development and Change*, 36(2), 375–404. <https://doi.org/10.1111/j.0012-155X.2005.00415.x>

Hecht, S. B. (2012). From eco-catastrophe to zero deforestation? Interdisciplinarity, politics, environmentalisms and reduced clearing in Amazonia. *Environmental Conservation*, 39(1), 4–19. <https://doi.org/10.1017/S0376892911000452>

Hecht, S., Schminke, M., Abbers, R. et al. (2021). The Amazon in motion: Changing politics, development strategies, peoples, landscapes, and livelihoods. In C. Nobre, A. Encalada, E. Anderson et al., eds., *Amazon Assessment Report 2021, Part II*. New York, NY: United Nations Sustainable Development Solutions Network, 14.2–14.65. <https://doi.org/10.3929/ethz-b-000526184>

Helin, S. & Toivonen, J. (2021). "Kuka lobbaa Euroopan parlamentissa ja ketä? Kävimme läpi 23 000 meppien ilmoittamaa lobbaritapaamista [Who lobbies the European Parliament and whom? We went through 23,000 lobby meetings reported by MEPs]." *Yle*, August 8, 2021. <https://yle.fi/a/3-11987668>.

Helmrich, A., Chester, M., Miller, T. R. & Allenby, B. (2023). Lock-in: Origination and significance within infrastructure systems. *Environmental Research: Infrastructure and Sustainability*, 3(3), 032001. <https://doi.org/10.1088/2634-4505/acf7e6>

Hershaw, E. & Sauer, S. (2023). Land and investment dynamics along Brazil's "final" frontier: The financialization of the Matopiba at a political crossroads. *Land Use Policy*, 131, 106675. <https://doi.org/10.1016/j.landusepol.2023.106675>

Hetherington, K. (2020). *The Government of Beans: Regulating Life in the Age of Monocrops*, 1st ed. Durham, NC: Duke University Press. <https://doi.org/10.2307/j.ctv11317wg>

Heubl, B. (2021). Peru's illicit gold mines flourish during Covid crisis. *Engineering & Technology*, 16(8), 26–30. <https://doi.org/10.1049/et.2021.0821>

Hiilamo, E.-A. & Pantzar, M. (2021). "Suomalaisia metsäjättejä epäillään sellukartelista – onko yhtiöiden maine mennytä? Lue vastaukset viiteen kuumaan kysymykseen [Finnish forest giants are suspected of a pulp cartel – are the companies' reputations gone? Read the answers to five burning questions]." *Yle*, October 13, 2021. <https://yle.fi/a/3-12142033>.

Hochstetler, K. & Keck, M. E. (2007). *Greening Brazil: Environmental Activism in State and Society*, 1st ed. Durham, NC: Duke University Press.

Hoelle, J. (2011). Convergence on cattle: Political ecology, social group perceptions, and socioeconomic relationships in Acre, Brazil. *Culture, Agriculture, Food and Environment*, 33(2), 95–106. <https://doi.org/10.1111/j.2153-9561.2011.01053.x>

Hoelle, J. (2017). Jungle beef: Consumption, production and destruction, and the development process in the Brazilian Amazon. *Journal of Political Ecology*, 24(1), 743–762. <https://doi.org/10.2458/v24i1.20964>

Human Rights Watch. (2019). *Máfias do Ipê: Como a Violência e a Impunidade Impulsionam o Desmatamento na Amazônia Brasileira* [Ipê Mafias: How Violence and Impunity Drive Deforestation in the Brazilian Amazon]. Brazil.

Humphreys, D. (2006). *Logjam: Deforestation and the Crisis of Global Governance*, 1st ed. Abingdon, UK: Routledge. <https://doi-org.libproxy.helsinki.fi/10.4324/9781849771863>

Hutton, T. A. (1997). The Innisian core-periphery revisited: Vancouver's changing relationships with British Columbia's staple economy. *BC Studies: The British Columbian Quarterly*, 113, 69–100. <https://doi.org/10.14288/bcs.v0i113.1690>

Ignatius, A. (2017). “Tropiikin elintärkeät metsät [Vital forests of the tropics].” *Yliopisto-lehti*, 7, 28–32.

Indriunas, L. (2022). “Report shows how Bolsonaro delegated corporate mining to MDB while promoting illegal miners.” *De Olho Nos Ruralistas*, October 26, 2022. <https://deolhonosruralistas.com.br/2022/10/26/report-shows-how-bolsonaro-delegated-corporate-mining-to-mdb-while-promoting-illegal-miners/>.

Ionova, A. (2021). “New palm oil frontier sparks scramble for land in the Brazilian Amazon.” *Mongabay*, April 12, 2021. <https://news.mongabay.com/2021/04/new-palm-oil-frontier-scramble-for-land-in-the-brazilian-amazon/>.

Jalonen, R., Hanski, I., Kuuluvainen, T. et al. (2006). *Uusi Metsäkirja* [New Forest Book], 1st ed. Helsinki, Finland: Gaudeamus.

Jokiranta, A., Juntti, P., Ruohonen, A. & Räinä, J. (2019). *Metsä meidän jälkeemme* [The Forest After Us], 1st ed. Helsinki, Finland: Like Kustannus.

Joukanen, T. (2023). “UPM pahoittelee tapaa, jolla se kertoi lapsille metsän hävittämisestä Loviisassa [UPM regrets the way it told children about deforestation in Loviisa].” *Yle*, October 21, 2023. <https://yle.fi/a/74-20056373>.

Juniper, T. (2019). *Rainforest: Dispatches from Earth's Most Vital Frontlines*, Illustr. ed. Washington, DC: Island Press.

Juntti, P. & Ruohonen, A. (2023). *Muuttuva metsä: Opas jatkuvaan kasvatukseen* [A changing forest: A guide to continuous cover forestry], 1st ed. Helsinki, Finland: Like Kustannus.

Junttila, S., Blomqvist, M., Laukkonen, V. et al. (2024). Significant increase in forest canopy mortality in boreal forests in Southeast Finland. *Forest Ecology and Management*, 565, 122020. <https://doi.org/10.1016/j.foreco.2024.122020>

Juvonen, J., Alhola, S., Laasonen, H. et al. (2024). *Hiilivaraston ja hiilinielujen jakautuminen Suomen yksityisomisteisissä metsissä* [Distribution of carbon stock and carbon sinks in privately owned forests in Finland], Datahuone-raportti 1/2024, Valtion taloudellinen tutkimuskeskus 2024-04-03.

Kajander, L. (2020.) “Metsien Suomi -kampanja levittää virheellistä tietoa metsien suojelesta [The Finland of Forests campaign spreads incorrect information about forest protection].” *Luonto-Liitto's Forest Blog* (blog). January 12, 2023. <https://metsablogi.wordpress.com/2020/06/24/metsien-suomi-kampanja-levittaa-virheellista-tietoa-metsien-suojelusta/>.

Kanninen, J. & Seppo, S., eds. (2022). *Huuto kaupunkiluonnon puolesta* [A Cry for Urban Nature], 1st ed. Tampere, Finland: Vastapaino.

Kärkkäinen, L., Eyyvindson, K. & Haakana, M. et al. (2024). *Metsien muutos, hiilinielut ja metsien käytön muutoksesta johtuvat aluetalousvaikutukset IP-maakunnissa*

(MEMU) – *Etelä-Karjalan tulokset* [Change in forests, carbon sinks and regional economic effects due to changes in forest use in eastern and northern provinces of Finland (MEMU) – the results of South Karelia], Maakunnallinen infotilaisuus, Luonnonvarakeskus 2024-01-22.

Kaskeala, N. (@NiklasKaskeala). (2024). “Ei ole liioiteltua sanoa, suomalainen ja ruotsalainen metsätaloluonnon suojelua kaatoivat lobbauksellaan EU:n ennallistamisasetuksen. Yksi historian väärälle puolelle tukevasti jumittunut toimiala pitää panttivankimaan koko unionin toimia luontokodon pysäytämiseksi [It is not an exaggeration to say that the Finnish and Swedish forest industry overturned the EU’s restoration regulation with their lobbying. One industry firmly stuck on the wrong side of history is holding hostage the actions of the entire Union to stop the loss of nature].” X, March 21, 2024, 7:31 p.m. <https://x.com/NiklasKaskeala/status/1770865861311520819>.

Kauppi, P. & Kettunen, J. (2022). *Vihreä kultakausi 1973–2008* [Green Golden Age 1973–2008], 1st ed. Helsinki, Finland: Kustannusosakeyhtiö Teos.

Kauppinen, J. (2021). *Heräämisiä – kuinka minusta tuli luonnon suojojela* [Awakenings — How I Became a Conservationist], 1st ed. Helsinki, Finland: Kustannusosakeyhtiö Siltala.

Kehoe, L., dos Reis, T. N., Meyfroidt, P. et al. (2020). Inclusion, transparency, and enforcement: How the EU-Mercosur trade agreement fails the sustainability test. *One Earth*, 3(3), 268–272. <https://doi.org/10.1016/j.oneear.2020.08.013>

Kekkonen, K. (2011). ““Hyvä vauhtia metsätöille”: puunkorjuu ja Suomi muutoksessa [“Good speed for forest work”: Forestry and Finland in a state of flux].” PhD diss., Tampere University Press.

Kellokumpu, V. & Säynäjäkangas, J. (2022). Pääoma hakkuuaukealla: kuitupuukapitalismi metsätalouden tendenssinä. [Capital on a clearcut: Pulp capitalism as a tendency of forestry]. *Alue ja Ympäristö*, 51(2), 21–45. <https://doi.org/10.30663/ay.120651>

Ketola, T. (@TarmoKetola). (2024a). “Vakuuttava tutkimus! Avohakkuu ISO riskitekijä!! Nurinkurista on, että jos pystyy osoittamaan kirjanpainajan levinneen suojealueelta on hän oikeutettu korvauksiin, mutta jos naapurin avohakkuu aiheuttaa kirjanpainajatuhon, niin : kikkeliokokkeli vaan! <https://silvafennica.fi/article/23069> [Convincing research! Clearcutting is a BIG risk factor!!]. It is bizarre that if you can prove that the European spruce bark beetle has spread from a protected area, you are entitled to compensation, but if your neighbor’s clear-cutting causes a bark beetle devastation, then: good luck! (No compensation)]” X, May 17, 2024, 7:59 a.m. <https://x.com/TarmoKetola/status/1791332667100721519>.

Ketola, T. (@TarmoKetola). (2024b). “Tää alkaa menemään jo absurdiksi kun kokoajan vähemmän ja vähemmän tuottava ja työllistävä ala pitää loppuyhteiskuntaa panttivankina näissä perseilyissään [This is starting to get absurd when an industry that is becoming all the time less and less productive and employing is holding the rest of society hostage in its arsing around].” X, March 21, 2024, 7:42 p.m. <https://x.com/TarmoKetola/status/1770868634786595259>.

Kivelä, M. (@MaiKivelä). (2024). “Ennallistamisasetuksessa on kyse mahdollisuudesta käyttää rahaa suomalaisen luonnon tilan parantamiseen, samalla työllistäen suomalaisia ihmisiä, ennen kaikkea maaseudulla asuvia. Eli ennallistamisrahat ohjataan suomalaisille maanomistajille, koneyrittäjille ja urakoitsijoille 2/ [The restoration regulation is about the possibility of using money to improve the state of Finnish nature, while at the same time employing Finnish people, above all those living in rural areas. In other words, the restoration money is directed to Finnish landowners, machine operators and contractors 2/].” X, March 21, 2024, 9:14 p.m. <https://twitter.com/MaiKivelä/status/1770891876951843268>.

Koivula, J. (2022). “MT-kysely: Enemmistö suomalaisista kannattaa luonnonsuojelun tuntuvalaa lisäämistä – pääkaupunkiseudulla kakso kolmesta kannattaa, maaseudulla vain joka kolmas [MT survey: The majority of Finns support a significant increase in nature protection – two out of three in the capital region support it, only one in three in rural areas].” *Maaseudun tulevaisuus*, May 30, 2022. www.maaseuduntulevaisuus.fi/uutiset/b0d76675-f7ae-4ed5-bc52-7855ac63906d.

Kojola, E. (2019). Bringing back the mines and a way of life: Populism and the politics of extraction. *Annals of the American Association of Geographers*, 109(2), 371–381. <https://doi.org/10.1080/24694452.2018.1506695>

Kone Foundation. (2023). “Kone Foundation wants to raise the level of the debate on forests: 20 forest-related projects in the Metsän puolella initiative to receive a total of EUR 2.8 million in funding.” August 28, 2023. <https://koneensaatio.fi/en/news/kone-foundation-wants-to-raise-the-level-of-the-debate-on-forests-20-forest-related-projects-in-the-metsan-puolella-initiative-to-receive-a-total-of-eur-2-8-million-in-funding>.

Kortelainen, J. (1996). “Tehdasyhdykskunta talouden ja ympäristötietoisuuden murrosvaiheissa [A factory community in the transition stages of economy and environmental awareness].” PhD diss., Joensuu yliopisto.

Kosonen, K. (@kaisakosonen). (2024). “Heh. IS:n tietojen mukaan päätös on päivätty 3.6.2024. Pääministeri @PetteriOrpo tapasi @luontopaneeli'a vasta, kun päätös oli jo tehty, eli eilen 4.6.2024. Sellaista tiedepohjaista päätöksentekoa. www.is.fi/politiikka/art-2000010478166.html [Heh. According to IS information, the decision is dated June 3, 2024. The Prime Minister @PetteriOrpo only met @luontopaneeli when the decision had already been made, i.e. yesterday, June 4, 2024. Such science-based decision-making.]” X, June 5, 2024, 4:11 p.m. <https://x.com/kaisakosonen/status/1798341827713699905>.

Kovalainen, R. & Seppo, S. (2009). *Metsänhoidollisia toimenpiteitä* [Forestry operations], 1st ed. Helsinki, Finland: Hiilinielu tuotanto & Miellotar.

Kovalainen, R. & Seppo, S. (2014). *Tree People: A Description of Finnish Myths Associated with Trees and Forests*, 2nd ed. Helsinki, Finland: Hiilinielu tuotanto & Miellotar.

Kovalainen, R. & Seppo, S. (2018). “Sateenkaarenpää [The end of a rainbow].” Uploaded on May 28, 2018. Youtube video, 16:20. www.youtube.com/watch?v=8cKqOgX0Cyg.

Kovalainen, R. & Seppo, S. (2023). *Pohjoistuulen metsä* [The Forest of the North Wind], 2nd ed. Helsinki, Finland: Hiilinielu tuotanto & Miellotar.

Krasner, S. D., ed. (1983). *International Regimes*, 1st ed. Ithaca, NY: Cornell University Press.

Kröger, M. (2007). Uruguay ja Argentiinan sellutehdaskonflikti latinalaamerikkalaisena maa-ja metsäkiistana [The Uruguayan and Argentinian pulp mill conflict as a Latin American land and forest dispute]. *Kosmopolis*, 37(2), 23–42.

