The Politics of Climate Finance in Brazil

How Actors and their Ideas Shape Institutions:
the Case of the Amazon Fund and the ABC Programme
for Low-Carbon Agriculture.

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Abstract

The international climate finance landscape is characterized by complexity and fragmentation (Weikmans and Roberts 2019). Navigating institutions and donor requirements is challenging for developing countries. Establishing national climate funds can be a way to meet these challenges, ensuring the targeted use of funds and strengthening ownership. This thesis examines the establishment of two national climate funds in Brazil during the administration of the Workers' Party (2003 – 2016), the Low Carbon Agriculture Programme and the Amazon Fund. National climate funds are embedded in political and social traditions of their country and the economic and ecological context. At the same time, it is these changes and conversions that are interesting and give rise to new institutions. By asking how actors employ ideas to influence political processes and the design of climate finance institutions in Brazil the study assesses the influence of actor constellations and discourses within their political and discursive context.

A drastic shift in climate policy enabled by discursive changes promoted by a coalition of government and civil society actors opened a window for political change and the establishment of new institutions. This shift allowed the Brazilian government to see the inefficiencies and unproductive aspect of deforestation (Carvalho 2012). Due to this process of sense- and meaning-making Brazil was able to reposition itself in domestic and international climate politics and gain international trust and financial support for its fight against deforestation. This development resulted in the creation of the world's biggest national REDD+ fund and a large-scale low carbon agriculture subsidy programme. The two climate funds analysed in this thesis were created in the same period but show remarkable differences due to the actor constellations and discourses they are based upon. The study provides evidence of the power of ideas when strategically applied by actor constellations and aided by scientific knowledge.

Für meine Eltern

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Abbreviations

ABC	*Plano Setorial de Mitigação e de Adaptação às Mudanças Climáticas para a Consolidação de uma Economia de Baixa Emissão de Carbono na Agricultura* Sector Plan for Mitigation and Adaptation to Climate Change for the Consolidation of a Low-Carbon Emissions Agriculture Economy
ABC	*Agência Brasileira de Cooperação* Brazilian Agency for International Cooperation
AF	*Fundo Amazônia* Amazon Fund
AFOLU	Agriculture, Forestry and Other Land Use (from the IPCC 2006 Guidelines for emissions from agriculture and LULUCF)
AGF	High-Level Advisory Group on Climate Change Financing
ARPA	*Prográma Áreas Protegidas da Amazônia* Amazon Region Protected Areas Programme
BASIC	Brazil, South Africa, India, China
BAU	Business as Usual (Scenario)
BNDES	*Banco Nacional de Desenvolvimento Econômico e Social* Brazilian Development Bank
BRICS	Brazil, Russia, India, China, South Africa
BRL	Brazilian Real
CA	Copenhagen Accord
CA	Cancún Agreements
CA	Corresponding Adjustments (of CDM Credits, Kyoto Allowances and ITMOs)
CAN	Climate Action Network
CAR	*Cadastro Ambiental Rural* Rural Environmental Registry
CBDR+RC	UNFCCC Principle of Common but Differentiated Responsibilities and Respective Capabilities
CCT	*Conselho Nacional de Ciência e Tecnologia* National Council of Science and Technology
CDA	Critical Discourse Analysis
CDM	Clean Development Mechanism

CEPEA	*Centro de Estudos Avançados em Economia Aplicada* Economic Research Centre at ESALQ
CH_4	Methane
CIFOR	Center for International Forestry Research
CLIMI	Climate Laws Institutions and Measures Index
CLUA	Climate and Land Use Alliance
CNA	Confederation of Agriculture and Livestock
COFA	*Comitê Orientador do Fundo Amazônia* Amazon Fund Steering Committee
COP	Conference of the Parties to the United Nations Framework Convention on Climate Change
CO_2	Carbon Dioxide
CONAMA	National Environment Council
COVID 19	Coronavirus Disease 2019
CPI	Climate Policy Initiative
CU	Conservation Unit
DAC	OECD Development Assistance Committee
DEFRA	(UK) Department for Environment
DETER	*Sistema de Deteção de Desmatamento em Tempo Real na Amazônia*
DF	*Distrito Federal* Federal District
DFID	(UK) Department for International Development
EMBRAPA	*Empresa Brasileira de Pesquisa Agropecuária* Brazil's State-Owned Agricultural Research Enterprise
ENREDD+	*Estratégia Nacional para REDD+* National REDD+ Strategy
ESALQ	Luiz de Queiroz' College of Agriculture
FAS	*Fundação Amazonas Sustentável* Foundation For Amazon Sustainability
FBOMS	*Fórum Brasileiro Mudanças Climáticas* Brazilian Climate Change Forum
FC	Forest Code
FIFA	*Fédération Internationale de Football Association* International Federation of Association Football
FINAM	Amazon Investment Fund
FGV	*Fundação Getúlio Vargas* Getúlio Vargas Foundation
FIP	Forest Investment Program
FUNAI	*Fundação Nacional do Índio* National Indian Foundation (Government Body for the Interest and Cultural of Indigenous Peoples of Brazil)
GCF	Green Climate Fund
GCF TF	Governors' Climate and Forests Task Force
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse gas

GIZ	*Deutsche Gesellschaft für Internationale Zusammenarbeit* German Cooperation for International Development
GoN	Government of Nepal
GVAgro	Centre for the Study of Agribusiness at the Getúlio Vargas Foundation
G77	Group of 77
IBAMA	Brazilian Environmental Protection Agency
IBDF	*Instituto Brasileiro de Desenvolvimento Florestal* Brazilian Institute of Forestry Development
IBGE	*Instituto Brasileiro de Geografia e Estatistica* Brazilian Institute of Geography and Statistics
IBRD	International Bank for Reconstruction and Development
ICMBio	*Instituto Chico Mendes de Conservação da Biodiversidade* Chico Mendes Institute for Biodiversity Conservation
ICV	*Instituto Centro de Vida*
IECCD	International Economic Cooperation Division
iLPF	*Integração Lavoura Pecuária Floresta* Crop-Livestock-Forest Integration
IMAZON	*Instituto do Homem e Meio Ambiente da Amazônia* Amazon Institute of People and the Environment
IMF	International Monetary Fund
INC	Initial National Communication
INCRA	*Instituto Nacional de Colonização e Reforma* National Institute of Colonization and Reform
INPE	*Instituto Nacional de Pesquisas Espaciais* National Institute of Space Research
IPAM	*Instituto de Pesquisa Ambiental da Amazônia* Amazon Environmental Research Institute
IPEA	*Instituto de Pesquisa Econômica Aplicada* Institute for Applied Economic Research
IPs	Indigenous Peoples
IPCC	Intergovernmental Panel on Climate Change
ISA	*Instituto Socioambiental*
ISI	Import Substitution Industrialization Strategy
KfW	*Kreditanstalt für Wiederaufbau* German Development Bank
KP	Kyoto Protocol
LDCs	Least Developed Countries
LEEP	Laboratory for Energy and Environmental Policy Innovation
LMICs	Low to Middle-Income Countries
LULUCF	Land Use, Land Use Change and Forestry
MAPA	*Ministério da Agricultura* Brazilian Ministry of Agriculture, Livestock and Food Supply
MCTI	*Ministério da Ciência* Brazilian Ministry of Science and Technology

MDA	*Ministério do Desenvolvimento Agrário* Brazilian Ministry of Agrarian Development
MDB	*Movimento Democrático Brasileiro* Democratic Movement Party (1980 – 2017: PMDB, 1965-1980: MDB)
MDBs	Multilateral Development Banks
MDS	*Ministério do Desenvolvimento Social* Brazilian Ministry of Social Development and Fight against Hunger
MDU	*Ministério do Desenvolvimento Urbano* Brazilian Ministry of Urban Development and Environment
MICs	Middle-Income Countries
MMA	*Ministério Do Meio Ambiente* Brazilian Ministry of Environment
MME	*Ministério de Minas e Energia* Brazilian Ministry of Mines and Energy
MoF	Ministry of Finance
MOU	Memorandum of Understanding
MRE	*Ministério das Relações Exteriores (Itamaraty)* Ministry of Foreign Affairs
MST	*Movimento dos Trabalhadores Rurais Sem Terra* Landless Social Movement
$MtCO_2$	Metric tons of carbon dioxide
NAMAs	Nationally Appropriate Mitigation Actions
NICFI	Norway's International Climate and Forest Initiative
NGO	Non-Governmental Organization
NORAD	Norwegian Agency for Development Cooperation
NPIP	Norwegian Programme for Indigenous Peoples
NSRC	National System of Rural Credit
OCTA	Amazon Cooperation Treaty Organization
OECD	Organisation for Economic Co-operation and Development
OLPR	Open-List Proportional Representation System
PA	Paris Agreement
PAC	*Programa de Aceleração do Crescimento* Growth Acceleration Programme
PAS	*Plano Amazônia Sustentável* Sustainable Amazon Plan
PEA	Political Economy Analyses
PES	Payments for Environmental Services
PFL	*Partido da Frente Liberal* Liberal Front Party
PMDB	*Partido do Movimento Democrático Brasileiro* (see MDB)
PNMC	*Política Nacional sobre Mudança do Clima* National Climate Policy (Law)
PPCDAm	*Plano de Acão para Proteção e Controle do Desmatamento na Amazônia* Action Plan for the Prevention and Control of Deforestation in the Legal Amazon

PPCD-AM	Action Plan for the Prevention and Control of Deforestation in the State of Amazonas
PPCR	World Bank Pilot Program for Climate Resilience
PPG-7	*Programa Piloto para Proteção das Florestas Tropicais do Brasil* Pilot Program to Conserve the Brazilian Rain Forest
PRODES	*Programa de Cálculo do Desflorestamento da Amazônia* Project for Monitoring Deforestation in the Legal Amazon by INPE Satellite
PRONAF	*Programa Nacional de Fortalecimento da Agricultura Familiar* National Programme for Family Agriculture
PT	*Partido dos Trabalhadores* Workers Party
PUC	*Pontifícia Universidade Católica do Rio de Janeiro*
RCI	Rational Choice Institutionalism
RBCF	Results-Based Climate Financing
RED	Reducing Emissions from Deforestation
REDD+	Reducing Emissions from Deforestation and Forest Degradation and the Role of Conservation
R&D	Research and Development
RESEX	Extractive Reserve
SBSTA	UNFCCC's Subsidiary Body for Scientific and Technological Advice
SEMA	*Secretaria do Meio Ambiente* Special Secretariat for the Environment
SEMA	Amazonas State Secretariat for the Environment
SEA	*Secretária Especial de Assuntos Estratégicos* Special Secretariat for Strategic Affairs
SCF	Standing Committee on Finance
SDGs	Sustainable Development Goals
SME	Small and Medium Enterprise
SNC	Second National Communication
SNEIC	Second National Emissions Inventory Communication
SPD	*Plantio Direto* Low Tillage / Direct Planting Systems
SREP	Scaling up Renewable Energy Program
SUDEPE	*Superintendência da Pesca* Superintendency for Fisheries
SUDHEVEA	*Superintendência da Borracha* Superintendency for Rubber
TNC	The Nature Conservancy
UKFCO	UK Foreign and Commonwealth Office
UN	United Nations
UnB	University of Brasília
UNCBD	United Nations Convention on Biological Diversity
UNCED	United Nations Conference on Environment and Development

UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UFRJ	U*niversidade Federal do Rio de Janeiro* Federal University of Rio de Janeiro
USP	*Universidade de São Paulo* University of São Paulo
WB	World Bank
WRI	World Resources Institute
WTO	World Trade Organisation
WWF	Wolrd Wildlife Fund for Nature

Chapter 1

Introduction

1.1 Introduction to my Research Topic

In the mid 2000s a drastic decline in national emissions and discursive changes promoted by a coalition of government and civil society actors opened a window for political change in Brazil. The shift in climate policy also triggered the establishment of new institutions. This thesis analyses how the government established two national climate funds and which structural factors, actors and ideas influenced this process in a specific domestic and international setting that was conducive to this development. Then, unlike today, the Brazilian government under the rule of the Workers' Party had pursued a very ambitious climate policy by its standards, with quantitative targets to reduce illegal deforestation and reduce Brazilian greenhouse gas emissions. National and international climate finance followed, and several new institutions were created. The thesis investigates this 'moment in history' and the subsequent developments by asking how actors employ ideas to influence political processes and the design of major climate funds in Brazil. It assesses the influence of actor constellations and discourses on the establishment of these national climate funds within their respective political and discursive context. It does so by showing how certain ideas around climate policy became constructed, who established ownership over these ideas to ensure they become enacted and how they influenced the establishment of climate finance institutions in Brazil.

This thesis analyses in detail the Brazilian Amazon Fund (AF) and the ABC Programme for Low-Carbon Development. National climate funds can be a way to enhance efficiency and effectiveness of climate finance delivery and implementation in the light of scarce resources in developing countries and several countries are therefore setting

up national climate funds. Such a strategy can be problematic against the background of already strained resources and human capacities due to donor demands and limited absorption capacity and thus some national funds have limited success and never achieve the necessary trust of donors. This fact underlines the importance to understand why and when national climate finance institutions succeed. Analysing the case of Brazil is further a topic worth tackling because of the size and weight of Brazil in the international negotiations, in the global carbon cycle and as an inspiration for other developing countries and model case for other donors and providers of climate finance (Pelicice and Castello 2020).

I became aware of the issue of climate financing and the relevance of national climate funds through my work as a GIZ adviser in Indonesia and the Philippines 2009 - 2013. Indonesia established its Indonesia Climate Change Trust Fund (2009) and the Philippine Peoples Survival Fund was created in 2012 which aroused my interest and that of my colleagues. I was motivated to conduct this research not only through my work but also the quest of our partners and other developing country governments to manage climate finance with greater responsibility at the national and local level. I noticed that national climate funds were set up in many countries but that some of them have very limited success and might never achieve the necessary buy-in from both national stakeholders and international donors, due to various reasons such as internal power play, the performance of the fund or the country or donor preferences. These can hamper their success what raised my concern that national climate funds can also be a dead-end road for developing countries and I wanted to find out what the crucial factors for success might be. This concern was fuelled by a debate at the time (see short opinion paper by Donor et al. (2010)) about the issue of limited absorption capacity of developing countries which is linked closely to the issue of climate finance readiness and the questions whether national climate funds can facilitate climate finance delivery from the point of view of developing countries. My work on climate finance readiness at the Commonwealth Secretariat in London (2014-2015) and GIZ in Eschborn 2015 - 2018 has further strengthened my conviction that national climate funds should and will play an increasingly important role in the climate finance architecture.

During a secondment at the World Resources Institute in the second half of 2010 and my work on carbon accounting in the forest sector, I first became intensively involved and fascinated with Brazil. My research project at the UEA allowed me to combine these interests. With my several months of field research in Brazil (after an initial pe-

riod during October and November 2013, the official field work period began in early January 2014 until end of June 2014) I fulfilled not only a professional but also a personal dream.