Kröger, M. (2012). Neo-mercantilist capitalism and post-2008 cleavages in economic decision-making power in Brazil. *Third World Quarterly*, 33(5), 887–901. <https://doi.org/10.1080/01436597.2012.674703>

Kröger, M. (2013a). *Contentious Agency and Natural Resource Politics*, 1st ed. London, UK: Routledge.

Kröger, M. (2013b). Grievances, agency and the absence of conflict: The new Suzano pulp investment in the Eastern Amazon. *Forest Policy and Economics*, 33, 28–35. <https://doi.org/10.1016/j.forpol.2013.02.005>

Kröger, M. (2014). The political economy of global tree plantation expansion: A review. *The Journal of Peasant Studies*, 41(2), 235–261. <https://doi.org/10.1080/03066150.2014.890596>

Kröger, M. (2016). The political economy of “flex trees”: A preliminary analysis. *The Journal of Peasant Studies*, 43(4), 886–909. <https://doi.org/10.1080/03066150.2016.140646>

Kröger, M. (2017). Inter-sectoral determinants of forest policy: The power of deforesting actors in post-2012 Brazil. *Forest Policy and Economics*, 77, 24–32. <https://doi.org/10.1016/j.forepol.2016.06.003>

Kröger, M. (2018). The new “sustainable communitarian” logging schemes and their critique inside multiple-use conservation areas in the Brazilian Amazon: Preliminary notes. *Globalizations*, 15(5), 581–592. <https://doi.org/10.1080/14747731.2018.1474032>

Kröger, M. (2020a). *Iron Will: Global Extractivism and Mining Resistance in Brazil and India*, 1st ed. Ann Arbor, MI: University of Michigan Press. <https://doi.org/10.3998/mpub.11533186>

Kröger, M. (2020b). Natural resources, energy politics, and environmental consequences. In P. James, ed., *Oxford Bibliographies in International Relations*. Oxford, UK: Oxford University Press. <https://doi.org/10.1093/obo/9780199743292-0291>

Kröger, M. (2020c). Deforestation, cattle capitalism and neodevelopmentalism in the Chico Mendes Extractive Reserve, Brazil. *The Journal of Peasant Studies*, 47(3), 464–482. <https://doi.org/10.1080/03066150.2019.1604510>

Kröger, M. (2020d). “EU-Mercosur assosiaatiosopimus : lausunto ulkoasiainvaliokunnalle.” Asiantuntijalausunto [EU-Mercosur association agreement: statement to the foreign affairs committee.] Expert statement]. November 2, 2020. <http://hdl.handle.net/10138/321361>.

Kröger, M. (2021). *Studying Complex Interactions and Outcomes through Qualitative Comparative Analysis: A Practical Guide to Comparative Case Studies and Ethnographic Data Analysis*, 1st ed. Abingdon, UK: Routledge.

Kröger, M. (2022). *Extractivisms, Existences and Extinctions: Monoculture Plantations and Amazon Deforestation*, 1st ed. Abingdon, UK: Routledge. <https://doi.org/10.4324/9781003102977>

Kröger, M. (2024). Land-grabbing mafias and dispossession in the Brazilian Amazon: Rural–urban land speculation and deforestation in the Santarém region. *Globalizations*, 1–19. <https://doi.org/10.1080/14747731.2024.2319440>

Kröger, M. & Ehrnström-Fuentes, M. (2021). Forestry extractivism in Uruguay. In B. M. McKay, A. Alonso-Fradejas, & A. Ezquerro-Cañete, eds., *Agrarian Extractivism in Latin America*. London, UK: Routledge, pp. 186–207.

Kröger, M. & Lalander, R. (2016). Ethno-territorial rights and the resource extraction boom in Latin America: Do constitutions matter? *Third World Quarterly*, 37(4), 682–702. <https://doi.org/10.1080/01436597.2015.1127154>

Kröger, M. & Margutti, A. (2024). “Land Title Frauds as Corporate Land-grabbing Methods: Evidence from Brazil.” Land Deals Politics Initiative (LDPI) Working paper 2024–004, International Conference on Global Land Grabbing – Bogota, Colombia, March, 2024.

Kröger, M. & Nygren, A. (2020). Shifting frontier dynamics in Latin America. *Journal of Agrarian Change*, 20(3), 364–386. <https://doi.org/10.1111/joac.12354>

Kröger, M. & Raitio, K. (2017). Finnish forest policy in the era of bioeconomy: A pathway to sustainability? *Forest Policy and Economics*, 77, 6–15. <https://doi.org/10.1016/j.forepol.2016.12.003>

Kuisma, M. (2006). *Metsäteollisuuden maa — Suomi, metsät ja kansainvälinen järjestelmä 1620–1920* [The Country of Forest Industry — Finland, Forests and the International System 1620–1920], 2nd ed. Helsinki, Finland: SKS Kirjat.

Kunttu, P. (2017). Avohakkuiden pakkovallan kausi – synkkä jakso suomalaista metsähistoriaa. [The period of forced clearcutting – a dark period in Finnish forest history]. *Elonkehä*, 4(17): 16–23.

Kuuluvainen, T., Saaristo, L., Keto-Tokoi, P. et al. (2004). *Metsän kätköissä: Suomen metsäluonnon monimuotoisuus*. [Hidden in the Forest: The Diversity of Finnish Forest Nature], 1st ed. Helsinki, Finland: Edita Publishing Oy.

Kuuluvainen, T., Tahvonen, O. & Aakala, T. (2012). Even-aged and uneven-aged forest management in boreal Fennoscandia: A review. *AMBIO*, 41, 720–737. <https://doi.org/10.1007/s13280-012-0289-y>

Lábrea. (2023). “To save the Amazon, Lula must work out who owns it.” *The Economist*, November 28, 2023. www.economist.com/the-americas/2023/11/28/to-save-the-amazon-lula-must-work-out-who-owns-it

Lähde, E. (2015). *Suomalainen metsäsota: miten jatkuva kasvatus voitti avohakkueen* [The Finnish forest war: How continuous cover forestry won clearcutting], 1st ed. Helsinki, Finland: Into Kustannus Oy.

Landström, M., Kohl, A., Puroila, S., Sihvonen, R. & Tamminen, S. (2021). Korjausliike – Suomi kohti 1,5 asteen tavoitteiden mukaisia ilmastotoimia [A corrective move – Finland towards climate measures in line with the 1.5 degree goal]. *Sitran selvityksiä. Haettu*, 6.

Lassila, A. (2021). “Täyskäännös [A U-turn].” *Helsingin Sanomat*, October 6, 2021. www.hs.fi/talous/art-2000008295210.html.

Last, J. (2023). “Finland’s debate over Indigenous identity and rights turns ugly.” *Mongabay*, February 21, 2023. <https://news.mongabay.com/2023/02/finlands-debate-over-indigenous-identity-and-rights-turns-ugly/>.

Law, B. & Moomaw, W. (2024). “Old forests are critically important for slowing climate change and merit immediate protection from logging.” *Resilience*, February 6, 2024. www.resilience.org/stories/2024-02-06/old-forests-are-critically-important-for-slowing-climate-change-and-merit-immediate-protection-from-logging/.

Leite-Filho, A. T., Soares-Filho, B. S., Davis, J. L., Abrahão, G. M. & Börner, J. (2021). Deforestation reduces rainfall and agricultural revenues in the Brazilian Amazon. *Nature Communications*, 12(1), 2591. <https://doi.org/10.1038/s41467-021-22840-7>

Leppänen, M. & Pajunen, A. (2019). *Suomalainen metsäkylpy* [Finnish Forest Bath], 1st ed. Helsinki, Finland: Gummerus kustannus Oy.

Li, T. M. & Semedi, P. (2021). *Plantation life: Corporate Occupation in Indonesia’s Oil Palm Zone*, 1st ed. Durham, NC: Duke University Press.

Limão, A. C. (2021). “Casa de Liderança Indígena Munduruku é Incendiada em Jacareacanga, No PA; MPF Investiga o Caso [Munduruku indigenous leader’s house is set on fire in Jacareacanga, PA; MPF investigates the case].” *g1 Globo*, May 27, 2021. <https://g1.globo.com/pa/para/noticia/2021/05/27/casa-de-lideranca-indigena-munduruku-e-incendiada-por-garimpeiros-em-jacareacanga-mpf-investiga-o-caso.ghtml>.

Lindberg, J. M. (2020). “New mining ventures in Venezuela and links to Foreign Capital.” Master’s thesis, University of Helsinki.

Lovejoy, T. E. & Nobre, C. (2018). Amazon tipping point. *Science Advances*, 4(2), eaat2340. <https://doi.org/10.1126/sciadv.aat234>

Lula da Silva, L. I. (@LulaOficial). (2023). “Lula se pronuncia sobre atos antidemocráticos <https://x.com/i/broadcasts/1/i/broadcasts/1mnxeRkVneRKX> [Lula speaks out on anti-democratic acts...].” X, January 8, 2023, 10:54 p.m. <https://x.com/LulaOficial/status/1612190910325964801>.

Lundmark, T., Bergh, J., Nordin, A., Fahlvik, N. & Poudel, B. C. (2016). Comparison of carbon balances between continuous-cover and clear-cut forestry in Sweden. *AMBIO*, 45, 203–213. <https://doi.org/10.1007/s13280-015-0756-3>

Luke (Natural Resources Institute Finland [Luonnonvarakeskus]). (2023a). “Wood Imports and the Exports Value of Forest Industry Decreased in 2022.” News. Last modified April 4, 2023. www.luke.fi/en/news/wood-imports-and-the-exports-value-of-forest-industry-decreased-in-2022.

Luke (Natural Resources Institute Finland [Luonnonvarakeskus]). (2023b). “Puun kuivainetta käytettiin lähes 37 miljoonaa tonnia vuonna 2022” [Almost 37 million tons of

wood dry matter were used in 2022], Uutiset. Last modified November 29, 2023. www.luke.fi/fi/uutiset/puun-kuivaainetta-kaytettiin-lahes-37-miljoonaa-tonnia-vuonna-2022.

Maa- ja metsätaloustuottajain Keskusliitto MTK ry. (2018). “Avohakuuta ei ole syytä lopettaa ekologisuuden takia” [There is no reason to stop clearcutting for ecological reasons], May 21, 2018. www.mtk.fi/-/avohakuuta-ei-ole-syyta-lopettaa-ekologisuuden-takia.

Maaseudun tulevaisuus. (2024a). “Metsäbiomassan hinta lämpölaitoksella [Forest biomass price at the heating plant].” Graph. 3 April.

Maaseudun tulevaisuus. (2024b). “Energiapuun hinnat. [Energy wood prices].” Graph. 3 April.

Maciel, A. & Pires, Y. (2022). “Casamento da filha de Nabhan Garcia traz elo entre policial e ruralistas contrários ao MST [Nabhan Garcia’s daughter’s wedding brings together police and ruralists opposed to the MST].” *Agência Pública*, March 22, 2022. <https://apublica.org/2022/03/casamento-da-filha-de-nabhan-garcia-traz-elo-entre-policial-e-ruralistas-contrarios-ao-mst/>.

Macrotrends. (2024). “Gold prices – 100-year historical prices.” Accessed March 21, 2024. www.macrotrends.net/1333/historical-gold-prices-100-year-chart.

Macul, M. d. S. (2019). “Índice de valorização da terra e desmatamento em uma região de fronteira agropecuária na Amazônia: Região de Novo Progresso, Pará [Land appreciation and deforestation index in an agricultural frontier region in the Amazon: Novo Progresso Region, Pará].” Master’s thesis, Instituto Nacional de Pesquisas Espaciais (INPE).

Mahar, D. (1989). Government policies and deforestation in Brazil’s Amazon region (English) (No. 7), World Bank Group 8910 1989–01–31.

Mahoney, J. (2000). Path dependence in historical sociology. *Theory and Society*, 29(4), 507–548. www.jstor.org/stable/3108585

Majava, A. (2018). “Kohtalokasta edunvalvontaa [Fatal guardianship].” *Politiikasta* (blog). May 16, 2018. <https://politiikasta.fi/kohtalokasta-edunvalvontaa/>.

Malhado, A. C. M., Pires, G. F. & Costa, M. H. (2010). Cerrado conservation is essential to protect the Amazon rainforest. *Ambio*, 39, 580–584. <https://doi.org/10.1007/s13280-010-0084-6>

Manzolli, B. A. & Rajão, R. (2022). *Boletim do Ouro 2021–2022* [Gold Bulletin 2021–2022]. Minas Gerais, Brazil: CSR/UFMG. https://csr.ufmg.br/csr/wp-content/uploads/2022/09/boletim-ouro_.pdf

Massa, I. (1994). *Pohjoinen luonnonvalloitus: Suunnistus ympäristöhistoriaan Lapissa ja Suomessa* [The Northern Conquest of Nature: Navigating Environmental History in Lapland and Finland], 1st ed. Helsinki, Finland: Gaudeamus.

Martinez, G., McCord, S. A., Driscoll, C. T. et al. (2018). Mercury contamination in riverine sediments and fish associated with artisanal and small-scale gold mining in Madre de Dios, Peru. *International Journal of Environmental Research and Public Health*, 15(8), 1584. <https://doi.org/10.3390/ijerph15081584>

Marx, K. (1976 [1867]). *Capital: A Critique of Political Economy. Volume I. Book One: The Process of Production of Capital*. London, UK: Penguin.

Mathez-Stiefel, S. L., Mulanovich, A. J., Jaquet, S. et al. (2020). Establishing a science-policy-society interface for biodiversity conservation and human well-being in the Amazon: The case of Madre de Dios, Peru. *Ecosistemas*, 29(1), 1882. <http://dx.doi.org/10.7818/ECOS.1882>

McDermott, J., Ramírez, M. F., Robbins, S. et al. (2023). *Amazônia Saqueada: A Raízes Do Crime Ambiental Nas Regiões de Tríplice Fronteira* [Looted Amazon: The Roots of Environmental Crime in the Triple Border Regions], Instituto Igarapé & InSight Crime 2023–08.

McKay, B. M. (2018). The politics of agrarian change in Bolivia's soy complex. *Journal of Agrarian Change*, 18(2), 406–424. <https://doi.org/10.1111/joac.12240>

McKay, B. M., Fradejas, A. A. & Ezquerro-Cañete, A., eds. (2021). *Agrarian Extractivism in Latin America*, 1st ed. London, UK: Routledge.

McKay, A. D. I., Staal, A., Abrams, J. F., Winkelmann, R., Sakschewski, B., Loriani, S., ... & Lenton, T. M. (2022). Exceeding 1.5 C global warming could trigger multiple climate tipping points. *Science*, 377(6611), eabn7950. <https://doi.org/10.1126/science.abn7950>

McMichael, P. (2000). World-systems analysis, globalization, and incorporated comparison. *Journal of World-Systems Research*, 6(3), 668–689. <https://doi.org/10.5195/jwsr.2000.192>

MeidänMetsämme. (2021). "In English." Accessed June 20, 2024. <https://meidanmetsamme.org/index.php/etusivu/in-english/>.