During fieldwork the focus of my research has shifted over the months. Originally the data collection was based on the research question: 'What determines access and allocation of climate finance in Brazil'? It was operationalized through an interview guide in a set of interview questions such as: 'i) who are the driving actors for climate finance/national climate funds in Brazil? ii) who is benefiting from climate finance in Brazil? iii) what are regional/sectoral differences or biases? iv) what type of climate finance allocation would be equitable, what would be efficient? v) how do the different levels of governance interact in the governance of climate finance in Brazil?'. However, in the course of data collection, it became apparent that the envisioned collection of quantitative data would not lead to a satisfactory result. The increased weight on qualitative data (expert and stakeholder interviews, as well as written documents and field observation) led to a reconsideration of the focus of the thesis, which is now titled 'The politics of climate finance in Brazil. How actors and their ideas shape institutions: the case of the Amazon Fund and the ABC Programme for Low-Carbon Agriculture'.

In consequence this also led to a reformulation of the overarching research question: 'How do actors employ ideas to influence political processes and the design of major climate finance institutions in Brazil?'. My assumption laid out in my conceptual framework is that ideas and institutions influence the behaviour of rational actors but that actors are also able to influence institutions by strategically framing and placing certain ideas. My thesis sets out to answer the main research question of how actors employ ideas to influence political processes and the design of major climate finance institutions in Brazil with the help of the following three sub-questions: 1) How is the governance of climate policy and finance carried out in Brazil? 2) What ideas are being constructed by whom? 3) How do actors ensure that certain ideas are enacted and enter the policy realm? (see Chapter 4.3 for details).

1.2 Introduction to the Wider Field of Research and Chosen Approach

The importance of international climate finance derives from the core problem that although tackling climate change is very costly, not tackling climate change will cost much more[1]. On a more positive note: '*the benefits of strong, early action on climate change outweigh the costs*' (Stern 2007: i). However, in the dominant global economic system incentives to invest in low carbon resilient technologies are lacking, due to the externalization of costs (Stern 2007). Although efforts are on the way around the globe to align the financial system with the objectives of the Paris Agreement to limit global warming to well below 2 degrees Celsius, there is still no price for carbon and conducive regulatory frameworks and enabling environments such as the EU green taxonomy and disclosure regulations are in their infancy. Adaptation on the other hand is very often not a revenue generating activity, for example climate relevant public services are often not cost covering. Globally the financial resources necessary to avoid the unmanageable and manage the unavoidable impacts of climate change (SEG 2007) will be much higher than what is currently available via the UNFCCC (United Nations Framework Convention on Climate Change) mechanism or other multilateral or bilateral channels.

Although the available financing is not enough, it is increasing. Already at the 15th Conference of the Parties to the UNFCCC (COP 15) in Copenhagen in 2009, the international community committed itself to jointly mobilize US$ 30 billion in 'Fast Start Finance' between 2010-2012 and US$ 100 billion a year from 2020 and reiterated this during COP16 in Cancún (UNFCCC 2009: Decision 2/CP.15, UNFCCC 2010: 1/CP.16) and beyond. According to the Organisation for Economic Co-operation and Development (OECD), climate finance mobilized by developed countries for climate action in developing countries reached US$ 71.2 billion in 2017 (OECD 2019). Global climate finance flows including private finance did surge to US$ 437 billion in 2015, before falling 12% to US$ 383 billion in 2016 (CPI 2017). Annual tracked climate finance surpassed the US$ half-trillion mark for the first time in 2017 and 2018, reflecting a steady increase in financing across nearly all types of investors (CPI 2019).

The contemporary climate finance landscape is characterized by complexity and frag-

[1] With international climate finance I refer to public climate finance flows from industrialised to developing countries (see Chapter 2 for a detailed discussion of the definition).

mentation (Roberts and Weikmans 2017). Navigating this landscape and accessing international climate finance is a challenge for recipient countries (Donner et al. 2010). The establishment of national climate funds and the delegation of responsibility to the national level also corresponds to the principles of the Accra Agenda for improving the quality and impact of aid to which the international community has committed itself. Effectiveness and efficiency in climate financing are necessary to counter climate change (ibid). National climate funds can make a contribution here, ensuring the targeted use of funds and strengthening ownership. Many developing and emerging countries look to countries with national climate funds like Brazil, because Brazil has set up several of these national climate funds, the Amazon Fund, the ABC Programme for Low Carbon Agriculture and the National Climate Fund[2]. All three funds are under domestic management which deserves a detailed analysis.

Brazil is a major emitter of greenhouse gases (GHG) and traditionally prominent and outspoken in the international climate negotiations. Its territory covers most of the Amazon rainforest, which has a direct impact on the global climate, not only because of the carbon it sequesters, but also because it regulates regional precipitation patterns and to some extent even the global hydrological cycle (Millán 2019). Brazil is also unique in that a large part of its emissions come from the deforestation in Amazônia and the agricultural sector (Viola and Franchini 2018; Viola, Franchini and Lemos Ribeiro 2013). National climate funds that address these directly appear to be an effective choice of instruments and could also be of interest to other major emitters among developing countries and emerging economies[3].

This thesis examines the Amazon Fund (AF) and the Low-Carbon Agriculture Programme (ABC) by assessing the influence of relevant actor constellations and discourses upon which the establishment of these national climate funds was based. It looks first at the Amazon Fund, established in 2008 as a demonstration of Brazil's efforts to halt deforestation in the Amazon biome. These efforts were marked by Brazil launching its Action Plan against Deforestation in the Legal Amazon (PPCDAm) in 2004 that initiated several concerted actions to suppress deforestation. The objective of the Amazon Fund, managed by the Brazilian Development Bank (BNDES), is to support the preservation and sustainable use of the Amazon biome (AF 2008). Article 1 authorizes the BNDES to allocate donations received by the Amazon Fund for the prevention, moni-

[2] Own observation as climate finance adviser.

[3] Economies of developing countries that are transitioning from low income, pre-industrial, towards an industrial economy, becoming more engaged with global markets.

toring and combating of deforestation, and to promote the conservation and sustainable use of the Amazon (AF 2008). This includes activities such as the management of public forest and protected areas, monitoring and surveillance, sustainable forest management, zoning and reforestation. The second national climate fund this thesis examines is the Low-Carbon Agriculture Programme (ABC Programme), established in 2010 and based on the Sectoral Plan for Low-Carbon Agriculture. While the Amazon Fund mostly focusses on command and control instruments to contain forest conversion and expand the sustainable use of the forest, the Low Carbon Agriculture Programme addresses the lack of economic incentives for sustainable agricultural practices and land use (Chapters 7 and 8). This thesis conducts an analysis of these two funds and their political, economic and environmental setup.

My theoretical approach draws on the analysis of actors, ideas and processes as well as institutions and it combines a political economy lens, the historical institutionalist approach and discursive institutionalism (Steves and Teytelboym 2013; Hall and Taylor 1996; Hay 2016, 2002; Schmidt 2016, 2008). A political economy approach is especially useful to reveal the interactions between agency and structure shaping environmental policy outcomes (Jakob et al. 2020). In order to understand who influences institutions and governance arrangements, and how they influence behavour, it is necessary to look at a wider array of actors and political and social processes, including formal and informal rules and formal and informal power structures. The institutional changes I examine are embedded in a complex range of influences and are connected as much to Brazil's political system as to scientific, social and consequently discursive factors. Environmental policy successes accelerated an already emerging dynamic and subsequently made it possible to create the climate funds, factors that have gained much international attention. These dynamics are best captured by an institutionalist analysis using a political economy lens and focus on actor constellations and discourses.

When it does not refer to economics, a political economy lens is nowadays an umbrella term for a growing body of literature; it focuses on how political forces affect the choice of economic policies, as well as distributional conflicts and political institutions. A political economy approach in climate finance investigates who is benefiting from climate finance and acknowledges that there are competing interests of powerful actors who defend their advantage and that there are others who are marginalised (e.g. Rai et al. 2015). The transformational change debate (see for example Gillard et al. 2016) reminds us to pay attention to power relations and to ask who benefits from

policy changes. In Steves and Teyelboym's (2013) CLIMI (climate laws, institutions and measures) index international context, the structure of government, the degree of political accountability and the characteristics of interest groups are important factors for climate policy formulation, although they focus only on the last 3 drawing on veto player theory.

On the other hand, an institutional lens is best suited to understand institutions. While Rational Choice Institutionalism (RCI) sees institutions as efficient solutions to collective action problems (such as the prisoners dilemma or the tragedy of the commons, an application to environmental problems made popular by Hardin 1968), it is not well suited to explain institutional change. Sociological Institutionalism sees institutions as culture specific and very broad (institutions include symbols, myths etc.) but nothing is valid across cultures. Actor centred institutionalism sees institutions as systems of rules which influence actors but are also influenced by actors (interdependency). Historical Institutionalist approaches assign power a prominent role because institutions grant access disproportionately to many groups or interests in the decision-making process. In this view a 'branching point' such as a conflict or a crisis is necessary for institutional change and historical development to occur (path dependency) (Hall and Taylor 1996). In Brazil, however, the policy shift occurred after the drop in deforestation rates and not necessarily in a moment of crisis but rather a moment of opportunity. Neither do actors follow ideas only; they are also influenced by physical phenomena, the 'being' influences the consciousness without determining it.

In order to study the specific role of ideas it is useful to turn to discursive institutionalist approaches. I therefore draw on that body of literature going back to Polanyi and his 1944 publication '*Origins of time: the great transformation*' that highlights the emergence of a liberal market economy as a result of the industrial revolution. Drawing on Polanyi, Blyth (2002) shows how economic ideas and institutional change in the 20th century interact in moments of uncertainty and crisis in Sweden and the US and identifies ideas as explanatory factors. Hay (2016) sees patterns of behaviour and habitualization as invariably indicative of the existence of institutions. The institutional order is real only in so far as it is realized in performed roles; on the other hand, roles are representative of an institutional order that defines their character. Social and political realities are at least partially constructed by actors through their understanding of their experiences and environment. Vivien Schmidt (2008, 2016) introduced background ideas which are unconscious assumptions, programmatic or policy ideas (which are discussed and debated) and activated ideas (action is taken

in their name). Jal Mehta (2011) argues that some ideas get realized while others do not can be explained with actors applying power and resources and using frames strategically. As Blyth (2011) reminds us, institutions are the result of agents attempting to tame uncertainty and create stability and '*they are never quite as equilibrating as our theories imagine*' (ibid: 99). As Schmidt (2011) points out, discursive institutionalist approaches work best to explain changes and continuity through ideas and interactions. However, these approaches might underestimate power by overdetermining the role if ideas in political life. Discourse, like any other explanatory factor, sometimes matters and sometimes does not in explaining institutional change; the interesting question is *when* it does matter and this is where this thesis attempts to make a contribution (ibid: 62). My conceptual framework therefore attempts to blend these approaches with a political economy lens and historical institutionalism.

The climate finance literature argues that national climate funds enhance ownership and can contribute to more targeted implementation of climate finance. The political economy of climate policy and aid literature reveals which sectors and actor constellations were successful in mobilizing climate finance. An analysis of the ABC, as well as an expansion of the analysis of actors to the Special Secretariat for Strategic Affairs (SEA) and to Norway as a key donor is still missing in the climate policy and finance literature on in Brazil. When engaging with the assumptions of historical institutionalism it became clear that institutional change does not always need a moment of crisis. A positive momentum can also lead to path dependency (PPG7, PPCDAm, Amazon Fund). Discursive institutionalism assumes that the reframing of an issue leads to political action and institutional change. My discourse analysis confirms this and unveiled the power-knowledge complex and the role of experts in pushing discourses (see Chapters 7, 8 and 9).

The discourse analysis element of the thesis draws in particular on Hajer's (1995) politics of environmental discourse, which calls for an 'ecological modernization' of the economy and end of the economy-ecology divide. For Mehta (2011), important steps in discourse construction is framing, the application of rhetorical strategies and problem definitions which are the basis of my analysis. Dayton (2000) differentiates between wider discourses and discursive frames whereas Gelcich et al. (2005) introduce the concept of storylines. Fairclough and Fairclough (2012) also contribute relevant work in their book 'New labour, new language'. Since the presidency of Jair Bolsonaro discourses such as sovereignty concerns regarding Amazônia that had been overcome already are gaining traction again and even attempt to block the international climate

negotiations (Pelicice and Castello 2020). Throughout the 25th Conference of the Parties (COP) to the UNFCCC in Chile / Spain in December 2019 for example, reference to the IPCC special land use report was controversial due to opposition in particular by Brazil. [4]. Brazil refused to host the COP 26 and threatens to leave the Paris Agreement (Pelicice and Castello 2020). My analysis of the actor constellations and discourses around the creation of the two climate funds during the administration of the Workers' Party (2003 – 2016) shall help to comprehend Brazil's role in the negotiations and beyond. This can also facilitate a better understanding of the current political dynamics in Brazil while the environmental roll back since the inauguration of Bolsonaro. The new administration threatens to push much of the progress briefly summarised above into the background or to consign it to oblivion. This study will therefore also be a contribution to the preservation of environmental policy successes in Brazil. In the future, these experiences and lessons will hopefully be again of greater interest to political actors and their advisors.

1.3 Thesis Organization and Summary of Results

Now that I have introduced the focus of my research, I will define the location of my thesis in the literature (Chapter 2). Chapter 3 then introduces the conceptual framework on which this thesis and its analysis are based. Chapter 4 presents the methodology used for data collection and analysis as well as ethical considerations. Chapter 5 provides essential background knowledge for the understanding and contextualization of the research. This is followed by three analytical chapters that combine research findings and analysis.

Chapter 6 clarifies the conditions for discourse dissemination and decision-making laid out by the political system and specific Brazilian political traditions. I show how the institutional structure enables and constrains agency by discussing some features of the Brazilian political system and political culture. The Chapter introduces actors (such as the president, parties, states), instruments (laws, decrees, conferences), and discusses these against examples of environmental policy-making (the Forest Code and the national climate funds). On the question of governability, the Chapter identifies several constraining factors: bicameralism, federalism, fragmented, undisciplined parties, the electoral system (an open list proportional representation system) but also enabling

[4] https://germanwatch.org/en/17459 and ENB coverage of COP25: https://enb.iisd.org/download/pdf/enb12775e.pdf, last accessed 1.12.2020.

factors such as presidentialism (the presidential powers, legislative initiative, 'urgency' of legislative proposals), executive instruments (decrees, provisional measures and ordinances) and internal rules as well as the practice of 'pork for policy'. Presidents and the executive can govern successfully but they need to take into account a broad set of interests. I show how the Workers Party (PT) who governed during the relevant time, navigated its way (*'modo petista de governar'*, the 'PT way' of governing, Goldfrank and Wampler 2017: 53) and used participatory tools to connect with its electorate. I argue that the Forest Code reform driven by conservative forces can be seen as a reaction to this executive policy style. All three climate funds were established using different instruments, but their establishment went smoothly and swiftly. The presidential decree establishing the Amazon Fund (decree 6.527) was issued on 1 August 2008. The law creating the National Climate Fund (Fundo Clima, law 12.114) was passed in 2009. The ABC Plan was drafted in 2010 and published in 2011. The ABC Programme was then created through a central bank resolution (resolution 3896) in 2010 and established under BNDES.