Mendoza, E. (2012). "El impacto del desarrollo en los bosques: 'La pavimentación de las carreteras en la Amazonia Sur Occidental' [The impact of development on forests: 'The paving of roads in the Southwestern Amazon']" (PowerPoint presentation, Industrial Resource Extraction and Infrastructure Development in Tropical Forests Conference, Panama City, Panama, April 26–27, 2012).

Merediz Durant, C. (2017). "Impacto de la Formalización Minera Sobre el Uso y Defensa del Territorio Comunal de las CC.NN. Boca Inambari y Tres Islas, Madre de Dios [Impact of Mining Formalization on the Use and Defense of the Communal Territory of CC.NN. Boca Inambari and Tres Islas, Madre de Dios."]." Master's thesis, Universidad Nacional Mayor de San Marcos.

Merkus, E. (2024). The economic consequences of environmental enforcement: Evidence from an anti-deforestation policy in Brazil. *World Development*, 181, 106646. <https://doi.org/10.1016/j.worlddev.2024.106646>

Metsä Group. (n.d.). "Story of Metsä Group." Accessed June 20, 2024. www.metsagroup.com/metsa-group/about-us/story-of-metsa/.

Metsä Group. (2024). "Fossiilivapaata selluntuotantoa Kemin biotuotetehtaalla [Fossil-free pulp production at the bioproduct factory in Kemi]." June 17, 2024. www.metsagroup.com/fi/metsafibre/uutiset-ja-julkaisut/uutiset-ja-tiedotteet/artikkelit-videot/2024-fi/fossiilivapaata-selluntuotantoa-kemin-biotuotetehtaalla/.

Metsälänen Ammattilehti. (2012). "Suomen metsätalouselämän historia tiivistetysti [The history of the Finnish forest industry in a nutshell]." April 1, 2012. www.ammattilehti.fi/uutiset.html?4056.

Metsien Suomi. (n.d.) "Metsien Suomi [Finland of Forests]." Accessed June 20, 2024. <https://metsiensuomi.fi/>

Mies, M. (2014). *Patriarchy and Accumulation on a World Scale: Women in the International Division of Labour*, 1st ed. New York, NY: Bloomsbury Publishing.

Ministry of Agriculture and Forestry. (2019). "Kansallinen metsästrategia 2025 – päivitys [National Forest Strategy 2025– update]." Helsinki, Finland: Ministry of Agriculture and Forestry.

Mönkkönen, M., Aakala, T., Blattert, C. et al. (2022). More wood but less biodiversity in forests in Finland: A historical evaluation. *Memoranda Societatis pro Fauna et Flora Fennica*, 98(2), 1–11.

Mönkkönen, M., Burgas, D., Egvindson, K. et al. (2018). Solving conflicts among conservation, economic, and social objectives in boreal production forest landscapes: Fennoscandian perspectives. In A. H. Perera, U. Peterson, G. Pastur & L. Iverson, eds., *Ecosystem Services from Forest Landscapes: Broadscale Considerations*. Cham, Switzerland: Springer, pp. 169–219. https://doi.org/10.1007/978-3-319-74515-2_7

Moog, S., Spicer, A. & Böhm, S. (2015). The politics of multi-stakeholder initiatives: The crisis of the Forest Stewardship Council. *Journal of Business Ethics*, 128(3), 469–493. <https://doi.org/10.1007/s10551-013-2033-3>

Moore, J. W. (2003). Capitalism as world-ecology: Braudel and Marx on environmental history. *Organization & Environment*, 16(4), 514–517. <https://doi.org/10.1177/1086026603259091>

Moore, J. W. (2015). *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*, 1st ed. Brooklyn, NY: Verso.

Moore, J. W. (2017). The Capitalocene, part I: On the nature and origins of our ecological crisis. *The Journal of Peasant Studies*, 44(3), 594–630. <https://doi.org/10.1080/03066150.2016.1235036>

Moore, J. W. (2018). The Capitalocene part II: Accumulation by appropriation and the centrality of unpaid work/energy. *The Journal of Peasant Studies*, 45(2), 237–279. <https://doi.org/10.1080/03066150.2016.1272587>

Moore, T. (2019). Deforestation in Madre De Dios, its implications for first peoples. In A. Chirif, ed., *Peru: Deforestation in Times of Climate Crisis*. Lima, Peru: International Work Group for Indigenous Affairs, pp. 201–236.

Moraes, F. G. d. & Alves, V. N. (2023, April 26). “Prioridade é destinar todas as florestas públicas não destinadas no menor tempo possível,” diz João Paulo Capobianco [“The priority is to allocate all unallocated public forests as quickly as possible,” says João Paulo Capobianco].” *((o))eco*. April 26, 2023. <https://oeco.org.br/reportagens/prioridade-e-destinar-todas-as-florestas-publicas-nao-destinadas-no-menor-tempo-possivel-diz-joao-paulo-capobianco/>

Morin, J. F. & Oberthür, S. (2013). The interface between expert knowledge and politics in a coproduction model. In J.-F. Morin, A. Orsini, H. Trudeau et al., eds., *Insights from Global Environmental Governance. International Studies Review*, 15(4), pp. 15–17.

Movimiento Regional Por la Tierra y Territorio. (2017). *Juana y la Comunidad de Tres Islas Contra la Minería Ilegal [Juana and the Community of Tres Islas against Illegal Mining]*, estudio de caso 136 04–2017.

Mujica, J. (2014). *Elementos comparados del impacto de la trata de personas en la salud de víctimas adolescentes en el contexto de la minería ilegal de oro en Madre de Dios* [Comparative elements of the impact of human trafficking on the health of adolescent victims in the context of illegal gold mining in Madre de Dios], 1st ed. Lima, Peru: PROMSEX Centro de Promoción y Defensa de los Derechos Sexuales y Reproductivos.

Nepstad, D. C., Stickler, C. M. & Almeida, O. T. (2006). Globalization of the Amazon soy and beef industries: Opportunities for conservation. *Conservation Biology*, 20(6), 1595–1603. <https://doi.org/10.1111/j.1523-1739.2006.00510.x>

Netflix. (2020). *Dirty Money*. Season 2, episode 4, “Dirty Gold.” www.netflix.com/title/80118100.

Newell, P. (2008). The political economy of global environmental governance. *Review of International Studies*, 34(3), 507–529.

Nicolau, A. P., Herndon, K., Flores-Anderson, A. & Griffin, R. (2019). A spatial pattern analysis of forest loss in the Madre de Dios region, Peru. *Environmental Research Letters*, 14(12), 124045. <https://doi.org/10.1088/1748-9326/ab57c3>

Niinisto, V. (@VilleNiinisto). (2024). “Petteri Orpon hallitus päättää asettua tiedettä vastaan. Härski pyrkimys väärentää vanhan metsän kriteerit, jotta metsiä ei tarvitsisi suojella, on täysin poikkeuksellista Suomessa. EU-komissiolla on toimivalta puuttua tieteen vastaiseen määrittelyyn. www.is.fi/politiikka/art-2000010478166.html [Petteri Orpo’s government decides to stand against science. The impudent attempt to falsify the criteria for the old forest, so that the forests would not need to be protected, is completely exceptional in Finland. The EU Commission has the authority to intervene in an unscientific definition].” X, June 5, 2024, 3:45 p.m. <https://x.com/VilleNiinisto/status/1798335362710028547>.

Nikolakis, W. & Innes, J. L., eds. (2020). *The Wicked Problem of Forest Policy: A Multidisciplinary Approach to Sustainability in Forest Landscapes*, 1st ed. Cambridge, UK: Cambridge University Press.

Nöjd, P., Henttonen, H. M., Korhonen, K. T. & Mäkinen, H. (2021). Suomen metsien käytön rajat: Mera-aikakauden skenaariolaskelman tarina [The limits of the use of Finnish forests: The story of the scenario calculation in the Mera era]. *Metsätieteen Aikakauskirja*, 10570. <https://doi.org/10.14214/ma.10570>

Nolte, C., Gobbi, B., de Waroux, Y. L. P. et al. (2017). Decentralized land use zoning reduces large-scale deforestation in a major agricultural frontier. *Ecological Economics*, 136, 30–40. <https://doi.org/10.1016/j.ecolecon.2017.02.009>

Norokorpi, Y. & Pukkala, T., eds. (2018). *Jatkuuva kasvatusta jokametsään*. [Cover forestry for all forests], 1st ed. Joensuu, Finland: Joen Forest Program Consulting.

Nugent, S. (2002). Gente Boa: Elites in and of Amazonia. In S. Nugent & C. Shore, eds., *Elite Cultures: Anthropological Perspectives*. London, UK: Taylor & Francis Group, pp. 61–73.

Nygren, A., Kröger, M. & Gills, B. (2022). Global extractivisms and transformative alternatives. *The Journal of Peasant Studies*, 49(4), 734–759. <https://doi.org/10.1080/03066150.2022.2069495>

O Globo. (2021). “Aviões, joias, cavalgadas e shows de famosos: como o narcogarimpo movimenta dinheiro na Amazônia [Planes, jewelry, horseback riding and celebrity shows: how illegal gold mining combined with drug trafficking movemoney in the Amazon].” *O Globo*, November 11, 2021. <https://oglobo.globo.com/brasil/seguranca-publica/avioes-joias-cavalgadas-shows-de-famosos-como-narcogarimpo-movimenta-dinheiro-na-amazonia-25272441>.

Observatório do Clima. (2017). “Temer anistia grilagem de terras [Temer pardons illegal land grabbing].” ((o))eco, July 11, 2017. <https://oeco.org.br/reportagens/temer-anistia-grilagem-de-terrass/>.

Ollikainen, M. (2023). “Markku Ollikainen vastaa: En ehdota hakkuiden kieltämistä [Markku Ollikainen answers: I do not propose banning logging].” *Verkkouutiset*, May 12, 2023. www.verkkouutiset.fi/a/markku-ollikainen-vastaa-en-ehdota-hakkuiden-kieltamista/#9d130280.

Ollinaho, O. I. & Kröger, M. (2021). Agroforestry transitions: The good, the bad and the ugly. *Journal of Rural Studies*, 82, 210–221. <https://doi.org/10.1016/j.jurstud.2021.01.016>

Ollinaho, O. I. & Kröger, M. (2023). Separating the two faces of “bioeconomy”: Plantation economy and sociobiodiverse economy in Brazil. *Forest Policy and Economics*, 149, 102932. <https://doi.org/10.1016/j.forpol.2023.102932>

Paes Manso, B. (2021). “A Ligação do Clã Bolsonaro Com Paramilitares e Milicianos se Estreitou com a Eleição de Flávio [The connection of the Bolsonaro clan with paramilitaries and militiamen got closer with the election of Flávio].” *El País*, April 25, 2021. <https://brasil.elpais.com/brasil/2021-04-24/a-ligacao-do-cla-bolsonaro-com-paramilitares-e-milicianos-se-estreitou-com-a-eleicao-de-flavio.html#>.

Pakkasvirta, J. (2008). *Pulp & fiction: Tarinoita globalisaatiosta ja sellutehtaasta* [Pulp & Fiction: Stories about Globalization and the Pulp Mill], 1st ed. Helsinki, Finland: Gaudeamus Helsinki University Press.

Pantsar, M. (@MariPantsar). (2024). “Luulin, ettei hallitus enää pysty yllättämään luonto-ja ilmastonvastaisuudellaan. Taisin taas olla väärässä. #ennallistamisasetus [I thought the government would no longer be able to surprise with its anti-nature and anti-climate nature. I guess I was wrong again. #ennallistamisasetus #restoresetting].” X, March 21, 2024, 5:38 p.m. <https://twitter.com/MariPantsar/status/1770837288399843427>.

Parkatti, V.-P. (2021). “On the economics of continuous cover and rotation forestry.” PhD diss., Helsinki: Suomen metsätieteellinen seura. <https://doi.org/10.14214/df.312>

Peet, R., Robbins, P. & Watts, M., eds. (2010). *Global Political Ecology*, 1st ed. Abingdon, UK: Routledge.

Peluso, N. L. & Watts, M., eds. (2001). *Violent Environments*, 1st ed. Ithaca, NY: Cornell University Press.

Penido, A. & da Gama Janot, M. (2021). “Dois anos depois, 10 teses e 10 mitos sobre as forças armadas e Bolsonaro [Two years later, 10 theses and 10 myths about the armed forces and Bolsonaro].” *Brasil de Fato*, March 9, 2021. www.brasildefato.com.br/2021/03/09/artigo-dois-anos-depois-10-teses-e-10-mitos-sobre-as-forcas-armadas-e-bolsonaro.

Pereira, J. C. & Viola, E. (2021). Brazilian climate policy (1992–2019): An exercise in strategic diplomatic failure. *Contemporary Politics*, 28(1), 55–78. <https://doi.org/10.1080/13569775.2021.1961394>

Pereira, R., Simmons, C. S. & Walker, R. (2016). Smallholders, agrarian reform, and globalization in the Brazilian Amazon: Cattle versus the environment. *Land*, 5(3), 24. <https://doi.org/10.3390/land5030024>

Peres, S. (2024). “MP denuncia Ricardo Salles sem relatório final da PF [MP denounces Ricardo Salles without final PF report].” *Poder360*. Last modified March 11, 2024. www.poder360.com.br/justica/mp-denuncia-ricardo-salles-sem-relatorio-final-da-pf/.

Perlin, J. (2005). *A Forest Journey: The Story of Wood and Civilization*, 1st ed. Woodstock, VT: The Countryman Press.

Perz, S. G., Espin, J., Castillo, J. et al. (2016). Ideal type theories and concrete cases in land science: A multi-step appraisal of the evolutionary theory of land rights in Madre de Dios, Peru. *Land Use Policy*, 58, 9–20. <https://doi.org/10.1016/j.landusepol.2016.07.008>

Petras, J. & Veltmeyer, H. (2014). Agro-extractivism: The agrarian question of the 21st century. In J. Petras & H. Veltmeyer, eds., *Extractive Imperialism in the Americas*. Leiden, Netherlands: Brill, pp. 62–100. https://doi.org/10.1163/9789004268869_005

Peura, M., Burgas, D., Eyyvindson, K., Repo, A. & Mönkkönen, M. (2018). Continuous cover forestry is a cost-efficient tool to increase multifunctionality of boreal production forests in Fennoscandia. *Biological Conservation*, 217, 104–112. <https://doi.org/10.1016/j.biocon.2017.10.018>

Peyronnin, H. (2019). *Informal and Illegal Mining in the Peruvian Amazon: Tracing the Gold Trade in Madre de Dios*, ArcGIS 2019–03–26.

Phillips, D. (2019). “The swashbuckling meat tycoons who nearly brought down a government.” *The Guardian*, July 2, 2019. www.theguardian.com/environment/2019/jul/02/swashbuckling-meat-tycoons-nearly-brought-down-a-government-brazil.

Picoli, M. C. A., Rorato, A., Leitão, P. et al. (2020). Impacts of public and private sector policies on soybean and pasture expansion in Mato Grosso—Brazil from 2001 to 2017. *Land*, 9(1), 20. <https://doi.org/10.3390/land9010020>

Pihlajaniemi, M. (2018). “Kuka neuvoisi metsänomistajaa? [Who would counsel the forest owner?]” *Suomen Luonto*, October 16, 2018. <https://suomenluonto.fi/artikelit/kuka-neuvoisi-metsanomistaja/>.

Piran, A. (2023). “Mineradoras do Pará negociaram ouro com empresario ‘Grota’ de Itaituba, suspeito de envolvimento com narcogarimpos [Miners of Pará negotiated gold with ‘Grota’, the businessman from Itaituba suspected of involvement in drug trade and illegal gold mining].” *Folha do Progresso (blog)*. October 9, 2023. www.folhadoprogresso.com.br/mineradoras-do-pará-negociaram-ouro-com-empresario-grotade-itaituba-suspeito-de-envolvimento-com-narcogarimpos.

Planet Snapshots. (2023). “Issue 93: Tipping Points: Boreal Forests.” *Medium*, September 21, 2023. <https://medium.com/@planetsnapshots/issue-93-tipping-points-boreal-forests-b64f77c5dde4>.

Pommerening, A. & Murphy, S. T. (2004). A review of the history, definitions and methods of continuous cover forestry with special attention to afforestation and restocking. *Forestry: An International Journal of Forest Research*, 77(1), 27–44. <https://doi.org/10.1093/forestry/77.1.27>

Potter, H. (2023). “Tráfico e garimpo ilegal compartilham aviões e pilotos para lavar dinheiro na Amazônia [Drug trafficking and gold mining share planes and pilots to launder money in the Amazon].” *Repórter Brasil*, September 18, 2023. <https://reporterbrasil.org.br/2023/09/trafico-e-garimpo-ilegal-compartilham-avioes-e-pilotos-para-lavar-dinheiro-na-amazonia/>.

Praeli, Y. S. (2019). “Record levels of deforestation in Peruvian Amazon as gold mines spread.” *Mongabay*, March 6, 2019. <https://news.mongabay.com/2019/03/record-levels-of-deforestation-in-peruvian-amazon-as-gold-mines-spreads/>.

Praeli, Y. S. (2020). “Indigenous people are most vulnerable to the spread of coronavirus in Latin America.” *Mongabay*, March 30, 2020. <https://news.mongabay.com/2020/03/indigenous-people-are-most-vulnerable-to-the-spread-of-coronavirus-in-latin-america/>.

Praeli, Y. S. (2022). “Perú: Aumenta Deforestación por Minería Ilegal en Cuatro Comunidades Indígenas en Madre de Dios [Peru: Deforestation increases due to illegal mining in four indigenous communities in Madre de Dios].” *Mongabay*, May 26, 2022. <https://es.mongabay.com/2022/05/aumenta-deforestacion-por-mineria-ilegal-en-peru/>.

Prudham, W. S. (2004). *Knock on Wood: Nature as Commodity in Douglas-Fir Country*, 1st ed. New York, NY: Routledge. <https://doi.org/10.4324/9780203446164>

Pukkala, T. (2016). Which type of forest management provides most ecosystem services? *Forest Ecosystems*, 9(3). <https://doi.org/10.1186/s40663-016-0068-5>

Pukkala, T. (2017a). Transfer and response functions as a means to predict the effect of climate change on timber supply. *Forestry: An International Journal of Forest Research*, 90(4), 573–580. <https://doi.org/10.1093/forestry/cpx017>

Pukkala, T. (2017b). “Suomen metsissä on vähän puuta [There is little wood in Finnish forests].” *Arvometsä*, June 7, 2017. <https://arvometsa.fi/suomen-metsissa-on-vahan-puuta/>.

Pukkala, T., Lähde, E., Laiho, O., Salo, K. & Hotanen, J. (2011). A multifunctional comparison of even-aged and uneven-aged forest management in a boreal region. *Canadian Journal of Forest Research*, 862, 851–862. <https://doi.org/10.1139/x11-009>

Pulgarin Diaz, J. A., Melin, M., Ylioja, T. et al. (2024). Relationship between stand and landscape attributes and *Ips typographus* salvage loggings in Finland. *Silva Fennica*, 58(3), 23069. <https://doi.org/10.14214/sf.23069>

Pülzl, H., Kleinschmit, D. & Arts, B. (2014). Bioeconomy: An emerging meta-discourse affecting forest discourses? *Scandinavian Journal of Forest Research*, 29(4), 386–393. <https://doi.org/10.1080/02827581.2014.920044>

Puttonen, M. (2023). “Metsiä voi hakata ja säästää [Forests can be cut down and saved].” *Tiede*, 13/2023, 52–57.

Puukila, T. (2023). “Puun tuonti sukelsi [Wood imports plunged].” *Metsälehti*, February 2, 2023. www.metsalehti.fi/artikkelit/puun-tuonti-sukelsi/#6e48844f

Puukila, T. (2024). “Tutkija: ‘Metsäalan nykyinen tilanne on ihan oikea kriisi’ [Researcher: ‘The current situation in the forestry sector is a real crisis’].” *Metsälehti*, January 4, 2024. www.metsalehti.fi/artikkelit/vaikuttaja-ihan-oikea-kriisi/.

Qin, Y., Xiao, X., Liu, F. et al. (2023). Forest conservation in Indigenous territories and protected areas in the Brazilian Amazon. *Nature Sustainability*, 6(3), 295–305. <https://doi.org/10.1038/s41893-022-01018-z>

Radio Madre De Dios. (2020). “Realizan interdicciones en Comunidad Nativa Tres Islas y en el sector Barrio Chino, en Madre de Dios [They carry out interdictions in the Tres Islas Native Community and in the Barrio Chino sector, in Madre de Dios].” Last modified February 10, 2020. <https://noticias.madrededios.com/articulo/local-sucesos/realizan-interdicciones-en-comunidad-nativa-tres-islas-y-en-el-sector-barrio-chino-en-madre-de-dios/20200210121005010868.html>.

Radkau, J. (2012). *Wood: A History*, 1st ed. Cambridge, UK: Polity Press.

Ráez Luna, E. F. (2023). *Veedurías Forestales: Para la Defensa de los Territorios Indígenas y la Conservación de la Naturaleza en la Amazonía Peruana* [Forest Watch: For the Defense of Indigenous Territories and the Conservation of Nature in the Peruvian Amazon], Rainforest Foundation UK.

Raitio, K. (2008). “‘You can’t please everyone’: Conflict management practices, frames and institutions in Finnish state forests.” PhD diss., University of Eastern Finland.

Ramcilovic-Suominen, S., Kröger, M. & Dressler, W. (2022). From pro-growth and planetary limits to degrowth and decoloniality: An emerging bioeconomy policy and research agenda. *Forest Policy and Economics*, 144, 102819. <https://doi.org/10.1016/j.forepol.2022.102819>

Rämö, J. & Tahvonen, O. (2014). Economics of harvesting uneven-aged forest stands in Fennoscandia. *Scandinavian Journal of Forest Research*, 29(8), 777–792. <https://doi.org/10.1080/02827581.2014.982166>

Ramos, A. R. A. (2020). “Insustentabilidade da Exploração de Ouro No Rio Uraricoera, Terra Indígena Yanomami [Unsustainability of Gold Exploration on the Uraricoera River, Yanomami Indigenous Land].” PhD diss., Universidade Federal de Roraima.

Ranta, E. (2024). Narratives of authoritarianism in times of crisis: Democracy and limitations of progressive politics in plurinational Bolivia. *Journal of Latin American Studies*, 56(1), 91–114. <https://doi.org/10.1017/S0022216X23000950>

Ranta, K. & Kanninen, J. (2019). *Vastatuuleen: Saamen kansan pakkosuomalaistamisesta* [Against the Wind: On the Forced Finnishization of the Sámi people], 3rd ed. Helsinki, Finland: Kustantamo S&S.

Rao, M. P., Davi, N. K., Magney, T. S. et al. (2023). Approaching a thermal tipping point in the Eurasian boreal forest at its southern margin. *Communications Earth & Environment*, 247(4). <https://doi.org/10.1038/s43247-023-00910-6>

Raumolin, J. (1987). Myytinen Metsä-Suomi [Mythical Forest Finland]. *Metsälehti*, 23, 68–69.

Reaño, G. (2019). La Pampa, the heart of a mining model that is destroying the forests of Madre de Dios. In A. Chirif, ed., *Peru: Deforestation in Times of Climate Change*. Lima, Peru: International Work Group for Indigenous Affairs, pp. 237–254.

Resk, F. (2023). “Narcogarimpo e pacto com venezuelanos: como o PCC quer tomar Amazônia [Narcogarimpo and pact with Venezuelans: how the PCC wants to take over the Amazon].” *Metrópoles*, December 3, 2023. www.metropoles.com/sao-paulo/narcogarimpo-e-pacto-com-venezuelanos-como-o-pcc-quer-tomar-amazonia.

Ricardo, D. (1821). *On the Principles of Political Economy*, 3rd ed. London, UK: John Murray.

Riipinen, K. (1993). “Suomella on soiden ojituksen maailmanennätys. Suuri osa soista myllättiin turhaan, eikä luonnontilan palauttaminen käy helposti [Finland has the world record for draining bogs. A large part of the bogs were drained in vain, and restoring them to their natural state is not easy].” *Helsingin Sanomat*, November 20, 1993. [www.hs.fi/suomi/art-2000003285196.html](http://hs.fi/suomi/art-2000003285196.html).

Risso, M., Quevedo, C. A., Brasil, L., Calderoni, V. & Vallejo, M. F. (2023). Siga o Dinheiro: como o crime ambiental é tratado pelos sistemas contra lavagem de dinheiro no Brasil, Colômbia e Peru [Follow the Money: How Environmental Crime is Handled by Anti-money Laundering Systems in Brazil, Colombia and Peru], Instituto Igarapé Artigo Estratégico 61 2023–07–26.

Risso, M., Sekula, J., Brasil, L. et al. (2021). Illegal Gold That Undermines Forests and Lives in the Amazon: An Overview of Irregular Mining and Its Impacts, Igarapé Institute Strategic Paper 53 2023–04.

Rivero, S., Almeida, O., Ávila, S. & Oliveira, W. (2009). Pecuária e desmatamento: Uma análise das principais causas diretas do desmatamento na Amazônia [Livestock and

deforestation: An analysis of the main direct causes of deforestation in the Amazon]. *Nova Economia*, 19(1), 41–66. <https://doi.org/10.1590/S0103-63512009000100003>

Rodrigues, M. (2023). The Amazon's record-setting drought: How bad will it be? *Nature*, 623(7988), 675–676.

Rodriguez-Ward, D., Larson, A. M. & Ruesta, H. G. (2018). Top-down, bottom-up and sideways: The multilayered complexities of multi-level actors shaping forest governance and REDD+ arrangements in Madre de Dios, Peru. *Environmental Management*, 62(1), 98–116. <https://doi.org/10.1007/s00267-017-0982-5>

Runyan, C. & D'Odorico, P. (2016). *Global Deforestation*, 1st ed. Cambridge, UK: Cambridge University Press. <https://doi.org/10.1017/CBO9781316471548>

Ruokoski, V. (2019). “Kaakkois-Suomessa kysymys metsien hakkuista jakaa eduskuntapuolueiden kantoja [In South-Eastern Finland, the question of cutting forests divides the positions of the parliamentary parties].” *Yle*, March 22, 2019. <https://yle.fi/a/3-10701562>.

Rytteri, T. (2000). Metsäteollisuuden yhteiskunnallinen vastuu [Social responsibility of the forest industry]. *Alue ja ympäristö*, 29(1), 5–17.

Saavalainen, H. (2022). “Suomen metsiä hakataan perusteilla, joilla ei ole mitään tieteellistä pohjaa – Tuore raportti riepottelee useita ilmasto-väitteitä [Finland's forests are being felled on grounds that have no scientific basis – A recent report debunks several climate claims].” *Helsingin Sanomat*, May 13, 2022. www.hs.fi/kotimaa/art-2000008702429.html.

Salleh, A. (2017). *Ecofeminism as Politics: Nature, Marx and the Postmodern*, 2nd ed. London, UK: Zed Books Ltd.

Salo, M., Hiedanpää, J., Karlsson, T. et al. (2016). Local perspectives on the formalization of artisanal and small-scale mining in the Madre de Dios gold fields, Peru. *The Extractive Industries and Society*, 3(4), 1058–1066. <https://doi.org/10.1016/j.exis.2016.10.001>

Sanborn, C., Ramírez, T. R. & Hurtado Lozada, V. (2017). “Mining, Political Settlements and Inclusive Development in Peru.” ESID Working Paper No. 79, The University of Manchester, May 2, 2017. <http://doi.org/10.2139/ssrn.2963665>

Sánchez-Cuervo, A. M., de Lima, L. S., Dallmeier, F. et al. (2020). Twenty years of land cover change in the southeastern Peruvian Amazon: Implications for biodiversity conservation. *Regional Environmental Change*, 20(1), 8. <https://doi.org/10.1007/s10113-020-01603-y>

Saraiva, A. (2023). *Selva: Madeireiros, garimpeiros e corruptos na Amazônia sem lei* [Jungle: Loggers, gold miners and corrupt people in the lawless Amazon], 1st ed. Rio de Janeiro, Brazil: História Real.

Sauer, S. (2019). Rural Brazil during the Lula administrations: Agreements with agribusiness and disputes in agrarian policies. *Latin American Perspectives*, 46(4), 103–121. <https://doi.org/10.1177/0094582X16685176>

Schatz, E. (2009). What kind(s) of ethnography does political science need? In E. Schatz, ed., *Political Ethnography: What Immersion Contributes to the Study of Power*. Chicago, IL: Chicago University Press, pp. 303–318.

Schleifer, P. (2023). *Global Shifts: Business, Politics, and Deforestation in a Changing World Economy*, 1st ed. Cambridge, MA: MIT Press.

Schmink, M., Hoelle, J., Gomes, C. V. A. & Thaler, G. M. (2019). From contested to ‘green’ frontiers in the Amazon? A long-term analysis of São Félix do Xingu, Brazil. *The Journal of Peasant Studies*, 46(2), 377–399. <https://doi.org/10.1080/03066150.2017.1381841>

Schmink, M. & Wood, C. H. (1992). *Contested Frontiers in Amazonia*, 1st ed. New York, NY: Columbia University Press.

Schramm, F. P., Andrade, M. M. D., Martins, P. S. V. & González Pérez, S. E. (2021). *Sem licença para destruição: Cargill e violação de direitos no Tapajós* [Without a license for destruction: Cargill and rights violations in Tapajós]. Terra de Direitos, 2021–06.

Scoones, I., Edelman, M., Borras, S. M. et al. (2017). Emancipatory rural politics: Confronting authoritarian populism. *The Journal of Peasant Studies*, 45(1), 1–20. <https://doi.org/10.1080/03066150.2017.1339693>

Scott, J. C. (2017). *Against the Grain: A Deep History of the Earliest States*, 1st ed. New Haven, CT: Yale University Press.