Subsequent Chapters 7 and 8 analyse actor constellations and discourses that shaped the Amazon Fund and the ABC Programme respectively. In Chapter 7 I show which actors (such as the Ministry of Environment and other ministries, civil society actors such as NGOs and academia, as well as states and donors) and historic constellations (such as the legacies of the 1992 Rio conference with its international-national NGO connections and discourses and the donor programme PPG7 - 1994-2009, 480 million USD-) created a network and an active role for international actors in Brazil and the UNFCCC and REDD+ negotiations shaped policy discourses in Brazil. These discourses include the social-environmentalism discourse, global responsibility, colonization, sovereignty, or the REDD+ discourse and the related discursive frames; while some have aided policies suppressing deforestation, others have hindered them. The chapter also shows how scientific knowledge was used to advance discourses (van Dijk 2003) when scientific and NGO discourse enter the policy realm. It further explores inter-state dynamics when Amazonian states coordinated and 'conspired' with ministries on plans to create a market mechanism and subnational REDD+ schemes. It sheds light on the rise of the Ministry of Environment in Brazilian climate policy and combat of deforestation with the support of civil society, the development of the 'Brazilian Proposal' of an international forest fund and the Norwegian legacy of support to indigenous peoples and civil society organizations.

After deforestation rates had been reduced through a joint effort of executive, judica-

tive and civil society, confidence building and meaning making had taken place, what allowed Brazil to reposition itself internationally and be less defensive (see Copenhagen and the adoption of voluntary targets). The discursive changes enabled a policy shift and the re-evaluation of previous positions allowing actors to coordinate and cooperate on the establishment of the Amazon Fund.
The Amazon Fund on the other hand shows several characteristics of those actor constellations and discourses analysed in Chapter 7: the *socio-ambientalismo* (social-environmentalism) discourse, the role of civil society and the states mirrored in its governance structure as well as the avoidance of market mechanisms, a key position of Brazil in the international climate negotiations for decades. Links to participatory instruments laid out in Chapter 6 become also visible as the Amazon Fund includes all relevant actors of climate policy at all governance levels in Brazil through a broad representation and through the fact that the idea of the fund in its early stages was conceived in conferences. Finally, the existence of a strong civil society has not only helped the Ministry of Environment domestically but has also attracted Norway as the main donor of the Amazon Fund. The rhetoric of the Brazilian government currently alienates its donors, however, when the political tide changes, this might hopefully change again as well.

In Chapter 8 I present the actors involved in the development of a low carbon agricultural policy, for example the Ministry of Agriculture, the confederation of agriculture and livestock, the national research institution EMBRAPA, the financial sector and NGOs and I analyse their interaction. Public private campaigns (the beef and soy moratoria) created awareness on all sides while EMBRAPA created the data and knowledge base and offered a solution for a policy problem; prevailing discourses like rationalization, justice and legality and green discourses did fit well with a low carbon agriculture approach; opposing discourses like colonization and sovereignty were not able to counter it, but their legacy (mainly through missing legality related to land titles) are obstacles for the implementation of the ABC especially in Amazônia. In the analysis of actors, it shows that EMBRAPA is the single most important actor and discourse shaper with direct access to politics and to the industry. Background ideas of relevance here are for example positivism, the belief in technology and progress; a relevant programmatic idea is low carbon agriculture as such. EMBRAPA's research (quietly) and Greenpeace discourse setting (publicly) thus both paved the way for the ABC. And once the ABC concept was developed, it became easier for the industry to move towards it, what resulted in a shift in position. GHG emissions from agriculture and low-carbon agriculture were presented as a particular problem definition and a policy solution was

offered through the ABC plan and programme. The ABC programme contracted 3.7 billion USD only in the first three years (2011-2014) and is hence much larger than the Amazon Fund. It is guided by economic incentives, research and technology. I found that the ABC struggles with implementation mainly because of legality issues and capacity requirements.

In Chapter 9 I discuss my findings from the analytical chapters against the theoretical foundations laid out in the literature review and conceptual framework. In comparing the commonalities and differences in the actor constellations and discourses around the Amazon Fund and the ABC and discussing them against the categories governability and actors and discourses, power-knowledge complex and mobilization potential of discourses it becomes clear that the climate funds could be established due to a conducive constellation of factors: deforestation rates had been effectively reduced; EMPRAPA was historically in a good position to provide the timely information that was needed; public pressure towards progressive climate had grown; policies were able to change consequently (PPCDAm and the other sectoral plans) and thus the 3 climate funds were established quickly and without much resistance. However, only two of them were really capitalised. The Amazon Fund was able to flourish due to a favourable constellation with international donors, the ABC on the other hand benefited from a favourable constellation within the domestic agricultural sector and the cooperation between the public and the private sphere.

Chapter 10 finally summarizes and reflects on the main findings and concludes the thesis. Here, the current political situation in Brazil is also discussed in more detail, which represents a clear roll back of environmental policy compared to the PT government and has already cancelled out many of these successes in terms of deforestation and emissions.

Chapter 2

The Political Economy of Climate Finance

This chapter presents the state of literature around international climate finance. The review shows the inherently political nature of climate finance and reflects the debates within both academia and international practice. The review begins by providing some key definitions and background and continues by mapping the relevant normative debates around climate finance and the political dimensions against which the efforts of establishing national climate funds have to be seen. I will then turn to the political economy literature which contributed a wealth of knowledge on climate finance especially on politically motivated aid allocation, country level dynamics and power plays. This leads to geopolitical aspects and North-South dynamics. The different varieties of institutionalism place an even stronger focus on agency and institutions. Their strengths and weaknesses will be reviewed before turning towards the 'ideational turn' and discussing the discursive variants of this body of literature. The chapter ends with a very brief review of discourse analysis literature to lead over to the conceptual framework.

2.1 The Climate Finance Debate

The climate finance literature has developed widely in the last two decades; while initially most climate finance literature focussed on the Clean Development Mechanism (CDM) (for example Lütken and Michaelowa 2008, Boyd 2009, Flues 2010, 2011, Stratmann 2011, Miah et al. 2011, Dinar et al. 2013, Castro 2011, 2014), most of the attention of academics in recent years has focused on public bilateral and multilateral climate finance as well as private finance, needed to achieve Article 2.1c of the Paris

Agreement, to make financial flows consistent with the climate goals (see Whitley et al. 2018, Corrocher and Cappa 2020, Warren 2020, Chelminski et al. 2018, Kotchen and Costello 2018, Hall 2017, Pauw et al. 2016). Key climate finance questions therefore address the amounts of climate finance, their uses and modalities. Key debates in climate finance include discussions of additionality, responsibility for mobilizing funds, allocation of resources (for example to Least Developed Countries, Small Island Developing States and Africa) and suitable channels for delivery. The debate also focuses on the extent to which the specialized climate funds actually respond to the needs of the recipient countries (Lundsgaarde et al. 2018).

2.1.1 The International Climate Finance Architecture

The international climate regime is articulated through agreements and institutions at the global level such as the UNFCCC which has been signed and ratified by almost all developing and developed countries (referred to as Non Annex I and Annex I countries) and the international climate finance architecture. International regimes are defined as 'sets of implicit or explicit principles, norms, rules, and decisionmaking procedures around which actors' expectations converge in a given area of international relations' (Krasner 1982: 186). The climate finance architecture includes multilateral climate finance channels such as the Global Environment Facility (GEF) and the Green Climate Fund (GCF) which together constitute the financial mechanism of the UNFCCC. Other multilateral channels include the Climate Investment Funds (CIFs), operated by the World Bank (WB), and under these for example the Forest Investment Program (FIP) or the Pilot Programme for Climate Resilience (PPCR). The climate finance architecture further includes bilateral and regional climate funds operated by major donors such as Norway, the United Kingdom, Germany as well as mechanisms such as Reducing Emissions from Deforestation and Forest Degradation (REDD+)[1] and Loss and Damage.

But what exactly is climate finance? Climate finance is generally referred to as the flow of funds from developed to developing countries to address issues related to climate change. In the last years, climate finance has also been flowing from Middle-Income Countries (MICs) to Low to Middle-Income Countries (MICs) as South-South cooperation (GoN/MoF/IECCD 2017). However, there is no official climate finance definition set out by the UNFCCC, although textbox 1 notes the guidance it provides.

[1]The full title of REDD+ reads as '*reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries*' (UNFCCC 2007: Decision 2/CP.13).

Textbox 1: UNFCCC guidance on the meaning of climate finance

The Cancún Agreements (UNFCCC 2010: Decision 1/CP.16, para 18, 95, 98) requests developed country Parties to:

- '*provide developing country Parties with long-term, scaled-up, predictable, new and additional finance, technology and capacity-building*';
- '*taking into account the needs of those that are particularly vulnerable*';
- and affirms the vision for a balance between adaptation and mitigation and stresses transparency on implementation.

The Standing Committee on Finance (SCF) provides the following working definition: '*climate finance aims at reducing emissions, and enhancing sinks of GHG and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts*' (SCF 2014: 19).

A definition of climate finance is, however, relevant because it cannot be assumed that climate finance follows the same logic as development aid or environmental aid including allocation preferences of donors of aid (Hicks et al. 2008). What climate finance exactly entails is not only a technical question, but closely linked to political discussions in the UNFCCC negotiations between different blocs of parties. Some (mostly developing country) parties for example advocate for climate finance to come only from public sources, while others (usually industrialized countries) also include 'innovative' sources and consider private sector engagement inevitable (CICERO 2015, Pauw 2015, AGF 2010). The Copenhagen pledge states that the $100 billion which the international community committed to mobilise jointly per year by 2020 includes public, private, bilateral and multilateral flows (UNFCCC 2009: Decision 2/CP.15, paragraph 8). This was reiterated in Paris (2015) and Marrakesh (2016). There is widespread agreement in the negotiations and among scholars that adaptation finance should focus on the most vulnerable (Grasso 2010) which led to many developing countries to include conditionality in their *Nationally Determined Contributions* (NDCs) (Pauw et al. 2019a).

Therefore, in the following I will use a definition of international climate finance that is closer to the international negotiations and refers to public climate finance flows from industrialised to developing countries.

2.1.2 Types of Climate Finance

Classic ODA Instruments

The most common financial instruments in the context of Official Development Assistance (ODA) are grants and loans, while the relevance of private equity and guarantees for climate finance increases. A grant is a financial instrument to address adaptation or mitigation with no expectation of a return payment (GoN/MoF/IECCD 2017). A loan is a financial instrument that is expected to be repaid. Concessional loans have special features such as no or lower interest and extended repayment schedules compared to a standard market or multilateral loan (GoN/MoF/IECCD 2017). Equity provides private capital but also transfers ownership - for example of a project or enterprise, for which shares are issued - to an investor. Guarantees – for example credit risk guarantees – by public finance institutions reduce the (perceived) risk of a climate project for the participating banks or financial service providers (Reyes 2012). These types of climate finance instruments are also the instruments the Green Climate Fund uses. Climate bonds or green bonds are issued by Multilateral Development Banks (MDBs), financial intermediaries or governments to purchasers or bondholders such as pension funds and banks (Reyes 2012); they finance green projects, investments or assets[2]. All financial instruments but especially loans can have attached conditionalities. These may include earmarking funds to certain sectors, co-financing, procurement design or fulfilling social and environmental criteria recipient entities need to fulfil (GoN/MoF/IECCD 2017, Reyes 2012).

Carbon Finance for the Compliance Market

A market mechanism is an approach to reducing GHG emissions through market frameworks such as carbon pricing, emissions trading schemes or pollution taxes[3]. Carbon finance under the compliance market of the UNFCCC is a mechanism adopted by OECD countries to provide money for GHG emission reduction projects in developing

[2]There is work underway since a few years on green bond principles, see for instance https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp/, last accessed 10.12.2020.

[3]https://www.csis.org/programs/energy-and-national-security-program/analysis/international-climate-negotiations-glossary#A, last accessed 19.12.2019.

countries. Certified Emission Reductions (CER) are purchased on behalf of the contributor, within the framework of the CDM or Joint Implementation (JI) mechanisms (GoN/MoF/IECCD 2017). The future modalities of both mechanisms are still under discussion as it was not yet possible to find an agreement during COP 24 in Katowice when the Paris Rulebook was negotiated. During COP 25 (Chile/Spain) the question of market mechanisms (PA, Article 6) was the main negotiation topic. Brazil refused to accept a compromise text on 'corresponding adjustments' - basically the question how to deal with existing CDM credits and Kyoto allowances, to retire them or move them to the new mechanism, and the issue was again deferred to COP 26. Meanwhile a coalition of nine countries led by Costa Rica and Switzerland went ahead with piloting market mechanisms, applying the 'San José Principles'[4]. It will be the task of the incoming UK Presidency of COP 26 to produce an Article 6 rule book; however, COP 26 has already been postponed due to the COVID 19 crisis. Brazil was and is very engaged in these negotiations and as one of the biggest CDM host countries considers its stakes in these negotiations fairly high. In the past it also rejected market mechanisms in the context of reducing emissions from land use changes, with implications for the setting up of its national climate funds as well as the global climate finance landscape (see Chapters 7 and 8).

Results-based Financing

Results-based finance (RBCF), results-based aid (RBA) or results-based payments (RBP) is another type of finance with conditions used in voluntary carbon markets; its characteristic is a contract between two parties that define incentives to produce measurable results (Angelsen 2017). According to Angelsen (2017), criteria are (i) payments based on results, (ii) recipient discretion (the recipient decides on how to achieve the agreed results), and (iii) independent verification of results. Unlike upfront financing, payments only occur if and when a result is delivered. Results-based finance is a flexible approach that can provide grants, loans, or payments for noncompliance carbon credits at a market price; it can target multiple actors, including governments, implementing agencies and project entities. The source of RBP can be the compliance market, voluntary market or public sources (Platonova-Oquab et al. 2017). RBCF is also a cornerstone of REDD+ and can complement command and control instruments such as law enforcement and the creation of protected areas (Wong et al. 2016)[5]. Brazil's

[4]Earth Negotiations Bulletin, Vol. 12 No. 775 Wednesday, 18 December 2019: https://enb.iisd.org/download/pdf/enb12775e.pdf, last accessed 19.12.2019.

[5]Command and control approaches focus on regulation and law enforcement for compliance with environmental norms rather than using economic incentives to achieve the same result.

Amazon Fund is a form of results-based financing. The mechanism Brazil chose together with Norway is setting a fixed price for reduced emissions. Ex post payments have the risk of high rates of non-participation by poor regions or poor socioeconomic groups (ibid).

Loss and Damage

Loss and damage refers to the negative effects - economic and non-economic losses - of climate change that people have not been able to cope with or adapt to. The concept was introduced at COP 13 in Bali in 2007 and integrated into the Cancún Adaptation Framework in 2010 (GoN/MoF/IECCD 2017). COP 19 (2013) established the Warsaw International Mechanism on Loss and Damage (WIM) to i) enhance knowledge; ii) strengthen dialogue; and iii) enhance finance, technology, and capacity building to address loss and damage[6]. COP 23 (2017) then introduced the L&D Fiji Clearing House for Risk Transfer to connect experts and those looking for risk transfer solutions to develop responses. Some industrialized countries are concerned that L&D implies liability and unlimited or undefined compensation. As a compromise, the UNFCCC formally recognized loss and damage, but under the adaptation pillar of the negotiations[7]. During COP 25 the WIM was equipped with an 'implementation arm' (ENB 2019: 26) but reference to developed country obligations was deferred to COP 26 (ibid)[8].