Scott, J. C. (2020). *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, 1st ed. New Haven, CT: Yale University Press.

Senra, E. B., de Paula Batista, J., Molina, L. P., Pecora, L. H. R. & Oliveira, R. M. de. (2023). *Terra Rasgada: Como Avança o Garimpo na Amazônia Brasileira* [Torn Earth: How Gold-digging Advances in the Brazilian Amazon], Aliança em Defesa dos Territórios.

Seppälä, J., Heinonen, T., Kilpeläinen, A. et al. (2022). *Metsät ja ilmasto: Hakkut, hiihnielut ja puun käytön korvaushyödyt* [Forests and Climate: Fellings, Carbon Sinks and Compensation Benefits of Using Wood], Suomen ilmastopaneelin raportti 3/2022. <https://doi.org/10.31885/9789527457122>.

Shapiro, J. & McNeish, J. A., eds. (2021). *Our Extractive Age: Expressions of Violence and Resistance*, 1st ed. Abingdon, UK: Routledge.

Sherrard, A. (2019). “Neste’s Singapore expansion set to drive deforestation says Biofuel-watch.” *Bioenergy International*, January 9, 2019. <https://bioenergyinternational.com/nestes-singapore-expansion-set-to-drive-deforestation-says-biofuelwatch/>.

Siikajokilaakso. (2023a). “Perustuuko metsän hoitoon tieteen perustuuko? [Is forestry based on science?].” *Siikajokilaakso*, December 6, 2023. www.siikajokilaakso.fi/perustuuko-metsanhoito-tieteeseen/6091836.

Siikajokilaakso. (2023b). “Metsämyyttejä murtamassa [Breaking forest myths].” *Siikajokilaakso*, November 14, 2023. www.siikajokilaakso.fi/metsamyytteja-murtamassa/6039757.

Siltala, S. (2018). *Oksalla ylimmällä?: Metsäteollisuus poliittisena voimana 1918–2018* [On the branch at the top? The forest industry as a political force 1918–2018], 1st ed. Helsinki, Finland: Siltala.

Silva, A. G. D., Silva, F. C. D. & Yamada, T. (2019). Reprodução social de populações tradicionais e pecuária na Reserva Extrativista Chico Mendes: reflexões a partir dos projetos de vida de jovens extrativistas [Social reproduction of traditional and ranching populations in the Chico Mendes Extractive Reserve: Reflections from the life projects of young extractivists]. *Desenvolvimento e Meio Ambiente*, 52, 235–260. <https://doi.org/10.5380/dma.v52i0.65423>

Silver, B. J. (2003). *Forces of Labor: Workers’ Movements and Globalization since 1870*, 1st ed. New York, NY: Cambridge University Press.

Simard, S. (2021). *Finding the Mother Tree: Uncovering the Wisdom and Intelligence of the Forest*, 1st ed. New York, NY: Knopf Publishing Group.

Simmons, C. S. (2004). The political economy of land conflict in the Eastern Brazilian Amazon. *Annals of the Association of American Geographers*, 94(1), 183–206. <https://doi.org/10.1111/j.1467-8306.2004.09401010.x>

Simmons, C. S., Famolare, L., Macedo, M. N. et al. (2018). Science in support of Amazonian conservation in the 21st century: The case of Brazil. *Biotropica*, 50(6), 850–858. <https://doi.org/10.1111/btp.12610>

Sirviö, H., Meriläinen, E., Lehtinen, A., Kellokumpu, V. & Luukkonen, J. (2023). Metsät metsinä, kiistakapulana ja talouden materiaalisena perustana [Forests as forests, a bone of contention and as a material basis of the economy]. *Alue ja Ympäristö*, 51(2), 1–3. <https://doi.org/10.30663/ay.125505>

Smith, C. L., Hooks, G. & Lengefeld, M. (2020). Treadmills of production and destruction in the Anthropocene: Coca production and gold mining in Colombia and Peru. *Journal of World-Systems Research*, 26(2), 231–262. <https://doi.org/10.5195/jwsr.2020.981>

Sonnenfeld, D. A. (1999). Vikings and Tigers: Finland, Sweden, and adoption of environmental technologies in Southeast Asia's pulp and paper industries. *Journal of World-Systems Research*, 5(1), 26–47. <https://doi.org/10.5195/jwsr.1999.141>

SOS Orinoco. (2021). “Documental: El Arco Minero ¿Ecocidio o Suicidio? [Documentary: The Mining Arc: Ecocide or Suicide?].” Premiered on February 1, 2021. Youtube video., 19:24. www.youtube.com/watch?v=YmrtyC95ovw

SOS Orinoco. (n.d.) “Devastation in Venezuelan Amazonas. The tragedy in the Orinoco Region of Venezuela.” Accessed March 24, 2024. <https://sosorinoco.org/en/>.

Souza, J. (2019). *A elite do atraso: Da escravidão a Bolsonaro* [The Backward Elite: From Slavery to Bolsonaro], 1st ed. Rio de Janeiro, Brazil: Estação Brasil.

Spera, S. A., Galford, G. L., Coe, M. T., Macedo, M. N. & Mustard, J. F. (2016). Land-use change affects water recycling in Brazil's last agricultural frontier. *Global Change Biology*, 22(10), 3405–3413. <https://doi.org/10.1111/gcb.13298>

Spring, J. (2024). “Brazil's Amazon fires off to record 2024 start as green union blames fire-fighting budget cut.” *Reuters*, May 21, 2024. www.reuters.com/business/environment/blazes-brazils-amazon-off-record-start-2024-firefighting-budget-cut-2024-05-20/

Staal, A., Flores, B. M., Aguiar, A. P. D. et al. (2020). Feedback between drought and deforestation in the Amazon. *Environmental Research Letters*, 15(4), 044024. <https://doi.org/10.1088/1748-9326/ab738e>

Statistics Finland. (2022). “Greenhouse Gas Emissions in 2021 Became Revised – The Land Use Sector Was Confirmed a Source of Emissions.” Statistical Data. Last modified December 14, 2022. <https://stat.fi/en/publication/cktldez2g39g20c53gh3lp5jo>

Sulkava, R. (2023). *Luonnonmetsätyöryhmän 2020–23 kartoitustulokset* [The Natural Forest Working Group's 2020–23 Survey Results], Luonnonmetsä-työryhmä 2023–09–05.

Suomen luonnonsuojeluliiton Kainuu piiri ry [Kainuu district of the Finnish Nature Conservation Union]. (2008). “Liperinsuon hakkuut keskeytetti ma 11.2 [Logging of Liperisuo suspended on Mon 11.2].” *YLE Radio*, February 11, 2008. https://web.sll.fi/kainuu/ajankohtaista/copy_of_liperinsuo.

Suutari, V., director (2024). *Havumetsän lapset* [Once Upon a Time in the Forest]. Documentary, Euphoria Film.

Svampa, M. (2019). *Neo-extractivism in Latin America: Socio-environmental Conflicts, the Territorial Turn, and New Political Narratives*, 1st ed. Cambridge, UK: Cambridge University Press. <https://doi.org/10.1017/9781108752589>

Tallinen, P. (2019). *Ilmastonmuutoksen vaikutus Suomen luontoont esimerkkiympäristöissä: 1. Metsä 2. Itämeren rannikkomaisema 3. Tunturi* [The impact of climate change on Finnish nature in example environments: 1. Forest 2. Baltic Sea coastal landscape 3. Fell,], Maailman Luonnon Säätiö (WWF) Suomen Rahasto 2019–11–26.

Tanssin Talo. (2024). “Pauliina Feodoroff: Matriarkaatti [Pauliina Feodoroff: Matriarchy].” Accessed April 25, 2024. www.tanssintalo.fi/ohjelma/pauliina-feodoroff-matriarkaatti.

Tapio. (n.d.) “Briefly in English.” Tapio. Accessed June 20, 2024. <https://tapio.fi/briefly-in-english/>.

Taravella, R. & Arnauld de Sartre, X. (2012). The symbolic and political appropriation of scales: A critical analysis of the Amazonian ranchers' narrative. *Geoforum*, 43(3), 645–656. <https://doi.org/10.1016/j.geoforum.2011.11.009>

Taylor, A. (2020). Beyond stewardship: Common world pedagogies for the Anthropocene. In I. Duhn, K. Malone & M. Tesar, eds., *Urban Nature and Childhoods*. London, UK: Routledge, pp. 13–26.

Teivainen, T. (2002). *Enter Economism, Exit Politics. Experts, Economic Policy and Damage to Democracy*, 1st ed. London, UK: ZED Press.

Thaler, G. M. (2017). The land sparing complex: Environmental governance, agricultural intensification, and state building in the Brazilian Amazon. *Annals of the American Association of Geographers*, 107(6), 1424–1443. <https://doi.org/10.1080/24694452.2017.1309966>

Thompson, E. P. (1963). *The Making of the English Working Class*, 1st ed. New York, NY: Vintage Books.

Thompson, E. P. (1971). The moral economy of the English crowd in the eighteenth century. *Past & Present*, 50(1), 76–136. <https://doi.org/10.1093/past/50.1.76>

Thorne, S. J. (2022). “The Royal Navy’s war on trees.” *Legion Magazine*, February 15, 2022. <https://legionmagazine.com/the-royal-navys-war-on-trees/>.

Tiede lehti. (2024). “Uhkaavatko tuhohyönteiset metsiämme?” [Do pests threaten our forests?], toukokuu.6, 24–25.

Tilzey, M. (2021). Authoritarian populism and neo-extractivism in Bolivia and Ecuador: The unresolved agrarian question and the prospects for food sovereignty as counter-hegemony. In I. Scoones, M. Edelman, S. M. Borras et al., eds., *Authoritarian Populism and the Rural World*. Abingdon, UK: Routledge, pp. 266–292.

Toivanen, T. & Kröger, M. (2018). The role of debt, death and dispossession in world-ecological transformations: Swidden commons and tar capitalism in nineteenth-century Finland. *The Journal of Peasant Studies*, 46(7), 1368–1388. <https://doi.org/10.1080/03066150.2018.1503173>

Toledo, D., Briceño, T. & Ospina, G. (2018). Ecosystem service valuation framework applied to a legal case in the Anchicaya region of Colombia. *Ecosystem Services*, 29, 352–359. <https://doi.org/10.1016/j.ecoser.2017.02.022>

Tolpo, A. & Hakkarainen, J. (2019). “30 metsänomistajaa aikoo rikastua jatkuvalla kasvatusmenetelmällä – metsänhoitoyhdistys tyrmää: Vastutonta metsän tuoton ryöstämistä [30 forest owners plan to get rich with a continuous cover forestry method – Forest Management Association condemns: Irresponsible plundering of forest yield].” *Yle*, May 29, 2019. <https://yle.fi/a/3-10805659>.

Torres, M., Doblas, J. & Alarcon, D. F. (2017). “*Dono é Quem Desmata*”: *Conexões Entre Grilagem e Desmatamento No Sudoeste Paraense* [“The Owner Is Who Deforests”: Connections between Land Grabbing and Deforestation in Southwest Pará], 1st ed. São Paulo, Brazil: Urutu-branco; Altamira, Brazil: Instituto Agronômico da Amazônia.

Torres, O., Fagundes, M. B. B., Figueiredo, A. M. R. & Tredezini, C. A. D. O. (2017). Impacto da Implantação do custo do pedágio na BR-163 em relação ao transporte de soja do estado de Mato Grosso [Impact of the Implementation of Toll Costs on BR-163 in Relation to Soybean Transportation in the State of Mato Grosso]. *Revista de Economia e Sociologia Rural*, 55(3), 533–550. <https://doi.org/10.1590/1234-56781806-94790550307>

Tran, T. C., Ban, N. C. & Bhattacharyya, J. (2020). A review of successes, challenges, and lessons from Indigenous protected and conserved areas. *Biological Conservation*, 241, 108271. <https://doi.org/10.1016/j.biocon.2019.108271>

Tuesta, D. (2018). «Son prácticamente casos perdidos». Trata de personas y respuesta judicial en Madre de Dios, Perú [“They are practically lost cases.” Human trafficking and judicial response in Madre de Dios, Peru]. *Debates en sociología*, (47), 73–99. <https://doi.org/10.18800/debatesensociologia.201802.003>

Turun Sanomat. (2013). “Liki miljoona hehtaaria soita ojitetu turhaan [Almost a million hectares of bogs have been drained for nothing].” *Turun Sanomat*, November 5, 2023. www.ts.fi/utiset/556479

Ulmer, G. (2020). The earth is hungry: Amerindian worlds and the perils of gold mining in the Peruvian Amazon. *The Journal of Latin American and Caribbean Anthropology*, 25(2), 324–339. <https://doi.org/10.1111/jlca.12495>

United Nations. (2019). “UN Report: Nature’s Dangerous Decline ‘Unprecedented’; Species Extinction Rates ‘Accelerating’.” *Sustainable Development Goals (Blog)*. Last modified May 6, 2019. www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/.

Vaara, L. (2013). “Metsänhoitajien maa: Tutkimus metsäälan korporatismista [The Land of Foresters: A Study on Corporatism in the Finnish Forestry Sector].” PhD diss., University of Helsinki.

Vadén, T., Järvensivu, P., Majava, A., Toivanen, T. & Eronen, J. T. (2021). Kestävyyssititymän tiedontuotannollisista puutteista [On the knowledge production gaps of the sustainability transition]. *Tieteessä tapahtuu*, 39(3), 11–16.

Vaden, T. & Majava, A. (2023). Energiamurros ja metsäpinta-alan rooli suomalaisen yhteiskunnan aineenvaihdunnassa [Energy transition and the role of forest land in the metabolism of Finnish society]. *Alue ja Ympäristö*, 51(2), 107–123. <https://doi.org/10.30663/ay.121616>

Valencia, M. L. (2023). “Gold Mining in Colombia Increasingly Tied to Organized Crime: Report.” *InSight Crime*, December 7, 2023. <https://insightcrime.org/news/gold-mining-colombia-increasingly-tied-organized-crime-report/>.

van Eerten, J. (2017). “The road that exposed Peru’s Amazon.” *Earth Island Journal*, February 24, 2017. www.earthisland.org/journal/index.php/elist/eListRead/the_road_that_exposed_Peru’s_amazon/.

Varho, E. (2016). “Jättikartellista tuomitulta metsäyhtiöiltä tylly ehdotus korvauksia hakeille: Luovu oikeusjutusta, maksa kulujamme [A rude proposal from forest companies convicted of a giant cartel to those seeking compensation: Give up the lawsuit, pay our costs].” *Yle*, August 18, 2016. <https://yle.fi/uutiset/3-9102322>.

Värtö, P. (2022). “Lappeenrannan harvennushakkuu Voisalmen Hopeavuoreessa närästävä virkistysalueen käyttäjiä – 1890-luvulla metsätuhon jälkeen luonnonkaunis paikka elähytti Anni Swania ja Eero Järnefeltiä [Lappeenranta’s thinning in the Hopeavuori of Voisalmi upsets the users of the recreation area – in the 1890s, after the destruction of the forest, the scenic spot enlivened Anni Swan and Eero Järnefelt]” *Etelä-Saimaa*, June 3, 2022. www.esaimaa.fi/paikalliset/4648216.

Viitala, E.-J. (2020). Metsä meidän jälkeemme: Karumpi kuvaus Suomen metsäpolitiikasta [Forest after us: A starker picture of Finland’s forest policy]. *Metsätieteen aikakausikirja*, 2020, 10303. <https://doi.org/10.14214/ma.10303>

Viitala, J. (2004). *Metsäpolitiikan valtaa ja väätöä: 1970-luvulta 2000-luvun tarpeisiin* [Power and struggles in forest politics: From the 1970s to the needs of the 21st century], 1st ed. Helsinki, Finland: Tietosanoma.

Villa, L. & Finer, M. (2019). *Major Reduction in Illegal Gold Mining from Peru’s Operation Mercury*, MAAP: 104 2019–08–04.

Virtanen, H. (2022). *Trauma ja luonto — eli kuinka selviytyä ekoahdistuksesta* [Trauma and Nature — That is, How to Survive Eco-anxiety], 1st ed. Helsinki, Finland: SKS Kirjat.

VisitLappenranta. (n.d.). “Tervetuloa Lappeenrantaan! [Welcome to Lappeenranta!].” Accessed April 18, 2024. www.visitlappeenranta.fi/fi/Teemat-ja-tarinat.

Vitor Santos, J. (2020). “Na Pandemia, Governo Acelera Trem de Minério Sobre Povos das Regiões Mineradas. Entrevista Especial com Tádzio Coelho [During the Pandemic, the Government Accelerates the Ore Train on top of the People in the mined Regions. Special Interview with Tádzio Coelho].” *Instituto Humanitas Unisinos*, June 22, 2020. www.ihu.unisinos.br/159-noticias/entrevistas/600004-na-pandemia-governo-acelera-trem-de-minerio-sobre-povos-das-regioes-mineradas-entrevista-especial-com-tadzio-coelho.

Wacquant, L. (2022). Rethinking the city with Bourdieu’s trialectic. *City*, 26(5–6), 820–830. <https://doi.org/10.1080/13604813.2022.2125181>

Wacquant, L. (2023). *Bourdieu in the City: Challenging Urban Theory*, 1st ed. Cambridge, UK: Polity Press.

Waisbich, L. T., Risso, M., Husek, T. & Brasil, L. (2022). *O Ecossistema do Crime Ambiental na Amazônia: Uma Análise das Economias Ilícitas da Floresta* [The Ecosystem of Environmental Crime in the Amazon: An Analysis of Illicit Forest Economies], Instituto Igarapé Artigo Estratégico 55 2022-02-21.

Wallerstein, I., Collins, R., Mann, M., Derlugian, G. & Calhoun, C. (2013). *Does Capitalism Have a Future?* 1st ed. New York, NY: Oxford University Press.

Warnecke-Berger, H., Burchardt, H. J. & Dietz, K. (2023). The failure of (neo-)extractivism in Latin America – explanations and future challenges. *Third World Quarterly*, 44(8), 1825–1843. <https://doi.org/10.1080/01436597.2023.2203380>

Watkins, M. H. (1963). A staple theory of economic growth. *Canadian Journal of Economics and Political Science*, 29(2), 141–158. <https://doi.org/10.2307/139461>

Welch, C. (2009). Camponeses: Brazil's peasant movement in historical perspective (1946–2004). *Latin American Perspectives*, 36(4), 126–155. <https://doi.org/10.1177/094582X09338609>

Willow, A. J. (2020). Embrace it, accept it, or fight like hell: Understanding diverse responses to extractive industrial development. *Environment, Development and Sustainability*, 22(7), 7075–7096. <https://doi.org/10.1007/s10668-019-00529-8>

Wolford, W. (2010). Participatory democracy by default: Land reform, social movements and the state in Brazil. *The Journal of Peasant Studies*, 37(1), 91–109. <https://doi.org/10.1080/03066150903498770>

Wolford, W. (2021). The Plantationocene: A lusotropical contribution to the theory. *Annals of the American Association of Geographers*, 111(6), 1622–1639. <https://doi.org/10.1080/24694452.2020.1850231>

Ye, J., Van Der Ploeg, J. D., Schneider, S. & Shanin, T. (2020). The incursions of extractivism: Moving from dispersed places to global capitalism. *The Journal of Peasant Studies*, 47(1), 155–183. <https://doi.org/10.1080/03066150.2018.1559834>

Yhteismetsä Tuohi. (2023). “Tuottoa Jatkuvan Kasvatuksen Metsistä [Income from Continuously Cover Forests].” Yhteismetsä Tuohi. Accessed April 18, 2024. <https://yhteismetsatuohi.fi/>.

Ympäristötieto. (2021). “Ympäristödialogeja: Metsäsertifikaatit ja ekologisesti kestävä metsänhoito [Environmental dialogues: Forest certificates and ecologically sustainable forest management].” Streamed live on November 10, 2021. Youtube video, 1:28:30. www.youtube.com/live/cmQE9TSVBiY?feature=shared

Index

Aalistunturi, 174–175, 221–223, 230–231
Aalto, Tino, 203
Äänekoski, 18, 168
acacia, 247, 249
acai, 63
Acre, 3, 8, 10–11, 21, 26, 33, 37, 52–56, 77–79, 81, 92, 101–102, 112, 119–120, 257–258, 260–261, 263–264
activism, 92, 165, 174, 220, 233, 235, 237, 263
environmental, 225
forest, 204, 220, 222–223, 225, 228–230, 233, 235, 263
Afro-Brazilian, 155
Agent Orange, 242
Agrarian Party. *See* Centre Party
agrarian reform, 69, 72, 88, 170, 250
agroextractivism, 14, 17–19, 35, 40, 46, 249–250, 264
agrotoxics, 90, 267–268
Aho, Hanna, 186
airstrips, 114, 145, 152–153
Ala-Aho, Heikki, 206, 210–211
aldeia, 63, 91, 94, 144
Alter do Chão, 149
Amapá, 85
Amazon gold mining, 18, 25, 79, 106–107, 112, 119–120, 148
Amazon Rainforest, 15, 25–26, 97
Amazon River, 41, 52, 85
Amazon Watch, 112
Amazonas, 52, 56, 60, 72, 148
Amazon–Cerrado, transition forest, 51
American Civil War, 243. *See also* war
Amsterdam, 244
Stock Exchange, 71
Andean–Amazon forests, 132
Andean–Amazonian, 10, 120
ANDRITZ, 169
Anthropocene, 8, 17
Apaylon, 124
Arc of Deforestation, 52, 60, 96
Operation, 45
Arctic, 10, 195
Argentina, 249
armed groups, 104, 116
artisanal and small-scale gold mining, 117
artisanal mining, 120
gold, 101, 104, 120, 130, 140
ASGM. *See* artisanal and small-scale gold mining
Ashaninkas, 129
Asia, 25, 185, 242, 249, 252
aspen, 188
Atlantic
ocean, 85
Rainforest, 35, 249, 264
Atlantic meridional overturning circulation, 218
authoritarianism, 207
autodefensas, 104
Baca Casas, 122
Bahia, 8, 250, 264
Banco do Brasil, 83, 158
bandidagem, 68
bandido, 68
bark beetle, 165, 188–189, 192
Baú Indigenous Reserve, 88
beef, 14, 22, 26, 41–43, 77, 82–83, 96–97, 158, 243, 251, 254, 257, 261
Bela Vista Farm, 49
Belém, 8, 43, 45, 82, 84, 152
Belo Monte Dam, 82, 91, 157–158, 264
biodiversity, 5, 117, 128, 155, 185, 187, 191, 205, 208, 211, 216, 218, 226, 229, 263
hotspot, 85
loss, 168, 186, 193, 223
policy, 6
bioeconomy, 10, 13, 18, 190, 196, 201, 205, 208, 227, 249
boom, 262–263
debate, 210
forest, 186
hype, 181, 262
mills, 201
productivist, 194
strategy, 204–205

tree-based, 263
wood-based, 25, 181

bioenergy, 262

Bioenergy Association, the, 210

biofuel, 16, 204, 247

biogas, 182

biorefineries, 18, 247, 262

birch, 188, 192

blanks, 7, 244, 247, 269

blood gold, 112

Boa Vista, 150

Bogor, 241

Bolivia, 13, 25, 29, 54, 107, 112–113, 117, 148, 152, 249, 261

Bolsonaristas, 84, 90, 148

Bolsonaro, 21, 104, 266

- appointment, 44, 46
- era, 57, 60, 73, 75, 91, 113, 260
- government, 69, 146, 151, 155, 157, 258
- policy, 42, 251
- regime, 7–8, 14, 43, 46, 56, 59, 70–73, 81, 84, 110, 113, 145–146, 242
- supporters, 251, 266

Bolsonaro, Jair, 45–46, 55, 59–61, 79, 84, 96–97, 113, 138–139, 145–146, 148, 157, 251–252, 264

boreal forest, 21–22, 25, 168, 176, 185

Borneo Island, 241

Bourdieu, Pierre, 24, 79, 209

BR-163 highway, 8, 41, 60, 62, 64, 66–67, 74, 87, 89, 94–95, 112, 141, 156–157, 251, 258, 268

Brasília, 66, 69, 71, 74, 87, 90–91, 146, 148, 266–267

Brazil Foods, 83

Brazil nut, 136, 138

- collector. *See castaño*

Brazilian Amazon, 4, 8, 29, 33, 39, 42, 57, 92, 109, 111, 138, 144

- deforestation, 257
- fires, 251
- states, 80

Brazilian Institute of the Environment and Renewable Natural Resources, 42, 46, 60, 67, 70, 110, 137, 140, 142, 147–148, 152–154, 157–159

Brazilian Landless Movement, 69, 73, 85, 90

Brazil's National Development Bank, 83, 85, 111, 158

Brazil's Prosecution Service, 107

BRICs countries, 86, 158

British Columbia, 22, 189

British Imperial fleet, 244

Bunge, 85

Cacique, 63, 91–92, 94, 270

Cadastro Ambiental Rural, 44, 70

Caiapó, 104

Caiová, 72

Canada, 25, 112, 123

capitalism, extractivist, 6

capitalist system, 259

- extractive, 6
- global, 248

capitalist world system, 243, 248

Capitalocene, 7

Carajás, 8, 82

carbon, 174, 178, 189, 208

- capture, 25, 187, 210
- emissions, 165, 176, 180–181, 201, 249
- monoxide, 244
- neutral, 186
- removal, 186
- sink, 176, 201, 205–206, 216
- stock, 182
- wood, 202

Cargill, 41–42, 85, 95, 247

Caribbean, 7, 149

Carol DTVM, 150

Carrefour, 43

cartórios, 56, 65

castaño, 136

Castanha, 141

Castelo dos Sonhos, 67, 112, 141

Castilho, Alceu, 81

Caterpillar, 122

cattle capitalism, 18, 26, 30, 35, 48, 50–51, 77, 256–257, 259

cattle pastures, 29, 250

cattle ranching, 3, 28–29, 36, 257

cattle-raising, 39, 261

causalities, 5, 24, 29, 97

Cenepa, 132

Center for International Forestry Research, 241

Central Bank, 150–151

Central Union of Agricultural Producers and Forest Owners, 171, 198–200, 210, 213

Centre Party, 171, 183–184, 234

Cerrado, 26, 35, 50, 82, 264, 268

- deforestation, 89, 157
- forest, 247, 250
- transition forest, 48

chagra, 136

charcoal, 247

Chasp, 124

Chávez, Hugo, 113

Chico Mendes Extractive Reserve, 21, 26, 53, 55, 57, 79, 257

Chico Mendes Institute for Biodiversity Conservation, 42, 64–65, 106, 109–110, 146–147, 150–152, 154, 157

chief forester, 178, 209, 216, 218

Chile, 168, 180, 249

China, 25, 42–43, 204, 241, 247, 251, 254, 260, 262

China Development Bank, 85

chip wood, 181–182, 203

Christian Democrat, 132, 183

clearcutting
 frontier, 165, 177
 model, 185, 193, 196, 206

Climaco, Valmir, 42–43, 65–66, 77–78, 90

climate change, 16, 168, 186, 189, 201, 205, 207, 229, 245, 267

climate crisis, 186, 189, 246, 252

climatic-ecological tipping points, 255

cocaine, 66, 108, 116, 152–153
colocação, 258

Colombia, 30, 85, 104, 108, 113–114, 145, 152, 154

Comando Vermelho, 73, 145, 155

Comissão Pró-Índio, 119, 260

Committee of Foreign Affairs, 251

commodity frontier, 6, 8, 30, 41, 51, 85, 253–254

companheiros, 69

competition, 7, 30, 86, 181–182, 196, 200, 246, 250, 252, 265

compra, 144

Confederation of Finnish Industries, 251

conflict mineral, 112

Conibo River, 120

coniferous, 192, 236

conservation areas, 3, 8, 26–27, 33, 39, 42, 47, 53–55, 57, 63, 86, 97, 109–110, 117, 124, 141, 151, 156–157, 168, 178, 193, 206, 208, 222, 226, 257–258, 261, 263
 multiple-use, 21, 84, 86

conservation units, 26, 56, 72, 87–88, 109, 146, 156

constitution, 1993, 127

Constitutional Court, Peru, 128–129

contentious
 agency, 160, 174, 229, 258
 logging, 22
 politics, 190
 tactics, 168

continuous cover silviculture, 184, 194, 198, 213, 224

Correa, Rafael, 132

COVID-19, 14, 111, 113, 123–124, 131, 133, 146, 163

cowboy, 21, 33, 76, 141
 culture, 33, 48, 77

CPI. *See* Comissão Pró-Índio

critical agrarian studies, 19

Cruzeiro do Sul, 8, 55

Cuiabá, 8, 60, 141, 267

Cusco, 3, 81, 102, 120–121, 125, 133

dam-building, 11, 82, 158

De Olho nos Ruralistas, 81

de Sousa Santos, Boaventura, 132

deciduous, 188, 192

desertification, 26, 97

developmentalism, 30, 158, 263
 neo, 85

developmentalist, 83, 85, 127–128, 242, 254

Donner-Arnell, Jakob, 182, 204

dono, 62, 66, 143, 156

drone, 63, 92–93, 138

drug trade, 25, 107, 113, 152, 154, 259

drug trafficking, 18, 25, 68, 73, 114, 116, 128, 139, 145, 148, 152–153

DTV. *See* gold shop

eco-anxiety, 236

ecopsychology, 236

ecosocialism, 30

Ecuador, 13, 132

energywood, 22, 25, 188, 191, 198, 200, 202–203, 213–214, 219

demand, 181

plants, 181

production, 165, 191

sector, 160, 202–203

England, 242

Environment Commission, 72

environmental crime, 45–46, 58, 107, 116, 150, 153

Environmental Dialogue, 2021, 208

environmental protection area, 109

environmental studies, 17

environmentalism, 207
 post-, 4
 socio, 5

epochal moments, 14, 165, 242–245, 254

Eräjää, Sini, 185

erätarkastaja, 231

Ese Eja, 126, 129

Espírito Santo, 264

Essayah, Sari, 222

ethnography, 8, 10, 19, 26, 125

EU, 85
 Deforestation Regulation, 246
 eucalyptus, 16, 19, 41, 168, 249, 264

EU–Mercosul. *See* Mercosul

European Commission, 216

European Environmental Agency Scientific Committee, 186

European Union, 25, 42, 186, 190, 196, 201, 204, 206, 208–209, 225, 251–252
 biodiversity, 215, 226
 Commission, 185, 200, 226
 deforestation, 246
 law, 30

even-aged rotation forest management, 184–185, 211, 213–214

everyone's rights, 176

export-led growth, 22

Extinction Rebellion, 165, 170, 174, 220, 225–226, 233–235, 263

extraction–development nexus, 17

extractive capitalism, 15, 28, 257, 264

Extractive Reserve, 21, 258
 Arapiuns, 258–259
 Chico Mendes, 258
 Tapajós–Arapiuns, 26

extractivism, 7–8, 11, 15, 17, 19, 24, 27–28, 30, 75, 83, 112, 131, 133, 136, 138–139, 158, 195, 207, 227, 247, 252

concept of, 17, 29
 deforesting, 23, 112, 264
 forestry, 7, 17, 194, 197, 218, 244, 262
 global, 14, 120, 247, 254
 gold, 119, 122–123
 gold mining, 107
 hyper, 26, 35, 195
 mining, 27
 neo, 82
 post-, 138–139
 ranching, 18
 extractivist capitalism, 26
 extractivist frontiers, 8