2.1.3 Fragmentation in Climate Finance

The climate finance landscape is 'complex and fragmented', largely decentralized and poorly coordinated (Roberts and Weikmans 2017: 132). Fragmentation not only stems from the diversity of climate finance sources, but also the variety of implementation channels and uses (from energy efficiency in buildings to disaster risk reduction) as well as sites of governance authority (Lundsgaarde et al. 2018). Leading contributors such as Germany, Norway and the United Kingdom have established bilateral climate funds (ibid); all three are active in Brazil. This fragmentation can overwhelm recipient countries; it impedes donor coordination and leads to duplication of efforts (Donner et al. 2011). Bilateral climate finance accounts for 85% of international public climate

[6] https://unfccc.int/topics/adaptation-and-resilience/workstreams/loss-and-damage-ld/warsaw-international-mechanism-for-loss-and-damage-associated-with-climate-change-impacts-wim, last accessed 15.09.2019.

[7] https://unfccc.int/topics/adaptation-and-resilience/workstreams/approaches-to-address-loss-and-damage-associated-with-climate-change-impacts-in-developing-countries, last accessed 15.09.2019.

[8] Earth Negotiations Bulletin, Vol. 12 No. 775 Wednesday, 18 December 2019: https://enb.iisd.org/download/pdf/enb12775e.pdf, last accessed 19.12.2019.

finance registered by the OECD's Development Assistance Committee (DAC) between 2011 and 2015 (US$ 13-21 billion each year),[9] the remaining 15% are allocated through multilateral channels (Peterson and Skovgaard 2019; Klöck et al. 2018). Of the multilateral channels, the GCF is the most significant; it has currently a volume of US$ 21.2 billion of which 6.2 billion are committed and 4.6 billion are under implementation[10].

Fragmentation and diversity of sources provide disadvantages such as lack of transparency and accountability as well as administrative burdens for strained human resources in recipient countries. In addition, many countries are already confronted with high levels of debt that do not allow them to take additional debt to finance mitigation or adaptation measures (for example Caribbean island states, OECD et al. 2019). Other challenges include the lack of capacities to formulate high quality funding proposals especially for bankable projects as well as to manage and account for climate finance.[11] However, the mobilisation of additional resources, better targeting, the acceleration of the disbursement of funds and innovation are also opportunities (Donner et al. 2011, Lundsgaarde et al. 2018).

To move towards low carbon development, a shift in all parts of economy and society is needed. National climate funds need to find a way to address political economy aspects in order to be able to contribute to policy development and implementation in areas with huge vested interests in the status quo (Zadek et al. 2010).

2.1.4 Climate Finance Tracking and Reporting

The political nature of international climate finance is also mirrored in the discussions of country positions in the international negotiations (Pickering et al. 2017) or international accounting rules (Roberts & Weikmans 2017) and over-reporting (Michaelowa and Michaelowa 2011). In addition to the political issues there is also a range of technical issues around climate finance tracking and reporting. Climate finance can be measured as gross flow or net flow (net flow equals gross flow minus any repayments, dividends, and disinvestments). This is particularly important for private finance as the private sector usually expects a return on investments (Stadelmann et al. 2013). Confidentiality in private companies for competitiveness reasons is another issue that hampers full disclosure of climate finance flows (ibid). In reality, the division between

[9] Japan, Germany and France make up 70% of all bilateral aid, although per capita Norway moves to the first place (Klöck et al. 2018).

[10] https://www.greenclimate.fund/how-we-work/resource-mobilization, last accessed 11.07.2020.

[11] Own observation as climate finance readiness adviser.

public and private finance is not as always clear (see public–private partnerships or CDM payments, - which are mostly private payments, but induced by public policy -, or publicly owned companies and utilities) (Stadelmann et al. 2013).

Weikmans and Roberts (2019) examine how the lack of internationally agreed modalities for accountability has led to a heterogeneous practice of accounting and reporting and, as a result, to conflicting statements about the actual level of climate financing. They argue that the absence of such agreements also makes comparisons between providers of climate finance more difficult (ibid.; Roberts and Weikmans 2017). Some countries have recently started to assess the private financial resources they mobilise through their public interventions (OECD 2019) (for instance France, Denmark, Belgium and Norway), but the methodologies used are still preliminary and vary from country to country (Weikmans and Roberts 2019). The PA's 'Enhanced Transparency Framework' (ETF) also requires non-Annex I Parties providing financial assistance to developing countries to report on such assistance every two years (UNFCCC 2015: Decision 1/CP.21, para. 90). This also applies to 'emerging donors' such as China, the United Arab Emirates and Brazil (Weikmans and Roberts 2019).

2.1.5 Ownership and National Climate Funds

The legitimacy of climate finance channels, mechanisms and institutions are in the focus of Ballesteros et al.'s (2010) research. They analyse the power, responsibility and accountability of multilateral climate funds as well as Brazil's Amazon Fund, the Bangladesh Climate Change Resilience Fund and the Indonesia Climate Change Trust Fund. They underline the need for new financial mechanisms at both global and national levels to achieve the goal of redirecting international financial flows towards low-carbon development. The responsibility of recipient countries and accountability for the performance of these institutions must grow significantly according to Ballesteros et al. (2010). But while the formal balance of power between contributor and recipient countries in climate finance institutions is levelling out, the informal power relationship remains in favour of contributing countries (ibid). However, with the creation of the Adaptation Fund and the Green Climate Fund two institutions under the UNFCCC have adopted a governance model that provides for equal representation between donors and recipients.

National climate funds are one way to respond to the challenge of navigating the climate finance landscape and accessing international climate finance by transferring

responsibility to the national (or subnational) level and thereby more efficiently targeting and managing climate finance. They provide the chance for stronger country ownership and more oversight and control over the financial flows entering a country and the objectives pursued. On the other hand, they require capacities to plan, manage and account for climate finance that are lacking in many countries[12]. Several developing countries have set up national climate funds, including Indonesia, the Philippines, Bangladesh or India (see for example Prasad and Sud 2018, Zadek et al, 2010). In Brazil, the government created several national climate funds under the management of the Brazilian Development Bank and the Ministry of Environment (the Amazon Fund and the National Climate Fund) and the Brazilian Development Bank and other Brazilian state banks respectively (the Low Carbon Agriculture Programme).

2.1.6 Normative Arguments around Climate Finance

The climate finance debate in academia and practice in general is strongly influenced by normative arguments. The arguments (in both academia and practice) range from historical responsibility, to equal burden sharing and per capita emissions budgets, the primacy of adaptation finance or additionality versus mainstreaming.

International Burden Sharing

International burden sharing refers to the responsibility for emissions reductions or the costs of climate change (adaptation) (Khan et al. 2020; Baer et al. 2009; Jagers and Duss-Ottesträm 2008). In the context of the Paris Agreement, historical responsibility is not only seen in the narrow sense of emissions reductions or financial contributions but in terms of contributions to a temperature goal (see for example Rocha et al. 2015). Vanderheiden (2016) also goes beyond the question of who should contribute what in terms of emissions reductions or financing by addressing the governance of climate finance resources and pointing to a 'feasibility gap' between what scholars have called for as a matter of climate justice and what is politically and institutionally feasible.

Climate Justice and the Primacy of (Adaptation) Finance

Some scholars provide normative arguments for how climate finance and particularly adaptation finance should be allocated (for instance prioritizing the most vulnerable) (Ciplet et al. 2013, Duus-Otterström 2016, Grasso 2010). Procedural and distributive

[12] Own observation when advising countries on climate finance readiness.

justice have been highlighted especially by Grasso (2010). Distributional justice refers to the claim that adaptation finance should prioritize the most vulnerable. Procedural justice refers to an inclusive process of raising and allocating funds and raising and allocation according to the responsibility for climate impacts. According to Grasso (2010), paying attention to these concerns is needed because ethical considerations play a major role in facilitating collective action against climate change; the better international climate negotiations are informed by principles of justice, the wider the participation will be (ibid).

Ciplet et al. (2013) also see the ethics of adaptation differ from that of mitigation, because the distributive questions are not only arising between burden-takers but also between the recipients of benefits. They ask what a 'just' approach to adaptation finance could be and conclude that the adaptation finance system falls short of the basic tenets of justice agreed upon by Parties in the UNFCCC decisions (ibid). Stadelmann et al. (2014) see equity and distributive justice at two levels - between countries and between projects. The former looks at equality between countries, in the sense that all developing countries get an equal amount of funding although that concept disregards individual vulnerabilities[13]. Prioritizing support for the most vulnerable would mean that more vulnerable countries should have priority access for international climate funds (ibid).

The Costs of Climate Change

Depending on the focus of the various studies, the financing needs also may vary[14]. This discussion is only at first sight technical but leads to a wider debate on equity and justice which again takes place both in academia and the international climate negotiations. Moore (2012) for example argues that payments from one country to another can be efficient if they concern the provision of a global public good which is the case for mitigation of GHG emissions in developing countries that are cheaper

[13] Vulnerability indicators or indices have been debated and criticized, e.g. by Hinkel (2011) and Klein (2009) arguing that vulnerability is too complex and subjective to measure and compare it across countries.

[14] For example, the World Bank (2010) estimated the costs of adaptation 2010 – 2050 at $70 billion to $100 billion a year. The last UNEP *Adaptation Finance Gap Report* sees the costs of adaptation ranging from US$140 billion to US$300 billion by 2030, and between US$280 billion and US$500 billion by 2050 (Puig et al. 2016). The 2020 *Adaptation Gap Report* includes adaptation finance and states that international public adaptation finance is slowly increasing, but that information is lacking to identify such a trend in domestic public or private finance flows and that there is insufficient evidence, that this increase is narrowing the distance to the amount that is needed to meet the adaptation costs: https://www.unep.org/resources/adaptation-gap-report-2020, last accessed 5.3.2021.

to realize - due to often inefficient technologies or economic practices, higher GHG reductions are achievable at lower cost - and will benefit everybody. However, in the case of adaptation citizens of one country do not directly benefit from adaptation elsewhere. Hence, there is no economic reason why they should pay for adaptation in other countries (ibid). This view can be challenged not only on normative but even on economic grounds with reference to phenomena like climate induced migration and resource conflicts caused by natural disasters that might have regional and global repercussions.

Yet technical arguments framed in scientific discourses and based on technical economic studies of institutions like the World Bank and the UNFCCC are used in a normative debate and influence the UNFCCC negotiations (Moore 2012). The assumptions regarding the cost of addressing climate change in developing countries have created some convergence of expectations among parties regarding the magnitude of funding that should be provided according to Moore (2012). The substantial financial pledges made since the Copenhagen Accord (UNFCCC 2009: Decision 2/CP.15), and reiterated several times since, might at least partly be owed to these studies. Failure to understand the politicized nature of these claims and insufficient sensitivity to the normative basis on the other hand can lead to rejection by developing countries as well as stalemate, discord, and distrust within the negotiations and within national fora (Moore 2012). Taking into account these normative debates is also necessary to understand how well various financial instruments including national climate funds respond to ethical concerns.

Additionality versus Mainstreaming

Developing countries insist that climate finance be 'new and additional' to meet the needs of the most vulnerable as foreseen by UNFCCC Article 4.3 and Decision 1/CP.16 (UNFCCC 2010) (Pauw et al. 2020). Pauw et al. (2019), for example, discuss whether a differentiation among non-Annex I countries might be necessary. The definition of 'additionality', however, is not clear (Ballesteros et al. 2010). Additionality in climate finance refers to the concept that financial resources devoted to climate change should not substitute or divert from funding that would otherwise be devoted to other issues but that it be additional to ODA (Reyes 2012). Halimanjaya (2015) argues that the concept of additionality is useful in ensuring a fair distribution between recipient countries and avoiding the diversion of funds from the poverty agenda (ibid). Stadelmann et al. (2011) point out the difficulty of setting baselines to assess climate fi-

nance pledges to assess their additionality in the first place. Developing countries have further expressed their concern that adaptation finance will not be 'new and additional' as a result of mainstreaming efforts (Klein 2010). Another reservation against mainstreaming stems from the concern that it might limit the opportunity to effectively evaluate the benefits of these financial resources with respect to climate change specifically. Donors might impose conditionalities on what should be a country-driven process. These concerns are fuelled by the fact that the amounts necessary will surpass the amounts available in the foreseeable future (Klein 2010, CPI 2019).

2.2 Policy, Politics and Climate Finance

Bargaining about the allocation of financial resources is a prominent subject for the political economy literature, a recent field of study in climate policy and climate finance. Climate finance has often been analysed from a political economy perspective, but less from a New Institutionalist perspective, although especially the discursive variant - as this chapter shows - could be relevant to explain the choice of policy measures and climate finance instruments.

2.2.1 Political Economy, Development and Aid

Political economy approaches recognise that poor development performance is not only the result of technical, administrative or managerial factors; instead, political interests, institutional capacities and lack of domestic buy-in are also taken into account (Carothers and de Gramont 2013). Political Economy Analyses (PEA) have become a popular tool for a better understanding of policy reform and implementation processes (Harris 2013, Hudson and Leftwich 2014).

Hudson and Leftwich (2014) distinguish three periods in political economy research, the first of which was mainly concerned with governance (and the absence of good governance) and focused on public sector capacity and management, from a technical, administrative and managerial perspective (ibid). Carothers and de Gramont (2013) call the belief in economic transformation of poor countries by capital and technical knowledge with a comfortable distance from political life '*the temptation of the technical*' (ibid: 3). 'New institutionalism' gained influence in social sciences as well as in the development discourse. The second generation of political economy consequently 'brought politics back in' (strongly influenced by DFID's 2009 '*Drivers of Change*', SIDA's 2005 '*Power Analysis*', and the Dutch '*Strategic Governance and Corruption Analysis*',

SGACA, 2008), with a greater emphasis on historical, structural, institutional and political contexts that shape how actors behave (Hudson and Leftwich 2014). The political economy literature of the third generation is the result of a dissatisfaction with the broadness and lack of practical guidance of the second generation (ibid).

The more recent political economy approaches as well as an increasing number of practical aid programmes instead seek to integrate the complex mix of interests and capacities of local players into the design of the activities. This movement towards politically smart methods is rooted in a strong aid effectiveness rationale (Carothers and de Gramont 2013). According to Hudson and Leftwich (2014) it is strongly influenced by economists taking a greater interest in the politics of development. Its basic assumptions are: i) self-interest drives behaviour and outcomes; ii) institutions matter; iii) incentives are generated within institutions (good institutions create incentives for coordination and wealth-creation, bad or missing institutions create incentives for self-seeking and socially perverse outcomes) (ibid).

2.2.2 Aid Allocation

Donor Preferences

Another branch of literature under the heading of political economy is devoted to aid allocation. According to Peterson and Skovgaard (2019) there are two arguments in favour of treating public climate finance as a sub-type of development aid from a scholarly perspective: i) donor countries report their climate finance as development aid to the OECD; and ii) the allocation of public climate finance and development aid are both decided by industrialized countries. Nonetheless, climate finance and development aid are arguably defined by different objectives: climate finance has clear climate objectives, whereas development aid is defined, inter alia, in terms of promoting the economic development and welfare of developing countries (ibid).