Faleiro, Airton, 87
 family tree, 175, 237
fazendeiro, 48, 67, 69
 FD'Gold, 150–151
 Federal Police, 44–45, 90, 145, 147, 152–155
 Federal Prosecution Service, 43–45, 150–151
 FENAMAD. *See* Native Federation
 Ferreyros, 122
 fiber wood, 185, 187–188, 190, 197, 262
 financial crisis, 2008, 41, 111, 127
 Finland
 Central, 192
 Eastern, 183, 189, 214
 Northern, 171–173, 184, 195, 210, 214, 226, 230, 263
 Southern, 176, 184, 189, 192, 210, 226, 244
 Finnish Association for Nature Conservation, 169, 177, 186, 189, 205, 215, 220, 222, 226, 228, 233, 263
 Finnish Climate Change Panel, 201, 205
 Finnish Forest Act, 194, 196, 198, 211
 Finnish Forest Center, the, 210, 212
 Finnish Forest Foundation, 210
 Finnish Forest Research Institute, 198
 Finnish Forest Service. *See* Forest Government; *Metsähallitus*
 Finnish Innovation Fund, 181
 Finnish Natural Heritage Foundation, 225
 First Capital Command, 73, 104, 114, 145, 151, 154–155
 First World War. *See* war
fiscais, 147
 Flamengo, 266
 Food and Agriculture Organization of the United Nations, 3, 37
 forest activism. *See* activism
 Forest Centers, 198–199, 212
 Forest Cluster Research Strategy, 203
 Forest Code, 2012, 54, 81, 150, 156
 forest degradation, 6, 101, 243
 forest ecology, 22–23, 185, 197
 Forest Government. *See* Finnish Forest Service; *Metsähallitus*
 Forest Law, 1886, 195
Forest Magazine, 212

Forest Management Associations, 174–175, 198, 211–212, 217
 Forest Oversight, 138
 forest relations, 225
 forest spirit, 166, 269
 Forest Stewardship Council, 86, 205, 208, 224, 246
 Forest Workers' Foundation, the, 210
 forest-based livelihoods, 5, 76, 139
 Forestry Boards, 199
 Fray Bentos, 168
 Freire, Atawallpa, 132
 Fronteira, 141
 Fujimori, 127
 era, 120
 government, 119, 127
Future of the Countryside, 206

Gana Gold, 109
 Garcia, Nabhan, 71–74
 garimpeiros, 104, 144, 147–148, 152, 154
garimpos, 66, 78, 106, 110, 140, 142–150, 152, 154
 Gaza, 14
 Geiser, Gustavo, 45–46
 General Environmental Law, 127
 General Mining Law, 1991, 127
 geopolitical ecology, 7
 German, 66, 173, 242
 Germany, 187
 global capitalism, 17–18, 37, 82, 111, 243
 global climate tipping point, 6, 17, 25, 30, 85, 112, 248
 Global Convention on Biological Diversity, 186
 global crisis, 28, 109, 242, 245
 global deforestation, 5–6, 23, 30, 254–255
 global development studies, 17
 global ecology, 17
 global environmental governance, 245–246
 Global North, 156, 168
 Global South, 37, 168–169, 211, 250, 253
 globalization, 120, 196
 Goiás, 51
 gold mines, 65, 101, 114, 125, 140–141, 143, 145, 151–153
 gold mining, illegal, 30, 63, 66, 102, 104, 108, 111–114, 116–117, 126, 140–141, 145–146, 149–150, 153, 264
 gold shop, 141, 143–144, 146, 149–151, 153
grandes, 68
 grassroots
 decision-making, 160
 level, 42, 230
 green economy, 249
 Green Party, 226, 251
 green transition, 226–227
 Green Tribunal, 149
 greenhouse gas, 179, 186, 189
 Greenpeace, 165, 174, 185, 205, 215–216, 220, 226, 228, 233–235
 Greens, 183, 226
 greenwashing, 170, 205, 208

grilagem, 52, 56, 58, 64, 66, 70–72, 145
 grileiros, 43, 48, 56, 59, 64–66, 69, 147–148, 155
 gross domestic product, 125
 Grota, 151, 153
 Guajajara, Sônia, 84
 Guarani, 72
 guerilla, 104, 113–114, 116
 Guyana, 104, 107

Halme, Panu, 226
 Harakbut, 126
harsintahakkuu, 194
 Haverinen, Yrjö, 177, 185, 213, 220, 226, 229, 263
 hegemony, 20–21, 30, 40, 82, 119, 170, 174, 178–180, 194, 196, 198, 253
 clearcutting, 163, 263
 pulp, 180, 229, 237, 254, 263
 Western, 86

Helsingin Sanomat, 205
 Helsinki, 163, 169, 179, 231, 234
 Helsinki University of Technology, 229
 high conservation value, 208
 high nature value, 208
 Holocene, 219
 holy tree, 175
 Huánuco, 132
 Huepetuhe, 121
 Humaitá, 148
 Human Rights Court, 130
 Human Rights Watch, 59–60
 human trafficking, 104, 121, 125
 hunger years, 244
 hyper-extractivist, 194
 Hyundai, 153
 Hyvönen, Hannes Aleksi, 187

IBAMA. *See* Brazilian Institute of the Environment and Renewable Natural Resources
 ICMBio. *See* Chico Mendes Institute for Biodiversity Conservation
 Igarapé Report, 150
 Igor Silva, 151
 Ilomantsi, 171
 Imatra, 228
 India, 11, 122, 149
 Indigenous, 4, 13, 44, 63, 72, 84, 95, 121, 126, 132, 135, 146, 207, 250, 260, 269
 activist, 91, 149
 agroforestry, 135–136
 areas, 55, 84, 88, 97
 candidate, 132
 communities, 86, 119, 126–127, 129–130, 132–133, 135, 138–139, 149, 152, 259
 forestholders, 84
 groups, 43, 114, 127, 129
 informant, 114
 lands, 26, 41–44, 63–65, 72, 84, 86, 91, 104, 106, 110, 113, 116, 128, 146, 152, 154, 257
 leaders, 63, 91, 94, 129, 133, 136, 144

movement, 96, 132
 organizations, 260
 peoples, 36, 43, 56, 65, 71–72, 86, 91, 93, 95, 101, 114, 121, 126, 128–129, 131–133, 138–139, 172
 populations, 21
 reserves, 104
 resistance, 139, 152
 territories, 84, 145, 147, 150, 155
 villages, 63, 91, 117
 women, 125

Indonesia, 19–20, 168, 241, 247, 249, 261
 industrial forestry, 16, 19, 27–28, 160
 Brazil, 8
 Finland, 11, 170–172, 262
 global, 11, 262
 Industrial Forestry Association, 210
 InSight Crime, 104, 113–114
 Instituto Igarapé, 150
 Instituto Socioambiental, 104
 Inter-American Court of Human Rights of the Organization of American States, 129
 Inter-American Development Bank, 85
 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, 132
 Internal Revenue Service, 151
 International Finance Corporation, 83
 Interceanic Highway, 3, 10, 54, 81, 102, 108, 117, 120, 124, 127, 149, 157, 254, 259–260
 interoceanic road, 119
 interstate system, 7, 28, 241, 245–246, 253–255, 265
 IPBES Report. *See* Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
 Isnás, 228
 Itaituba, 42, 49, 61–62, 64–66, 77–78, 87–88, 91, 94–95, 106, 112, 141, 143–144, 146–147, 149, 151, 153, 270
 mayor, 151
 region, 42, 151, 153
 Italy, 112
 Ituna-Itatá, 44
 Ituna-Itatá Indigenous Territory, 43–44
 Iveté, Dona, 69, 78, 94–95

Jacareacanga, 64, 106, 148
 Jakarta, 241
 Jamanxim
 FLONA, 88, 109
 logging, 46
 River, 63, 92
 Japan Bank for International Cooperation, 85
 John Deere, 195
 Julián Chollo. *See* Sanmartín, Miguel Diaz
 Kaiapó, 36, 144
 Institute, 40
 Kainuu, 171, 232

Kalimantan, 241
 Kallio, Kyösti, 170
 Karelian War. *See war*
 Karttimonjoki, 215–216, 232–233, 235
 Kaukas mill, 216
 Kauppinen, Juha, 225
 Kayapó, 95, 144
 Kemi, 18, 168, 184
 Kemijärvi, 229
 Kone Foundation, 224–226
 Korean War. *See war*
 Korhonen, Ida, 175, 177, 207, 221–223, 227
 Kovalainen, Ritva, 171
 Kuusankoski, 229

La Pampa, 124–125
 Lähde, Erikki, 193, 198, 215
lähteä lapasesta, 232
 land grabbers, 37, 48, 52, 55–56, 59–60, 62, 65, 71–72, 81, 84, 88, 90, 154, 156–158, 258
 land grabbing, 16, 18, 30, 36, 44, 49, 51, 53, 55–60, 64–66, 71, 73, 81–82, 86–87, 89, 91, 97, 146, 155–156, 158, 254
 deforesting, 20
 mafia, 72
 ranchers, 44
 violent, 42, 71, 89
 land mafia, 20, 57, 59–60, 62, 66, 68–70, 73–74, 81–82, 90, 97
 land speculation, 11, 27, 36, 75, 257–258, 263
 Lapland, 172, 242
 northern, 194
 western, 174, 221–222
 Lappeenranta, 178, 204, 216, 228
latifundiários, 147
latifundio, 60, 69, 71
 grande, 69
 Latin America, 82, 114, 132, 150, 159, 250
 governments, 30, 83
 mining, 108
 Latin American, 11
 Latvajärvi, Aapo, 211
 Law to Promote Gold Mining, 1978, 120, 127
 Left Alliance, 183, 224
 Lima, 112, 119, 123, 125, 127, 259
 lived environments, 13, 30, 108, 117, 131, 139
 lock-in, 39, 181
 investment, 97
 technological, 16, 191, 250
 Loviisa, 228
 Low Carbon Roadmap, 204
 Lula da Silva, Luiz Inácio, 44–45, 82, 84–85, 87, 89–90, 110, 141, 145, 148, 150, 156, 158, 251–252, 260
 decree, 150
 government, 85, 88, 151, 154–155, 157
 lumber, 14, 191, 202, 244, 247
 Luonnonmetsätyöryhmä, 215, 233
 Luontoliitto, 165, 174, 220, 235

Madeira River, 55
 madereiro, 65, 67–69, 95, 147
 Madre de Dios, 11, 101–102, 108, 110, 112, 117, 120–121, 123–129, 131, 133, 254, 261
 Native Federation, 138
 province, 8, 30, 101, 106, 125, 253, 259
 River, 132, 134, 149
mãe Terra, 94
 Maggi, Blario, 70, 81
 Malaysia, 168, 246–247
 Malinowski River, 124
 Malu, 119, 260
 Manaus, 43, 45, 152
Mâncio Lima, 55–56
mandantes, 69
 Marabá, 83, 159
 Maranhão, 106, 140–141, 143, 250
 Marco Temporal legislation, 155
 marijuana, 152
 Marinho, Zequinha, 43
 Massa, Ilmo, 171
 mast wood, 247
 Mato Grosso, 37, 41, 68, 71, 74, 88, 106, 261, 264
 northern, 77, 268
 Mazuko River, 120
 Mehtätalo, Lauri, 201–202
 Meidän Metsämme, 187, 221
 Members of Parliament, Finland, 186
 Mendes, Chico, 42, 53, 79
 Mendoza, Elsa, 123, 125–126, 129, 260–261
 MERA, 199
 Mercedes-Benz, 141
 Mercosul, 85, 251–252
 mercury, 18, 63, 103, 107, 112, 117, 126, 130–131, 136, 253, 260
 mestizos, 129
 Metsä Fibre, 168, 200
 Metsä Group, 18, 200, 216, 219, 224
 Metsä-Botnia, 168
 Metsähallitus, 171, 175, 200, 210, 214–215, 218, 220, 222–223, 231–235
 Metsäliike, 169–170, 174, 177, 179, 204, 220–222, 226, 230–233, 235–236, 263
 Metsäliitto, 200
metsänhoitoyhdistys, 173–174, 212
 Metsätalous Oy, 175
 Metsäteollisuus. *See* Industrial Forestry Association
 Metso, 169, 181, 183, 213, 222
 Mikkola, Jyri, 173, 175–176, 179, 181, 189, 195, 202–205, 207, 215–216, 218, 220, 222, 224, 228, 233
 mining bank, 119–120, 130
 mining boom, 25, 108, 120–121, 126, 259
 Ministry of Agrarian Development, 78
 Ministry of Agriculture and Forestry, 171, 175, 204–205, 210, 212, 221, 223
 Ministry of Environment, 125, 222
 Ministry of Foreign Affairs, 139, 251
 Ministry of Mines, Peru, 123, 128