On the supply side the literature covers the mobilization (Pauw et al. 2016, Romani and Stern 2013) and the allocation of climate finance to recipient countries. Since COP 15 in Copenhagen (2009) developed countries have scaled up their climate finance. However, given the fragmented institutional architecture for climate finance it may lead to a 'disconnect between multilaterally agreed allocation principles and bilateral allocation practices' (Betzold and Weiler 2017: 18). Donor preferences and structural determinants – such as donor country income or CO_2 emissions - are both discussed

by the literature as factors for allocation (Michaelowa and Michaelowa 2011, Halimanjaya and Papyrakis 2015, Halimanjaya 2016, Briggs 2018). There is substantial literature on politically motivated aid allocation (Michaelowa and Michaelowa 2010, Lahiri and Michaelowa 2006, Dreher et al. 2009) which forms part of a broader body of literature on redistributive policies (for instance political determinants of intergovernmental allocations) and political economy factors such as political overrepresentation (see Porto and Sanguinetti 2001 for Argentina). In their classic contribution Alesina and Dollar (2000) have analyzed patterns of donor behaviour, for example responding to political and strategic considerations in the case of former colonial powers or responding to levels of poverty, functioning institutions, democracy and open trade policies (ibid). Berthélemy (2006) found a slightly different although not completely different picture when analysing the degree of 'altruism' in donor decisions but also concludes that most donors behave in a rather egoistic way by targeting their assistance to their most significant trading partners (ibid).

The largest share of climate finance is still spent on mitigation and mostly on countries with high and fast-growing emissions (Pauw et al. 2019). However, the distribution of financial resources among major green donors is heterogeneous, with some having stronger geopolitical and trade interests than others (Halimanjaya 2016). Norway, as one of the largest donors in the forestry sector, provides considerable support for example to Brazil, Indonesia, Guyana and Tanzania. US$ 1 billion stretched over several years was committed as results-based finance to the Amazon Fund. The individual contribution of Norway to the Brazilian Amazon Fund makes this target appear overproportionally large. The interest of the donor community and their significance for the Brazilian Amazon will be discussed in Chapter 7. Donors' interests do matter and have the potential to divert the largest part of climate finance away from its original objectives. Arel-Bundock et al. (2015) however, point to the restrictions of this view, because the donor government is not typically responsible for the implementation of aid programmes but rather relies on agencies such as the UK Department for International Development (DFID) to disburse aid; instead, the authors emphasize the role of domestic institutions challenges the assumption that the donors can target aid wherever they see it fit (ibid).

Recipient Needs and Recipient Performance

The aid allocation literature also looks at the recipient side for answers. Hicks et al. (2008) for example found that for the period under study – the 1980s, 1990s and early

2000s - recipient performance influenced the allocation of environmental aid. Countries with large biodiversity or natural resources stocks and megafauna (Brazil, Indonesia, Kenya, Philippines) or large populations and consequently large environmental problems (China and India) received large amounts of environmental aid. However, there were some surprising cases in the post-Cold War era when geo-political drivers and security considerations directed large amounts of environmental aid to countries such as South Korea, Turkey, Egypt, Pakistan, and Algeria. Recipients with a geopolitical leverage were likely to profit from assistance for more highly valued 'brown issues' (in particular water and sanitation projects). LDCs received in the majority 'green' aid. The natural capital stock of a country on the other hand positively influenced its probability to receive environmental aid (ibid).

Betzold and Weiler (2017) analysed the allocation of aid from the perspective of the needs of the recipients and found that bilateral aid is indeed in line with the UNFCCC priority for the most vulnerable. Countries that are classified as 'vulnerable' according to several vulnerability indicators also receive relatively more. Donors do provide more adaptation assistance to middle-income countries in relative terms, and democracies and countries with small populations in absolute terms. Their analysis of German adaptation aid, however, shows that political and economic interests were more important than vulnerability (ibid).

It seems that the quality of aid is important for its effectiveness as recipient countries seem to benefit more from an increase in quality aid (Minasyan, Nunnenkamp and Richert 2017). While relatively 'altruistic' donors seem to have more impact by providing higher quality aid and focusing on smaller and better governed recipient countries, relatively selfish donors providing lower quality aid tend to prefer larger and richer recipient countries to promote their own trade-related interests (ibid). How much countries receive is thus influenced by several factors studied by scholars. Halimanjaya (2015) shows that developing countries tend to receive more '*if they have higher* CO_2 *intensity, a larger carbon sink, lower per capita gross domestic product (GDP), and good governance*' (ibid: 238). This applies partially to Brazil.

Rai et al. (2015) explore how countries can enhance their 'climate finance readiness' by understanding their internal political economy. Under the World Bank Pilot Program for Climate Resilience (PPCR) in Bangladesh, resources and economic incentives were available to support large-scale infrastructure investments because stakeholders (Multilateral Development Banks, MDBs and ministries) in charge of planning and

managing the investments previously had worked together on other infrastructure initiatives (ibid). They also found that stakeholders involved in investment planning for the PPCR and Scaling up Renewable Energy Program (SREP) shared a vision towards transformational change and development benefits through economic growth. These stakeholders had the power to direct investment decisions and as a result, these decisions were steered towards large-scale coastal engineering projects (Rai et al. 2015). In Ethiopia there was strong agreement between the government and the MDBs that diversifying energy technologies would be transformative and lead to economic growth. As a result, grid-based geothermal and wind energy projects were prioritized. On the other hand, stakeholders on the margins of the consensus arguing for alternative ways of achieving objectives failed to get their views realized into investments. Actors with shared ideas form coalitions that support investment decisions; alternative coalitions with limited resources and dispersed knowledge are much less able to influence decisions (ibid).

Norm Transition through Aid

Studies also look at how individual donors do or do not take recipient performance into account in their aid allocation. For example, Isaksson and Kotsadam's (2018) analysis indicates that Chinese aid projects in Africa fuel local corruption and that this effect is not likely to be just a result of an increase in economic activity. Instead, they conclude that aid projects do indeed impact on local norms, because donors influence the costs and benefits of engaging in corrupt activities and, on the other hand, also disseminate their norms (ibid). Other studies highlight the positive effects of aid. Democratic donors might promote democratization (Blodgett Bermeo 2011). Aid effectiveness might also depend on complementary donor policies (Gary and Maurel 2015) and untied aid seems more effective than unadjusted aid with regards to income gains (Minasyan, Nunnenkamp and Richert 2017). The PPG-7 programme in Brazil is an example for norm transmission as a result of an aid programme (Chapter 7). The country claimed to 'resist' efforts by outside 'agencies' to 'solve' its Amazon problem until the PPG-7 programme marked a new direction in integrating development and environmental protection (Hicks et al. 2008).

2.2.3 Political Economy Combined with Political Analysis

The above discussion has shown that political economy bears relevant insights into climate finance, both internationally and in a country context. According to Rai et al.

(2015), understanding the political economy should help policymakers to make fairer and more inclusive decisions on climate investment. This view emphasises the conflict between competing interests of powerful actors who try to defend their advantage and the disadvantaged who are marginalised, which makes governance reforms so difficult. And existing institutional arrangements protect the position of those in power (Hudson and Leftwich 2014). Jakob et al. (2020) bring politics into their political economy analysis of energy policy in India, Indonesia and Vietnam, understanding climate policy outcomes as a result of demand from interest groups and supply by policy makers.

However, Hudson and Leftwich (2014) argue that political economy ignores the character of politics and the role of campaigning and mobilisation for different policy alternatives - including the change of incentives and institutions - when interests are reduced to instrumental, rational self-interest and development is compared with a 'market place', where consumers choose (vote for) the option in their best interest.[15]. The view on political economy has been narrowed to 'the economics of politics' and as a way to describe how incentives shape behaviour. This approach misses the distinctively political elements such as power, agency or ideas (ibid: 31).

There are approaches that combine a political economy approach with political analysis considering the above factors. Steves and Teytelboym (2013) ask why some countries adopt effective climate policies while others deny even the existence of climate change. In order to understand the variation in responses to climate change across countries they developed the 'Climate Laws, Institutions and Measures Index' (CLIMI) to measure countries' policy responses. Steves and Teytelboym's (2013) approach includes both international and domestic factors such as the international climate policy context, the structure of a government (the polity), or political accountability and interest groups. However, they treat international agreements as given (ibid). This assumption can be challenged, as international agreements are the result of collective domestic circumstances (see Chapter 7). Steves and Teytelboym (2013) also found that per capita income and progressive climate policy correlate in their empirical analysis. Additional influencing factors at the domestic level are the structure of the government especially the number of institutional veto players.[16] According to this anal-

[15] 'Missing money' - the traditional explanation for poor development outcomes - is replaced by 'missing institutions' (Ostrom et al. 2002: 4).

[16] Steves and Teytelboym (2013) build on Tsebelis' (2002) veto player theory arguing that the level of democracy and accountability influences the motivation of these veto players and their views of their constituents and ultimately determines policy-making. According to Tsebelis (2002), veto players are those actors without whose consent policy cannot be implemented. Their number depends on

ysis the degree of responsiveness to climate change also depends on factors like the electoral rules, the freedom of media, the level of education or the power of interest groups associated with the economic structure (ibid; Olson 1971[21]). According to Steves and Teytelboym (2013) and Jakob et al. (2020) interest groups lobbying for carbon-intensive industries can exercise considerable political influence that might be disproportionate to their share of votes, as long as they are well organized (see the 'bancada ruralista' in Chapter 8), although this might be balanced by other interest groups such as environmental movements and non-governmental organizations (NGO) (Chapters 7 and 8). Steves and Teytelboym (2013) call this 'a battle of ideas' (ibid: 11). Their study, however, cannot account for the actual change in policy; even with a good climate policy, emissions might increase as a result of economic development, rapid fossil fuel-based electrification, urbanisation etc. or because climate change policy may not be fully implemented due to ineffectiveness (ibid). Their approach is nevertheless interesting and relevant for a deeper analysis of a case like Brazil which relies on a carbon intensive agricultural sector and has at the same time passed progressive climate legislation.

2.3 Agency in the Political Economy of Climate Finance

2.3.1 Institutionalist Approaches

The recent political economy literature emphasises the role of institutions and actors, however, as Hudson and Leftwich (2014) argue, the explanatory reach is narrowed due to the increasing influence of the economic approach to politics which sees agents as rational utility maximising individuals and institutions as an expression of incentives that dominate actors and their actions. They therefore call for bringing agency and structure back in arguing that while agents make decisions and choices to pursue their interests and ideas, they do not '*make history just as they please*' (Hudson and Leftwich 2014: 74). Economic, social and institutional structures shape behaviour without determining but rather providing the context for conduct of unpredictable, reflexive and strategic agents. It is impossible to determine outcomes as agents interpret opportunities and risks in a given situation of uncertainty (ibid).

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the political system (one or bicameral parliament and their powers, the presidency, federalism, the number of parties). The agenda setter is the veto player that makes proposals to which other veto players respond. The greater the number of veto actors and the more diverse their views, the more difficult it is to shape policy (Steves and Teytelboym 2013).

But if interests are not fixed or self-evident, interventions designed to provide incentives cannot automatically lead to behaviour change (ibid). Therefore, it is important to explore other relevant literature on actors and institutions and assess their strengths and weaknesses and suitability for my research project. Institutionalist approaches in political science draw heavily on agency. 'New institutionalism' in political science comprises several distinct approaches which all developed in response to the influence of behavioural perspectives in the 1960s and 1970s; they seek to shed light on the role of institutions in influencing social and political outcomes (Hall and Taylor 1996).

Rational Choice Institutionalism (RCI) was inspired by a so-called paradox in the 1970s: stable majorities in the US Congress despite of the legislators' multiple preferences and the multidimensional nature of the issues. RCI studied congressional behaviour and based on new economics of organization and principal agent theories, RCI concluded that the rules and institutions in Congress reduce transaction costs for deals and therefore allow for beneficial exchanges between legislators. Institutions are therefore conceived by actors as efficient solutions to problems of collective action and enable stable solutions (see Chapter 6). RCI has been applied to other issue areas for instance the European Union and also inspired regime theorists and other branches of political science dealing with collective action dilemmas (Hall and Taylor 1996, Olson 1971[21]). Examples are the 'prisoner's dilemma' or the 'tragedy of the commons' (Hardin 1968) - often applied to environmental issues such as climate change. Institutional change, however, cannot be explained with this approach.

Sociological institutionalism developed independently from historical institutionalism and RCI but roughly in parallel. Sociological institutionalism argues that institutions and procedures are culture-specific practices and not mainly problem-solving solutions. The definition of institutions is thus much broader than political science and includes symbol systems, cognitive script and moral templates (Hall and Taylor 1996). Therefore, it is difficult to distinguish between institutions and culture if culture itself is seen as an institution. This reflects the 'cognitive turn' within sociology itself (ibid).

Actor centered institutionalism is not a full-fledged theory but provides a heuristic framework for research projects (Treib 2015). Its basic assumption is that social phenomena are the result of interactions between actors that act intentionally. These interactions are structured through the institutional frame in which they occur. They understand institutions as systems of rules including informal ones (social norms, con-

ventions etc.). However, this understanding of institutions does not include myths and every-day practices as in sociological neo-institutionalism (Hall and Taylor 1996). The institutional arrangement constitutes actors through its formal legal elements and structures their action through rules of membership and legitimate behaviour, resources as well as values and objectives (Mayntz and Scharpf 1995). The institutional frame influences but does not determine actors' behavior and actors' scope of action (ibid). Actors also influence the institutional framework themselves and this interdependency should be considered in analysis. Actor centered institutionalism draws on sociological institutionalism and its emphasis on agency and structure, while at the same time using the strengths of economic institutionalist approaches with their prominent role for actors and freedom of action (Treib 2015, Jakobi 2007).

Historical institutionalists define institutions as the '*formal or informal procedures, routines, norms and conventions embedded in the organizational structure of the polity or political economy*' (Hall and Taylor 1996: 937). Historical institutionalism attempts to explain how the institutional organisation of the polity and economy privileges some interests and demobilises others. It reveals a structural-functionalist view of the polity as a system of interacting parts. However, it rejects the view that individuals and their social, psychological or cultural characteristics are mainly determined by the functions of the system. In this view, the institutional organisation of the polity and the political economy are the main factors that structure collective behaviour and produce political results. It is, however, the actions of individuals through which institutions affect political outcomes, which gives particular weight to the relationship between institutions and ideas or beliefs (Hall and Taylor 1996). Another feature is the prominent role of power. Instead of assuming scenarios of freely contracting individuals, historical institutionalists see the world as a place where institutions grant access disproportionately to many groups or interests in the decision-making process (ibid). They identify critical points in time or moments when substantial institutional change takes place ('branching points') from which historical development takes a new path. Often these are moments of crisis and conflict, but according to Hall and Taylor (1996) this is not a well-developed answer to the question of what triggers such a branching points' in the first place.

2.3.2 Agency in Geopolitics

Brazil claims to be a leading power in the South (Coy 2016). It is the largest and most populated country in Latin America and has the fifth largest population (193 million)

and area (8.5 million km^2) worldwide (ibid). In 2012, Brazil temporarily passed the UK becoming the world's sixth largest economies. Brazil is competing with the US and Argentina in export of agricultural commodities and while Brazil's economy is still focused on European and the US market, it is increasing its exports to China (Coy 2016).