Miritituba, Port of, 62

Molanovich, Augusto, 11, 13, 124, 128–129

money laundering, 18, 25, 45–46, 60, 68, 73, 103, 107, 113, 122–123, 145–146, 150, 152–153, 259

monoculture plantations, 7, 37, 55, 57, 264

Montreal Protocol, 245

moral economy, 18–19, 30, 77–78, 121, 174–176, 190, 206, 212, 262

clearcutting, 175

pro-ranching, 76

ranching, 77

Morales, Evo, 261

muito chucras, 62

multisited political ethnography. *See* ethnography

Munduruku, 63, 91–92, 144, 152, 269–270

aldeia, 63

forest, 63

lands, 46, 64, 88, 91, 106, 113, 152

village, 91

Munduruku, Aldira, 92–95, 144

Munduruku, Rozeninho, 91–93

Nabhan gang, 71, 74

narco, 106, 110, 145–146, 152–153

gold, 152, 154

terrorists, 154

traffickers, 153

narcogarimpeiros, 106, 148, 153

narcogarimpo, 139, 145–146, 151, 153

National Coalition, 183

National Confederation of Agriculture and Livestock, 40

National Day of Indigenous People, 91

National Forest Strategy, 2019, 204

national forests, 86

National Indian Foundation, 43–44, 65, 91, 95, 150

National Institute for Colonialization and Agrarian Reform, 47, 70, 72, 257

National Liberation Army, 104, 113–114

Native Federation, 138

Natura, 206, 226

natural forest work group. *See* *Luonnonmetsätöryhmä*

nature loss, 223–224, 226

neodevelopmentalist, 87, 132

agenda, 82, 264

frontier, 82

infrastructure, 82

projects, 81

regimes, 261

state policies, 5

neoextractivist, 132, 260

neoliberal, 16, 45, 119–120, 127, 132, 169, 182, 196, 200

New Left, 132

Niinistö, Ville, 226

nonanthropocentric, 13, 223

non-destined public forests, 72

nongovernmental organization, 56–57, 62, 74, 93–94, 104, 131, 133, 135, 137–138, 150, 220

conservation, 229

nonwood forest products, 129

Nordestino, 155

Nordic, 11, 261

Nordic Investment Bank, 85

North America, 21–22, 243, 252

North Karelia, 171

Nova Mutum, 268

Novo Progresso, 36, 41, 61, 66–68, 95, 147–148

Nugget City. *See* Itaituba

Odebrecht, 85, 254, 260

oil palm, 16, 19–20, 41, 241

Okusan, 43

old-growth forest, 21–22, 166, 173, 182–183, 214, 220, 222, 226, 244, 253, 256, 262

Oliveira, Rodrigo, 45, 151

Ollikainen, Markku, 201–202

OM DTVM, 150

onto-epistemologies, 17

open-pit mining, 122, 158

Operation Mercury, 124

organized crime, 18, 25, 30, 45–46, 69, 73, 104, 111, 113–114, 116, 125, 145–146, 154–155

Orinoco Delta, 112–113, 141

Orpo, Petteri, 226

Orpo government, 222

Osara, Nils Arthur, 173

Osaran aukot, 173

Pacific Highway, 29, 33, 55

Pacific Northwest, 22

Pacific ocean, 85

Pajé, 94

palm oil, 19, 84, 241, 247, 261

Palmichal, 137

Pan-Amazonian, 96, 116, 260

Pantanal, 251, 267

Papagaio, 94

paper, 168, 180–181, 187, 197, 201–204, 219

companies, 169, 200, 216

industry, 165, 172, 177, 180, 183, 185–187, 191, 193–195, 216

mill, 219, 228

production, 165, 192–193

Pará, 8, 37, 39, 41, 45, 52, 56, 60–61, 66, 69, 74, 77, 80, 83, 85, 87–89, 112, 140, 141, 143–144, 151–153, 258–259

south, 68

southeastern, 41

southern, 106

southwest, 154, 157

western, 41, 145

Paraguay, 29, 249

paramilitaries, 70, 73, 104

Pariamanu, 124

Pariuás, 144

participant observation, 8, 19, 131
 Pastoral Land Commission, 146
 path dependency, 16, 39, 250
 Payaba, Juana, 129–130
peão de gado, 51
 Pérez, Yaku, 132
 Peruvian Amazon, 92, 112, 120, 132, 264
 Petro, Gustavo, 85
 Petrobras, 85
 pine, 163, 168, 188, 192–193, 197, 243, 249
 Pirkkamaa, 211
pistoleiros, 69, 71, 94, 114, 155
 Placas, 67, 148
 planetary limits, 255
 plantation sector, 55, 258, 261
 Plantationocene, 7
polacos brancos, 68
 Poland, 225
 political ecology, 17, 19–21, 23, 104
 political economic systems, 21, 29, 92, 241
 political economies, 6, 11, 15–17, 19, 22, 25, 29, 69, 71, 88, 103, 257–258, 261
 Brazilian, 36
 comparative, 10
 dominant, 27, 40, 156, 262
 forest, 182, 195
 international, 265
 land grabbing, 71
 local, 123
 trees, 262
 political ontology, 23, 135, 207
 political power, 29, 45, 70–71, 81, 116, 119, 124, 146, 192, 246
 pollution, 117, 126, 130, 136, 144, 187, 229
 Ponsse, 169, 195
 Pontal, 72
 Pontal do Paranapanema, 71
 Ponte do Abunã, 55
 Pontes, Felicio, 43–44, 155, 158
 Porto Velho, 55
 posse, 70
posseiros, 69, 86
 post-mining landscapes, 117, 133
 potash, 247
 Pöyry, 169, 181
 private forest, 165, 182, 194–195, 198–200, 204, 217, 222
 capital, 196
prostibares, 125
 protest, 90, 94–95, 121, 141, 160, 168, 170, 174–175, 220–223, 230–231, 234, 237, 251, 263
 Pucallpa, 55, 126
 Pudasjärvi, 173
 Puerto Maldonado, 3, 81, 102, 119, 123, 126, 129, 133, 135, 137
 Pukkala, Timo, 215
 pulp, 22–23, 65, 160, 177, 179, 181, 188, 214, 226, 236, 241, 247, 249, 251, 254
 boom, 168
 capitalism, 197
 cartel, 200
 companies, 180
 digester, 234
 industry, 18, 165, 170, 172, 180–181, 183, 185–186, 191, 193, 195, 232
 investment, 10, 82, 169, 262
 making, 185, 193–194, 201–202, 204, 206, 219, 264
 mills, 16, 25, 201, 211, 216, 223, 228–229, 262
 plantation, 83, 214, 217
 production, 165
 products, 187
 sector, 111
 wood, 176
 qualitative comparative analysis, 24
 Quilombola, 155
 Rainforest Foundation, 138
raiskata, 172
raiskio, 172
ramal, 54
 ranching-grabbing, 11, 37, 39, 41–42, 47, 49, 55–56, 68, 75–76, 80–81, 96–97, 101, 108, 112, 264
 ranching-land grabbing, 19, 39
 Raposa Serra do Sol, 113
 RDPE theory, 117, 159, 246
 Regional Council in Finland, 208
 regional forest board. *See Forest Centers*
 Regional Strategy for Low Emission Rural Development of Madre de Dios, 127
 Regulation on Land Use, Land-Use Change and Forestry, 186–187, 201
 reindeer, 172, 195, 210, 235
 herder, 234
 resistance, 3, 16, 30, 43–44, 58, 69, 75–76, 91, 95–96, 126, 129, 131, 134–135, 137, 139, 149–150, 154, 157–158, 168, 172, 204, 212, 215–216, 219–220, 225, 228, 246, 255, 258, 260, 263–264
 clearcutting, 30, 171, 227
 deforestation, 15, 29–30, 89
 extractivisms, 7, 128
 grassroots, 5
 local, 44, 129, 159, 228, 246
 movements, 69
 nonmodernist, 157
 strategies, 93, 95
 transformative, 139
 Restoration Act, 224–225
 Revolutionary Armed Forces of Colombia, 104, 113–114
 Ricardian, 16, 250
 Ricardo, 104
 Ricardo, David, 18
 right-wing, 104, 132, 225, 250
 Rio Branco, 8, 33, 54
 Rio de Janeiro, 73, 145, 266

Romans, 248

Ronaldo, Caiado, 74

Rondônia, 41, 55–56, 74, 258

Roraima, 41, 84, 104, 110, 113, 141, 148, 150–151, 154, 157

Rossetto, Neuri, 90

Rotterdam, 247

Rousseff, Dilma, 59, 81, 84, 91, 96, 158

rubber boom, 126

rubber tappers, 21, 53, 56, 95, 258

rule of law, 44, 48, 58, 67, 82, 84, 95, 155–158, 259

rural elites, 37, 71

Rural Environmental Registry system, 44, 70, 72, 81, 154

Rural Workers' Union, 69, 78, 95

Russia, 113, 177

- border, 171
- border closure, 165, 243
- imports, 177
- invasion of Ukraine, 14, 163, 181, 252

Saarinen, Jussi, 217

Sahateollisuus RY, 203

Salles, Ricardo, 46, 146, 152

Sámi, 172, 195, 227

- activists, 195, 227
- forest, 195
- homeland, 172
- land rights, 195
- reindeer, 195
- rights, 227
- Skolt, 208

Sanmartín, Miguel Diaz, 114

Santana port, 43

Santarém, 8, 41, 45, 52, 60, 69, 86–87, 89, 94–95, 152, 258, 267

- city, 150, 247
- region, 8, 41, 60, 69, 87, 95, 258

São Félix do Xingu, 39

São Paulo, 51, 71–72, 89, 145, 153

Sápmi, 171–172, 194–195, 210, 227

savannization, 26, 97

sawn wood, 165, 201–203

Sawré Muybu, 63, 91, 144, 270

Scarcello, Miguel, 56

Second World War. *See war*

Securities and Exchange Commission, 151

Seppo, Sanni, 225

Serra do Cachimbo, 88

Serra do Divisor National Park, 55

Shipibo, 126, 129–130

Silva, Igor, 106, 151–152, 154

silver, 248, 253

Singapore, 241, 247

Sinop, 77, 268

Sipilä government, 181, 185

smallholder, 21, 47, 58, 68–69, 79, 259

small-scale mining, 102, 122

smuggling, 107, 121

Soares, Heverton. *See Grota*

Social Democrats, 183

social media, 114, 149, 175, 205, 207–208, 224, 233

socionatures, 13

Sodankylä, 226

SOS Amazônia, 56–57

South Africa, 252

South America, 85, 122, 133, 180, 252

South Karelia, 163, 165, 170, 177, 189, 211, 228–229, 263

southwestern Pará, 30, 101, 106, 109–110, 141, 151–152, 156

Soviet Union, 170, 173, 192, 244

soybean boom, 50

soybean frontier, 50, 53, 146, 247

soybean plantation, 5, 29, 33, 51, 53, 55, 58, 77, 112, 158, 247, 250, 268

soybean planters, 33, 37, 46–47, 55

soybean-feed-fuel complex, 13

space

- physical, 51, 74, 79, 119, 178, 191, 261
- social, 119, 178, 191, 261
- symbolic, 24, 79, 119, 138, 178, 191, 261

Spanish Armada, 242

spruce, 25, 163, 168, 188–189, 192, 211, 219, 224, 249, 261

staples, 22

staples theory, 22

staples thesis. *See export-led growth*

Stora Enso, 169, 200, 219, 228

sturdy logs, 187–188

Sugar Loaf, 266

Suomen Metsästäjätö. *See Finnish Forest Foundation*

Superintendency of Development for the Amazon, 39

Supreme Court, 90, 141, 149–150, 267

Suriname, 141

Sutuari, Virpi, 221

Sweden, 25, 182, 236

Swedish Democrats, 183

Swedish Export Credit Corporation, 85

Switzerland, 112, 122

Tahvonen, Olli, 185, 195

Taimi-Tapio, 212

Tambopata National Reserve, 123–124

Tampere, 179, 263

Tapajós, 109, 154

- basin, 106, 151
- extractive reserve, 95, 109, 258–259
- FLONA, 86

Tapajós River, 30, 52, 62–63, 87, 91, 94, 144, 149, 247, 269

Tapio, 198, 212, 217

tar, 7, 247

- boom, 243–244

Temer

- government, 157
- interim government, 81
- regime, 84, 145

Temer, Michel, 59, 84, 96
 Terra do Meio, 39
 Terra Legal Program, 156
terras devolutas, 154
 Tocantins, 51, 250
 Tornator, 212, 224
 Transamazônica, 49, 63–67, 87, 251, 269
 Treccani, Girolamo, 70
 tree plantation, 3, 18–19, 25, 29, 111, 169, 176, 191–193, 198, 205, 233, 243, 249, 261
 Tres Islas, 129–131, 133, 135, 137–139
 community, 101, 126, 128, 130, 132, 135, 137, 149
 Native Community, 128, 131
 patrols, 137
 resistance, 137
 Três Lagoas, 264
 triple frontier, 30, 104, 113–114, 116
 Tupinambá, Gilson, 94
 Tupinambá people, 94
 Turku, 179, 263
 Ucayali River, 120
 Ukraine, 14, 163, 181, 243, 252
 Unguia, 72
 United Arab Emirates, 122
 United Kingdom, 112
 United States of America, 7, 22, 71, 122, 141, 159, 242
 University of Helsinki, 185, 221
 UPM, 168, 178, 200, 204, 216, 219, 224, 228
 Uraricoera River, 110, 114
 Uruguay, 168
 Uusitalo, Samuel, 208
 Vaara, Lauri, 197–200
 Vaario, Markku, 211
 Vantaa, 179
 Värriö Strict Nature Reserve, 172
 Venezuela, 13, 25, 30, 104, 112–114, 133, 141, 145
 Vietnam, 242
 Viiankiaapa, 226
 violence, 7–8, 16, 21, 41, 48, 57, 59–60, 64, 67, 71–73, 75–76, 79, 82, 90, 92, 107, 126–127, 136, 145–148, 156, 173, 179, 197, 248, 258, 260
 acts of, 74
 foundational, 228
 onto-epistemic, 208
 organized, 71
 rural, 146, 266
 sexual, 172
 territorial, 104
 ungovernable, 56
 Virtanen, Minka, 169, 220, 232–237
 Voisalmi, 216
 Volvo, 120, 122
 Wapichana, Joênia, 45
 war, 7, 14, 28, 64, 129, 154, 165, 172–173, 181, 192, 242–244, 252, 254, 265
 American Civil War, 243
 civil, 242
 First World War, 192
 Karelian, 170
 Korean War, 243–244
 making, 7, 181, 242, 254
 Second World War, 170, 172–173, 191, 218, 242–244, 254
 web of life, 13, 171, 197, 207, 256, 270
 Weber, Max, 67
 welfare state, 192–193, 223
 Wolfring, Conrado, 66–68, 70, 148–149
 Wood Processing Engineers Association, the, 210
 Workers' Party, 46, 56, 81–85, 87, 140, 156, 158, 263
 World Bank, 37, 39, 83, 85, 199
 world system, 7, 37, 248, 253–254
 World Wildlife Foundation, 185, 213
 world-ecology, 7–8, 14–16, 23–24, 30, 40, 107, 111, 200, 207, 243, 253–254
 Xavier, Marcelo, 44
 Xinguri, 40
 Yanomami, 110, 114, 145
 Indigenous territories, 84, 104
 lands, 113–114, 141, 145, 148, 151, 153, 157
 villagers, 114
 Yapacana, 104
 Yapacana National Park, 113
 Yhteismetsä Tuohi, 217
 Yleisradio Oy, 60, 183