Luiz Inácio Lula da Silva (President from January 2003 until December 2010) aspired a new international role for Brazil (Fontaine 2016) which became visible in Brazil's stronger presence in international fora such as the World Trade Organization (WTO) and the International Monetary Fund (IMF), as well as high level international events such as the FIFA World Cup 2014 and the Olympic Games 2016 (Fontaine 2016). Deviating from the previous Cardoso era, Lula followed the paradigm of '*foreign policy autonomy through diversification*' (ibid: 400), leaving the previous focus on Latin America/ Mercosul and industrialized countries and forging new South-South alliances with Russia, India, China and South Africa; together they form the BRICS (ibid).

Brazil is a member of the BRICS group, an informal group constituted by Brazil, Russia, India, China and South Africa (Zandonai 2015). The strengthening of the BRICS countries was not without consequences for the international climate regime and the negotiations. The economic growth and demand for fossil fuels in BRIC countries leads to an increase in global emissions (Brunnengräber 2011). Brazil has had a visible, proactive and influential role in the UNFCCC negotiations. It hosted the Rio summit and was the first country to ratify the UNFCCC (Friberg 2009). However, Brazil's emissions had already been relatively high at the time of the Kyoto negotiations (Hochstetler and Viola 2012). Brazil's Ministry of Foreign Affairs (Ministério das Relações Exteriores, MRE or Itamaraty) has prioritized the alliance with the BRICs countries and G77 in the negotiations and vetoed any global framework to regulated forest carbon, upholding its doctrine of 'historical responsibility' arguing emissions since the industrial revolution should be counted cumulatively in order to give Brazil and other emerging economies scope to 'develop' in the decades to come (Viola and Franchini 2012). If developing countries were to reduce their emissions they should be compensated by industrialized countries. Brazil suggested a financial mechanism to this end. Brazil found an ally in the United States and together they worked out what become known as the Clean Development Mechanism (CDM) (Hochstetler and Viola 2012). Brazil supported the final stages of the negotiations of the Kyoto Protocol (KP) and its mechanisms. It helped create an alliance between the EU, Japan and emerging countries, after the US had withdrawn from the KP in 2001 (Hochstetler and Viola 2012). Lula engaged in trying to create a global economy for biofuels, Brazil's 'ethanol diplomacy' (Viola

and Franchini 2012). At the 2007 EU-Brazil Summit in Lisbon a bilateral partnership was launched, followed by a EU-Brazil Regular Energy Policy Dialogue and corresponding action plan in 2008 foreseeing increased cooperation on trade, science and technology, renewable energies and environment including climate change (Afionis and Bailey 2012). The cooperation on energy focused particularly on biofuels, especially since the EU agreement to increase the biofuel share in transport fuels by 10 percent by 2020 (ibid).

In 2006 Brazil began to change its position by proposing a global fund for reducing deforestation and by acknowledging the link between reducing deforestation and international climate finance (Viola and Franchini 2012). Out of the G77 group in the negotiations, the BASIC (Brazil, South Africa, India and China) group constituted itself in 2009 in Copenhagen (Hochstetler 2012). During the Copenhagen COP, the BASIC group cooperated with the US to negotiate the Copenhagen Accord, promoting voluntary emissions reduction targets (ibid). BASIC countries captured most CDM funding as they had the more developed financial and physical infrastructure that was conducive for CDM projects (Hochstetler 2012, Davenport 2012). Like other emerging economies Brazil is now itself a donor of climate finance and is particularly active in the field of technical assistance. Trilateral cooperation agreements exist with Japan, Germany and Spain on environmental issues with the Brazilian Agency for International Cooperation (Agência Brasileira de Cooperação, ABC)[17]. Brazil's state agricultural research entrerprise EMBRAPA (*Empresa Brasileira de Pesquisa Agropecuária*) implements technical assistance for African, Latin American and middle-eastern countries and Asia on ethanol and other agricultural technologies, other environmental and social issues (South-south cooperation).[18]

2.3.3 Advocacy Coalitions and Transnational Agency in Global Environmental Governance

Newell (2008) aims to lay out a political economy approach to global environmental governance pointing out the central role of the relationship between states, markets and civil society. Aamodt (2018) sees the need to identify advocacy coalitions as well as policy windows (when policy change is more likely, or a branching point without a

[17] http://www.abc.gov.br/ and https://www.ctba.net.br/, last accessed 4.12.2020.

[18] https://www.embrapa.br/busca-de-publicacoes/-/publicacao/1011388/agricultural-innovation-mktplace-south-south-and-triangular-cooperation-sstc-with-a-scaling-up-mind-set, last accessed 12.12.2020.

crisis) for climate policy analysis. Climate policy advocacy actors in Brazil include scientists, NGO activists, politicians, members of business or bureaucrats, some belonging to more than one category, while others changed roles over time and move from one category to the another (Aamodt 2018, Hochstetler and Keck 2007).

In Keck and Sikkink's (2019) view the concept of transnational networks (borrowed from sociology and applied transnationally) thus bridges the artificial divide between international relations and comparative politics. It is both a structural and an actor-centred understanding of activist networks who operate strategically within their stable universe of common understanding, seeking to reshape certain contested meanings (ibid).

Keck and Sikkink (2019) contributed work on transnational civil society interactions and suggest the inclusion of a broader understanding of actors in international (environmental) politics including non-state actors and non-traditional groups of actors (scientists, firms, activists etc.). Based on earlier work in their book *Activitsts beyond borders* (1998), they consider how these interactions are structured in networks involving states and international organizations. They look particularly at how 'transnational advocacy networks' are guided by ideas rather than material concerns, how they exchange and cooperate and are connected by shared values and a common discourse (Keck and Sikkink 2019). This can be observed in Brazil during the preparations for the Rio Conference 1992 and the PPG-7 programme also shown by Hochstetler and Keck (2007). The concept of actor networks in transnational relations and the aspect of social mobilization and norm transmission have not yet been applied to the more recent Brazilian climate policy and climate finance.

Brunnengräber (2011) sees the Rio 1992 Conference as a marker of the 'NGOisation' of world politics). While Rio 1992 was of crucial importance in the strengthening of Brazil's civil society, which acted as a corrective to Brazil's political sphere, the relationship is much more complex than that. Unmüßig (2011) makes clear that there is not one civil society; the geographical, positional and ideological conflicts of interest between civil society actors in the field of climate change are great[19]. Methmann (2011) and García (2008) see NGOs and the environmental movement as 'reproduc-

[19]Non-Governmental Organizations (NGOs) and New Social Movements are often treated together by the literature, together they constitute civil society (Brunnengräber 2011). In the following I also subsume research institutes outside of universities as well as traditional and indigenous groups under the umbrella term civil society.

ers' as well as effects of hegemonic discourses, citing climate change politics as an international example. While the dividing line is indeed no longer drawn between (inadequate) state climate policy on the one hand and civil society actors, pressing for more climate protection, on the other (Methmann 2011), and while influential donor programmes such as the ARPA and the PPG7 programme existed, Brazil's NGOs are by no means mere executors of donor-driven programmes but often set the agenda themselves.

Relations between actors and the construction of frames of meaning is a research subject of both constructivists in international relations as well as social movement theorists in comparative politics (Keck and Sikkink 2019).

2.4 The Ideational Turn

The cognitive or ideational turn occurred in social and political science (see for example Hall 1998; Goldstein and Keohane 1993; Blyth 2002, 2013a, 2013b; Hay 2016, 2002; Schmidt 2016, 2008; Gofas and Hay 2010; Béland and Cox 2011), including Political Economy. Goldstein and Keohane (1993) define ideas as beliefs held by individuals that help to explain political outcomes. Blyth (2002) adds uncertainty and the construction of ideas to Polanyi's (1944) original political economy concept. Economic ideas are powerful because they do not simply reflect the world that precedes them, but they are also '*constructions that allow agents to define a crisis as a crisis, and thereby both plan and politic their way forward*' (Blyth 2002: 10). Ideas, and in the cases of Blyth economic ideas, are normative because they describe not only how things are but how they should be (Blyth 2002). They therefore offer the reduction of uncertainty and possible solutions in new institutions in line with these ideas. This allows to make institutional change '*dynamic, contingent and political*' (ibid: 11). This applies as well to the political economy of climate change. Newell and Paterson (2010) for example look at how the construction of carbon markets has received such a central role in addressing anthropogenic climate change concluding that powerful economic actors have more influence on the international climate regime than is the case in other environmental issues.

Even for formal institutions such as the constitution, the electoral system or the separation of powers, ideas and values (for instance ideas about representation, civil rights, accountability etc.) are relevant and exert influence on them, since their power and

authority derive from their perceived legitimacy (Hudson and Leftwich 2014, Blyth 2002). This also applies to climate finance institutions, whose different governance arrangements and access modalities reflect different values and philosophies (Ballesteros et al. 2010). Furthermore, ideas also matter for interest formation. '*Those engaged in politics are trying to create, influence, frame and communicate ideas all the time*' (Hudson and Leftwich 2014: 89, based on Schmidt 2008). According to Hudson and Leftwich (2014) ideas are collective, not individual and have structural and agential components; ideas can work through causal or constitutive channels (ibid).

Hay (2016) presents his social constructivism as a political economy approach drawing on Berger and Luckmann (1966) who suggest that '*all human activity is subject to habitualisation*' (ibid: 522). This means that any action, which is repeated frequently, becomes a reproducible pattern. He argues that such a pattern '*is invariably indicative of the existence of institutions*' (ibid). According to Hay (2016), institutions achieve this quality through the assignment of roles to actors and the formal and informal codification of such roles (ibid). Thus the '*institutional order is real only so far as it is realized in performed roles and that, on the other hand, roles are representative of an institutional order that defines their character*' (Berger and Luckmann 1966: 96 original emphasis). Without the practices they enable, these institutions would be meaningless, or as Hay (2016) simply puts it: '*institutional facts derive ultimately from the attempt to deliver some kind of social function*' (ibid: 524). He argues that for constructivists social and political realities are at least partially constituted by actors, through their subjective and inter-subjective understanding of their experiences and their environment. Consequently, the ideas actors hold can explain their behaviour. This leads to an institutionalism focused on process and change, on institutionalisation, de-institutionalisation and re-institutionalisation rather than on institutions per se and rejects any presupposition of institutional equilibrium and a focus on crisis (Hay 2016). In Brazil there are several institutions and processes such as consensus building through conferences that are worth studying. They represent specifically Brazilian practices of electoral engagement and policy development, and also played a relevant role in the design and construction of one of the climate funds.

In Schmidt's concept of discursive institutionalism, ideas and discourses are used interchangeably (Schmidt 2016, see also 2008). However, there are several types of ideas with different depths and different rates of change (Schmidt 2016, 2008): background ideas (ideas that remain in the background or at the deepest level of generality as they contain unquestioned and unconscious assumptions of a polity; policy and program-

matic ideas which tend to remain in the foreground because they are discussed and debated on a regular basis and activated ideas (ideas influenced by action taken in their name) (Schmidt 2016). The operationalization of ideas through the implementation of policies and programmes can influence background ideas in such a way that they become 'activated ideas'. They create a context in which people begin to live their lives differently, while the discourses promoting such ideas may provide new frames through which people begin to understand their 'changed lives' until they become 'institutionalized' ideas (ibid: 325).

Schmidt's background ideas seem similar to Mehta's (2011) public philosophies and conceptions of zeitgeist, highlighting even more the lack of clarity between the two. The concept of activated ideas advances agency, while Mehta opens a new debate with the battle over 'problem definitions'. He asks, why some policy ideas become realized while others do not? According to Mehta (2011) this might be due to claimants' power and resources and how they portray the issues (framing) (ibid).

The emphasis on power in critical discourse analysis arises from the tradition of Foucault. As Gelcich et al. (2005) point out, most current discourse analytic perspectives have Foucauldian elements in terms of viewing discourses as something that defines what is meaningful and how it exercises power. Although the Foucauldian tradition sees a nexus between the level of meaning and the level of practice, it is less action orientated (Nullmeier 2011).

Another relevant aspect is the 'context or venue': this applies specially to issues that can be favourable in one context and less so in another (ibid). Who can claim ownership of a social problem is another important factor in problem definition? Whether a policy solution is available for a given defined problem and the fit between the problem definition and the broader environment are also relevant for the realization of a policy idea, assuming that whenever a problem definition put forward by a political claimant resonates with that held by the public or the media, its chances of success are enhanced considerably (Mehta 2011) (see the issue of deforestation in Brazil, Chapters 7 and 8).

2.5 Political Relevance of Discourses

The relevance of discourses for policy and governance is visible in Hajer's (1995) widely used definition of discourses '*as a specific ensemble of ideas, concepts, and categorizations that are reproduced, and transformed in a particular set of practices through which meaning is given to physical and social realities*' (ibid: 44). According to Hajer's (1995) approach, the main aim of discourse analysis is to understand why '*a particular understanding of the environmental problem at some point gains dominance and is seen as authoritative, while other understandings are discredited*' (ibid: 44). This refers back to actors' rationality: actors' interests are not given but are created during the interplay with other actors. Actors might combine discursive frames strategically '*to interpret and respond to policy controversies*' (Dayton 2000: 73). Several discursive frames therefore constitute a policy discourse (ibid).

On the issue of framing Mehta (2011) distinguishes different rhetorical strategies that claimants might employ to advance a given problem definition. Actors promoting discourses will try to establish causality, what Mehta (2011) postulated as the central axis upon which any problem definition rests. Citing favourable numerical indicators is another strategy to lend credibility to a claim. Effective storytelling, reducing complexity and 'shifting the burden of proof' are additional effective strategies in the 'battle over political issues' (ibid). Creating metaphors accepted by the public/constituency and invoking symbolic boundaries are techniques applied by claimants and so is the technique of tying a problem definition to a widely accepted cultural symbol or value (Gamson and Modigliani 1987, in Mehta 2011). All of these techniques are applied in the context of the climate funds in Brazil; positivist scientific research was put into service for the anti-deforestation discourse and effective storytelling was used for a pro-expansionist sovereignty discourse.

This relationship is recognized by Gelcich et al. (2005) in their sets of storylines that are embedded in agendas, knowledge claims and institutions. In their view these storylines have a triple purpose: (i) to create meaning and validate action, (ii) to mobilize action and (iii) to define alternatives (Gelcich et al. 2005: 379). Discourses are not only an expression of social practice they also serve purposes and they do this because they are institutionalized and regulated and linked to actions. Dominant discourses can be criticized and problematized, for example, by analysing them and pointing out their contradictions and concealments, to show that they are used to accept temporary truths presented as rational and reasonable. Power over discourses, for example, can

manifest itself in the form of easy access to media, unrestricted disposal of resources, etc. Discourses not only reflect reality; they play a life of their own and can influence behaviour and events (Gelcich et al. 2005).

This means that it is not a purely textual discourse analysis or a form of analysis that includes all forms of meaning formation. In addition to ideas, concepts, categories, either direct, text- or expression-related discursive practices or additional social and political institutions can also be considered as fields of practice. Hajer's constructivism pursues the latter variant. However, it also generates demarcation problems and hardly leaves room for anything beyond discourses (Nullmeier 2011).

Fairclough and Fairclough (2012) also emphasize the role of discourses in the political arena. They understand discourses as the '*social use of language in social contexts*' (ibid: 81). This is contrasting it to the common use of discourses with different senses meaning 1) a signification as an element of the social process; 2) the language associated with a particular social field or practice (for example political or scientific discourse); 3) an understanding of aspects of the world associated with a particular social perspective (for example a 'neo-liberal' discourse of globalisation); these differences are frequently confused. They integrate critical discourse-analysis concepts with the analytical framework of argumentation theory, on the basis of viewing political discourse as primarily argumentative discourse. The question of political action is regarded as fundamental and originates in an understanding of politics which emphasizes deliberation and decision-making under uncertainty, risk and disagreement (Fairclough and Fairclough 2012). Definitions of politics usually see political action only in situations where alternative choices might be made; '*if there were no alternatives, there is no politics. Politics is about making choices and decisions about what to do, what action to take in response to a situation*' (Fairclough and Fairclough 2012: 26). Usually, resources are scarce and political decisions allocate resources in the light of uncertainty. In addition, in complex societies there are fundamental differences of interests, values and purposes making politics an adversarial process in which participants advocate conflicting lines of action […] '*because politics is concerned with decision-making, political discourse is inherently deliberative*' (ibid).

Not all deliberation is good or reasonable, however. Hay criticizes '*to define politics in terms of deliberation may entail something of a value judgement – and a positive one at that. But there are a great variety of forms that deliberation may take, some more inclusive and egalitarian, some more exclusive and authoritarian, than others.*

To associate politics with deliberation is neither to endorse all activity which falls under that rubric, nor to commit ourselves to taking the legitimating rhetoric of formal politics at face value' (Hay 2007: 69). For Fairclough and Fairclough (2012) deliberation is good in itself because it produces legitimate decisions; they are legitimate because they are the outcome of a fair process. Fairclough and Fairclough (2012) claim that those outcomes are more legitimate than those produced by voting. One of the reasons they give is that public reasoning tends to produce greater consensus, which can be disputed. They further consider deliberation as an argumentative genre in which practical reasoning is the main type of reasoning, by single agents or multi-agents. It involves balancing considerations in favour of one proposal for action against considerations that support an alternative (counter-argument) (ibid). In this context the political system and the characteristic political traditions of Brazil must be seen; they constitute the institutional framework for discursive practices and the deliberation of ideas.

2.6 Summary and Research Puzzle

The contemporary climate finance landscape is characterized by complexity and fragmentation. Navigating this landscape and accessing international climate finance is a challenge for recipient countries. The effort to create national climate funds can be seen as a way to respond to this challenge. The climate funds in Brazil are all under domestic management which is rare and deserves a detailed analysis; this lack of comparability also suggests a case study approach (see Chapter 4).

The review of literature on the political economy of aid allocation has shown that countries with higher CO_2 intensity and larger carbon sinks receive more aid (Hicks et al. 2008 and Halimanjaya 2015) and that donors do favour the protection of carbon sinks in their aid allocation (Halimanjaya 2016). Political economy aims at practical application and it has become mainstream for most donor organizations to advocate and apply some form of Political Economy Analysis (PEA) for understanding important context in the preparation and design of aid programmes and policies (Hudson and Leftwich 2014). In addition to donor preferences and recipient needs, the performance of Brazil in terms of progressive emissions reduction policies is likely to have played a role for the emergence of its climate finance landscape. Political economy approaches bear interesting results in their analysis of the various aspects of climate finance (Chapter 5 will provide details on Brazil). However, they are weaker in their

analysis of ideas and political change. Therefore, a blend with political analysis and institutionalist approaches seems justified. Explanatory factors such as the political system and the number of veto players for ambitious climate policies (as suggested by Steves and Teytelboym 2013) should be brought in and applied to an in-depth study at country level for Brazil, which is still missing. Brazil's international position on climate change also deserves a closer analysis. Brazil's international position and its international alliances have a direct influence on its domestic climate finance landscape which has not yet been assessed in a systematic manner. This is discussed in detail in Chapter 7, which will show how the Amazon Fund is modelled after a proposal for a global fund propagated by Brazil in the international climate negotiations.

Keck and Sikkink (2019, 1998) also show how networks of actors are able to bring new ideas, norms and discourses into policy debates. An application of this concept to the more recent Brazilian climate policy and climate finance is still lacking. For an understanding of relevant actors and discourses in the set-up of Brazil's national climate funds it is thus necessary to bring an intuitionalist lens in and combine it with the methodology of discourse analysis. This leads to the following research question underlying my analysis: How do actors employ ideas to influence processes and the design of major climate finance institutions in Brazil? The details of this conceptual approach and the corresponding methodology will be elaborated in the following chapters.

A conceptual framework that encompasses ideas in the context of climate finance in Brazil and an empirical application of such a framework is still missing.

Chapter 3

Conceptual Framework

3.1 Introduction and Reflections on the Chosen Theoretical Approach

The aim of the thesis is to contribute empirical evidence to theoretical debates on actors and discourses and their impact on institutions in the context of climate financing in Brazil. It seeks to shed light on the establishment of national climate funds under the administration of the Workers' Party from 2003 – 2016, scrutinising the influence of emerging discursive topics such as sovereignty, global responsibility or competitiveness among others. The main research question is as follows:

> **How do actors employ ideas to influence political processes and the design of major climate finance institutions in Brazil?**

In Chapter 4 this main question will be further broken down into the following subquestions:

> **RQ1: How is the governance of climate policy and finance carried out in Brazil?**
> **RQ2: What ideas are being constructed by whom?**
> **RQ3: How do actors ensure that certain ideas are enacted and enter the policy realm?**

My theoretical approach draws on the analysis of actors, processes and ideas as well as institutions and it combines a political economy lens and the historical institutionalist approach with discursive institutionalism. The following sections introduce the

theoretical foundations and assumptions of the study.

3.1.1 The Central Role of Actors

Actors and the ideas they promote to turn into policy are assumed to be the key explanatory factors for the creation of climate finance institutions. Political economy as part of political science uses the assumptions of an economic approach with '*constrained maximizing and strategic behavior by self-interested agents*' (Alesina and Alt 1996: 645). It shares this view with rational choice institutionalism, which is based on rational expectations (Atkinson 1996). Both approaches acknowledge the role of ideas but have weaknesses in the explanation of their role. Actors should be seen in their full diversity and capacity to act both idealistically and unpredictably, instead of reducing their motivation to an overly narrow view of benefit seeking rationality (Hudson and Leftwich 2014). Nevertheless, a political economy lens can help to highlight the key actors, their resources and how they dominate discourses in the context of climate finance in Brazil – a contribution that is so far still missing, despite the multifaceted literature on the political economy of climate finance.

In the context of this thesis these considerations are particularly relevant with regard to political actors and the establishments of national climate funds. Rational choice scholars often apply the notion of rationality to politicians indicating that their sole or primary motive is to win elections (Mainwaring 1999). While it is reasonable to assume that winning elections is a major motivating force for most politicians, it is too restrictive in the Brazilian context, and must be modified (ibid). First, because in Brazil – and in most democracies - winning candidacy and getting elected are not identical. Second, politicians who serve for a short period and move on to other activities behave in ways inconsistent with the assumption that their aspiration is geared towards re-election. The reason that fewer deputies seek re-election in Brazil than in the United States, for example, is that legislature is often a stepping stone on the road to competing for executive power; for example becoming mayor of a city of several hundred thousand inhabitants yields much more power and prestige than being a federal deputy (ibid). This means that the rationality of actors – for example federal deputies – depends on institutions: the rules that make up the electoral system and candidate selection: '*these two issues affect their behaviour and the nature of linkages between parties and politicians. Politicians' actions are affected by the incentives established during the selection, campaign, and electoral processes*' (Mainwaring 1999: 248). Hence, it is necessary to look at how the electoral system creates autonomous

politicians and weak parties because I assume that the political system strongly influences climate policy formulation and sets the conditions for policy change, including the establishment of new institutions such as the climate funds.

In this context, however, not only elected representatives but also the ministries are important actors (see Chapters 7 and 8). A power play between individual ministries can be observed in many countries in the context of national climate policy, with environmental ministries traditionally being expected as rather weak (Aamodt 2018a). Often it is through the actions of individuals that institutions affect political outcomes (Hall and Taylor 1996). However, politicians are not the only group of actors with a decisive role in climate finance. Another important group of actors are donors and civil society organizations, notably NGOs. Donors represent the interests of their countries, even though individuals certainly have some leeway in negotiating situations. Their role is treated rather statically by the political economy literature, and not at all by rational choice and discursive institutionalist approaches. My study gives them a central role; in consequence I discovered that donors sometimes join 'advocacy coalitions' (Keck and Sikkink 2019, Hochstetler and Keck 2007) of NGOs and other civil society groups and academia.

3.1.2 Processes, Institutions and Interactions between Agency and Structure

Steves and Teytelboym (2013) offer a way of bringing the political system of a country into the analysis of national climate policy with a strong focus on the veto player constellation. They identify several factors influencing the adoption of climate policy: public knowledge and awareness of the causes of climate change of climate change, for example, are likely to lead to policy adoption while those countries with low public knowledge, vulnerability, levels of education and free media are less likely to do so (ibid). The power of carbon-intensive industries seems to prevent the adoption of climate change mitigation policies and measures, even if the level of democracy or the administrative capacity of the state are conducive. This can be explained with the political economy as in some countries these carbon-intensive industries are the most important income sources from exports and taxes and employ a large amount of the workforce. They cannot easily be replaced by low-carbon industry (ibid). This explains why certain system characteristics impact on the rationality of actors and political outcomes.

While the rationality of actors depends on institutional rules, actors also influence these rules. Mainwaring's (1999) assumptions about the rationality of political actors in Brazil, for example, has implications for the view on processes and institutions. For example, Brazilian political elites institutionalized their preference for loose, decentralized parties through electoral and party legislation. And once these rules were established, they were not easily changed and led to a presidential system with strong presidential powers, robust federalism, a permissive electoral system, with low entry barriers and loose, decentralized parties (ibid). Institutions thus influence actors and vice versa (see Chapter 6). There are enablers of actors' agency and the distribution of ideas inside and outside the political system that need to be assessed for the purpose of my study.

3.1.3 Ideas and Discourses

Political economy alone is not able to systematically analyse the role of ideas in political change and the establishment of institutions. The political economy perspective therefore must be complemented by a more focused view on actors and ideas. For the purpose of this research project, I adopt Tanner and Allouche's (2011) view who propose a '*new political economy of climate change and development in which explicit attention is given to the way that ideas, power and resources are conceptualised, negotiated and implemented by different groups at different scales*' (ibid: 1). For an analysis of emerging climate finance institutions, it is necessary to understand what types of ideas are at work, what functions they serve and how they interact with one another, and how they shape and are shaped by actors' choices (Mehta 2011).

Schmidt (2016) distinguishes several types of ideas. They show different depths with different rates of change, from slowly changing philosophical ideas to specific rapidly-changing policy ideas and evolving programmatic ideas or revolutionary paradigms (Schmidt 2016; 2008; 2011). And they use different types of arguments such as expert knowledge (cognitive arguments) or legitimacy with the help of societal values (normative arguments) (Schmidt 2016). Policy and programmatic ideas '*tend to remain in the "foreground" because they are discussed and debated on a regular basis*' (Schmidt 2016: 320, original emphasis). However, Schmidt (2016) argues that policy programmes themselves can also be seen as background ideas '*insofar as they can become so taken-for-granted in terms of their methods, instruments, goals and ideals that they too fade into the background*' (ibid: 323). Public philosophies or world views 'underpin' the policies and programmes '*with organizing ideas, values, and principles*

of knowledge and society', containing unquestioned assumptions of a polity (Schmidt 2008: 306).

Although Schmidt (2016) does not differentiate between ideas and discourses, her typology is nevertheless useful because it shows the different life expectancy and salience of background ideas versus policy and programmatic ideas and the differentiation of cognitive and normative arguments add a different quality to ideas. Ideas influence how institutions influence actors, but they also impact on actors' preferences. This is why an analysis of both ideas and institutions as well as their interplay is relevant (Hudson and Leftwich 2014). I am embedding this analysis theoretically in the ongoing debate around the role of ideas and their influence on institutions within institutionalism. Within institutionalism my analysis also draws on discursive or constructivist institutionalism. Hay (2016) presents social constructivism as an approach to political economy analysis and as ontologically institutionalist (ibid). Hay (2016) calls constructivism notoriously slippery and difficult to pin down precisely, because '*it does mean different things to different people - and, to compound the problem, the content of such meanings has itself changed over time*' (Hay 2016: 520f.).[1]

3.2 Making Power and Actor Constellations Visible with the Help of Discourse Analysis

Discourses develop power effects by connecting an institutionalized way of speaking with actions that drive social change. Power is not understood here as a physical force or coercion but rather a process of socialization and internalization, making it even more effective than naked force (Hannigan 2006[2]). Discourse analysis does not have to be bound to textual analysis but rather makes the transfer to the institutional level. In the set-up of Brazil's national climate funds, it is indeed necessary to establish an institutionalist lens. Therefore, I blend the institutionalist perspective with discourses. In order to recognize ideas, I need to understand their origin and how they have changed over time (Finnemore and Sikkink 1998). It is essential to understand what kinds of ideas are at work and what functions they serve and how they interact with one another, and how they shape and are shaped by actors' choices (Mehta 2011). The ascription of meaning in discourses works to constitute and change the world in any

[1] While realists assume a reality independent of our knowledge or understanding, constructivists emphasise the dependence of reality on human volition (Hay 2016 compare also philosophical realist Bhaskar 1978 and 1979; Sayer 2000).

epistemic community (Jørgensen and Philips 2002). In the period I studied, discursive frames, wider discourses or storylines have been used to explain phenomena such as deforestation leading to climate change; the discursive frame of 'economic necessity' or the 'sovereignty discourse' for example have prevented decisions to curb deforestation for decades. Changes in discursive practices and the emergence of new discourses such as the 'global responsibility' to protect the Amazon and global climate have subsequently been used to mobilize support for political action, to outline policy alternatives leading to social change (Chapters 7 and 8). I thus developed a research framework that exemplifies how ideas influence institutions and how actors convey ideas and try to influence them, in order to understand relationships and interdependencies between actors and discourses.

Drawing on Hajer (1995) and his focus on the discursing subjects, discourse analysis is not possible without the analysis of the constellations of actors. He views discourses as dynamic, transforming and adjusting over time and reinventing social arrangements (ibid). The 'argumentative approach' emphasizes the discursive practice and power play to construct social reality within a given institutional context. The different discourses analysed in the core Chapters of this thesis suggest different possible and appropriate courses of action (Gelcich et al. 2005). This social change has also been reflected at the policy level. In other words, not only ideas have to be analysed but also their context and their discursive practices. They need to be linked back to actors and the environment and the political conditions in which they are being proposed. Discourse analysis is both a theoretic and a methodological framework aiming at capturing how certain concepts and ideas are being produced and reproduced through the analysis of data in policy texts, interview transcripts, and transcripts from meeting. The approach seeks to identify the rationales, motivations and expectations of actors and reveal how and why certain actions are framed in a particular way and how discursive struggles change social reality and institutions. Discursive and non-discursive elements are analysed.

3.3 My Assumptions

I assume a rationality in actors that is not only composed of narrowly defined self-interests (Hudson and Leftwich 2014). This means that interests are not given but constructed in a process of interaction with other actors. In my conceptual framework I link discourses with policy implementation by showing how Institutions influence ac-

tors, but actors also influence institutions. Therefore, the context and the resources of actors (including their power resources) are important to be considered in the analysis of influential discourses. Characteristics of the political system and the political economy are important to understand actors' behaviour. Political traditions and cultures influence rules and practices. These enablers of actors' agency and the distribution of ideas inside and outside the political system need to be assessed for the purpose of this study. My conceptual framework thus includes actors and their rationality (based on Rational Choice Institutionalism, RCI), processes, institutions and interactions between agency and structure from a political economy perspective and ideas and discourses, drawing heavily on historical and discursive institutionalism (see figure 3.1).

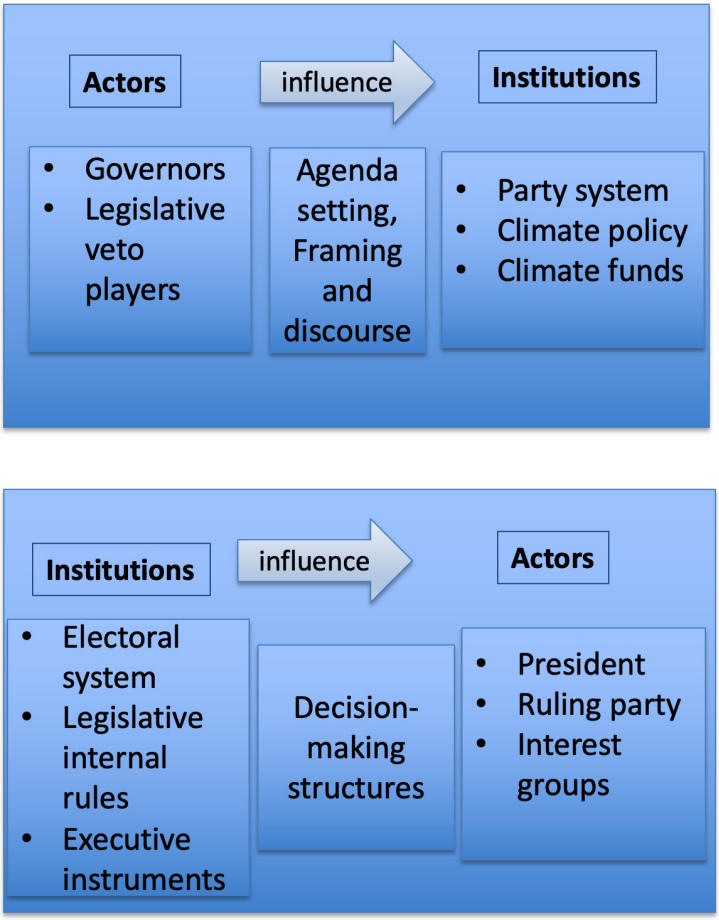

Figure 3.1: interdependency between actors' rationality and institutions
Source: own elaboration

Actors and their rationality are influenced by institutions and structures as is argued by

political economy proponents and discussed in Chapter 2, for example through incentives provided by decision making structures and channels of influence. For example, the electoral system shapes the behaviour and the rationality of politicians. The veto player constellation in a country has consequences for policy; the political system thus influences policy formulation including national climate funds. However, while the rationality of actors depends on institutional rules, actors also influence those rules (see discussion of the example of weak parties in Chapter 6). I therefore assume that enablers for actors' agency and the distribution of ideas exist inside and outside the political system and that institutions and actors influence each other (see figure 3.1).

In this thesis I set out to analyse ideas and their role in climate finance institutions from a political economy lens within institutionalism but pay special attention to the role of individuals. The interdependency between actors' rationality and institutions also influence the development and impact of ideas. To ask with Mehta (2011): why do some ideas get enacted into policy while others do not? Because claimants establish ownership over a certain problem and their power and resources can help realize certain policy ideas. As framing is applied strategically we might for example expect mitigation of greenhouse gas emissions to be framed as a burden for the domestic economy and a problem caused by industrialized countries by conservative actors in Brazil or as a business opportunity and climate change as a threat to Brazil's assets by those actors promoting a progressive climate policy (Chapters 7 and 8 will discuss the strategic framing by different actor groups in detail). Depending on the framing and on how actors own ideas and apply their power resources, policy ideas will get enacted or not (see figure 3.2).
These 'branching points' (Taylor and Hall 1996) will then decide whether wider political and institutional changes take place. Changes in discursive practices such as the decline of the '*sovereignty discourse*' in favour of the '*global responsibility*' discourse to protect the Amazon and global climate have been used to mobilize support for political action and have led to social and political change. The return of the '*sovereignty discourse*' again caused major policy changes. According to Schön and Rein (1994) actors in the policy drama '*compete and cooperate to set policy problems, and they invent policy solutions that evolve as a result of the actors' transactions with the policy situation*' (ibid: xix). These policy solutions are put out into the larger environment where '*other actors see and respond to them in the light of their own frames and, often, in a changing policy context*' (ibid).

Another example of this shift of frames is the biofuels sector. Fearing disadvantages in

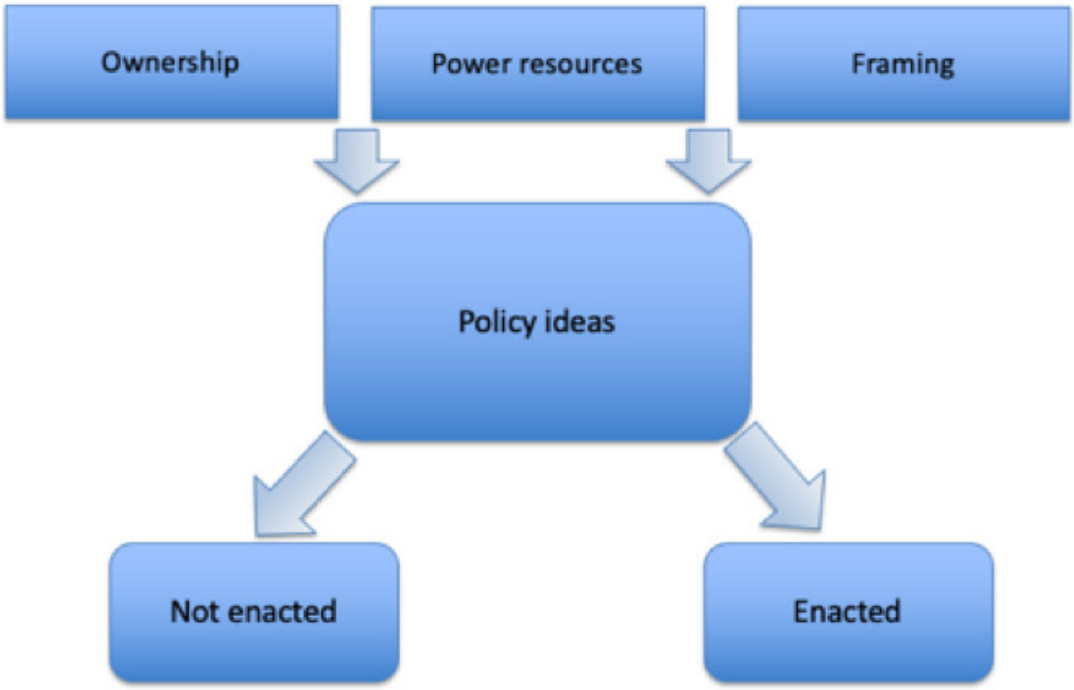

Figure 3.2: factors influencing the realization of certain ideas depending on the rationality of actors, framework conditions and discursive practices
Source: own elaboration

international trade through Brazil's agricultural sector's association with illegal deforestation, the industry lobbied the federal government for a change of its position on national and international climate policy. These changes led to new policy outcomes and institutions, including the ABC Plan and Programme. The frame underlying this is described as a story – '*a story told about a troublesome situation*' (Schön and Rein 1994: 24). Through the process of naming and framing, the stories make a 'normative leap' from data to recommendations '*in such a way as to make it seem graceful, compelling, even obvious*' (ibid: 23). In each story the author describes '*what is wrong and what needs fixing*' (ibid: 24). In the stories of the agricultural sector, stories of competitiveness, vulnerability and potential, a new framing of climate change has led to political change. The muddled actor constellation between deforestation, poverty and highly capitalized export agriculture for example, can only be understood when the discursive backgrounds are made visible.

The main line of conflict in climate politics in Brazil is the cleavage between growth / development-oriented and conservation-oriented interests. For example, the mobilization for biodiversity conservation and indigenous rights and against deforesta-

tion and degradation has been strong and in constant conflict with the interests of landowners and agribusiness (Aamodt 2015). While this line of conflict is obvious in policy debate for example around the Forest Code, in policy practice it was possible for the agribusiness to embrace climate action when it was framed in the right way: '*the frames that shape policies are usually tacit, which means that we tend to argue from our tacit frames to our explicit policy positions*' (Schön and Rein 1994, original emphasis). According to Dayton (2000), discourses encompass discursive frames around specific issues. These frames are '*dynamic and ever-changing 'scripts' for organising and understanding the social and political world*' (ibid: 72f.). They are '*transmitted via language*', and '*constructed through social interaction, reaction, and adjustment*'; they are partial and often incomplete, a reminder that policy decisions are never objective but always reflective of the cultural, social, institutional, economic and experiential context (ibid). Thus, policy outcomes do reflect dominant perspectives and worldviews (ibid). Discourse analysis thus helps me to understand why some ideas have the potential for political mobilization and / or the creation of new institutions. It further shows the interdepency between actors and discourses (Hajer 1995). This conceptual framework is therefore theory-building by combining different theoretic approaches. The next chapter introduces the methodology adopted in this thesis.

Chapter 4

Methodology

The literature review chapter discussed the relevant theoretical and empirical literature for this research project. The previous chapter laid out the conceptual framework. This chapter builds on both the literature review and the conceptual framework chapter and clarifies the ontological and epistemological assumptions as well as the methodological approach of the study. It explains how the concepts presented in chapter 3 were applied during data collection and data analysis and closes with ethical considerations.

4.1 Ontological and Epistemological Assumptions

Furlong and March (2002) emphasize that all social scientist's orientation to the subject of study is shaped by an ontological (the question about the nature of the world) and an epistemological (the question of what we can know about the world) position, be it acknowledged or unacknowledged. My choice of theoretical and conceptual framework acknowledges the rationality of actors and the influence and relevance of ideas on and for actors' behaviour and political processes. However, there are still several disputes over the ontological foundations and epistemological status of ideational explanations (Gofas and Hay 2010). According to Gofas and Hay (2010), the persistence of a '*perrenial dualism*' in political analysis unites and plagues rational choice and ideational explanations at the same time (ibid: 3). They attribute at least rational choice theory an '*irreducibly materialist conception of (self) interest, where ideas are grafted on to existing rationalist accounts as an auxiliary variable only if, as and where necessary*' (ibid: 4). Following Hollis and Smith (1990), Gofas and Hay (2010) call the dualism between causal and constitutive logics a '*mirror image of the explaining versus understanding controversy*' (ibid).

Hollis and Smith (1990) on the other hand remind us that the ontological claim in political analysis that political systems are 'real' (from the Ancient Greek word for 'existence') raises questions about the relations of wholes to parts and invites further (epistemological) questions about how knowledge of wholes could only be knowledge of particulars (or units) (Hollis and Smith 1990). They see that in parallel with economics where the firms are the units, the unit in International Relations analysis is the nation state, not the agencies, and still less the individual human decision-makers within it. However, they doubt whether something like national interest is well enough defined to serve as a plausible goal for units. This raises the question of how much the state's organization matters in analysing its behaviour. This view includes the questions whether state agencies simply conform to the functional demands of the state's interest or whether the state's behaviour is the outcome of relations and interactions among agencies. These are relevant questions for me, and I therefore adopt an ideational institutionalist view and at the same time acknowledge the rationality of actors.

The assumptions of political economy are also key to the understanding of my research questions. This research assumes that the distribution of political power and economic resources shapes political decisions including the establishment of climate finance institutions in Brazil, while acknowledging that discourses are highly influential in climate governance both internationally and domestically. It is therefore positioned between realism and constructivism.

Realism shouldn't be mistaken as a form of naïve objectivism, claiming unmediated access to truth as argued by Sayer (2000). Critical realism, pioneered by Bhaskar (1978, 1979) simultaneously challenges common conceptions of natural and social science, especially regarding causality. Instead, it suggests to combine a modified naturalism with a recognition of the necessity of interpretive understanding of meaning in social life. It shares the basic tenet of realism about the independence of the world from our thoughts (Sayer 2000). '*Real is whatever exists, be it natural or social, regardless of whether it is an empirical object for us, and whether we happen to have an adequate understanding of its nature*' (Sayer 2000: 11). A consequence of this ontology is the recognition that powers may exist unexercised and that '*the nature of the real objects present at a given time constrains and enables what can happen*' (ibid) but does not pre-determine what will happen. Whether powers are ever exercised depends on the conditions; the same mechanism can produce different outcomes according to Sayer

(2000). Critical realists acknowledge that '*meaning has to be understood, it cannot be measured or counted, and hence there is always an interpretive or hermeneutic element*' (ibid). However, some social phenomena are directly observable while others are not (Furlong and Marsh 2002). As an epistemological position, a moderate realist approach has been adopted in this thesis. Epistemological choice has implications for methodology and in this case an appreciation of both the value of quantitative and qualitative data (Furlong and Marsh 2002). Being concerned with discourses and the meaningful qualities of social practices requires to relate discourses and practices to actors and their contexts (Sayer 2000).

4.2 Study Design

The case study design is one of the basic types of qualitative analysis (Flick 2019[9]). The qualitative case study facilitates exploration of a phenomenon within its context using a variety of data sources to ensure that the issue is not explored through one lens only, but rather a variety of lenses which allows for multiple facets of the phenomenon to be revealed and understood (Baxter and Jack 2008). On the other hand, case study research has been criticized for its inability to support generalizability and thus considered to provide limited validity which led to an academic schism between proponents of positivism and quantitative approaches and those proposing qualitative methods and constructivist approaches (Harrison et al. 2017). However, in the last decades case study research has become more sophisticated and is regarded a valid form of inquiry to explore a broad scope of complex issues, particularly when human behavior and social interactions are involved and central to the understanding of a certain issue area (ibid). Finally, through the combination of different theoretic approaches my research is theory-building. For such an approach case study design is best suited.

The institutions studied in this thesis are still relatively new and in states of constant change. The Brazil case study therefore has exploratory character. For exploratory analyses qualitative methods in the context of triangulation are particularly well suited. The exploratory approach is able to capture the complex relationships and impacts between actors, ideas and processes (Bausch 2016). Case study design on the other hand is able to accommodate a range of philosophical positions; it thus can be specifically tailored to the inherent complexity of the research problem, the 'social reality' under study (Atteslander 2010[13]). Case study design is nevertheless most often described as

qualitative inquiry. Qualitative paradigms are broad and can encompass exploratory, explanatory, interpretive, or descriptive aims which may include narrative research, phenomenology, grounded theory, and ethnography. While being broad, each seeks to explore, understand and establish the meaning of experiences from the perspective of those involved. Typical methods applied therefore include observations, interviews or the analysis of participants' words (Bausch 2016). For this research, the analysis of social reality was approached via two 'tracks', through human interaction in individual and group interviews as well as through documents of various kinds and literature, although interviews form the bulk of my data (figure 4.1 illustrates qualitative methods applied).

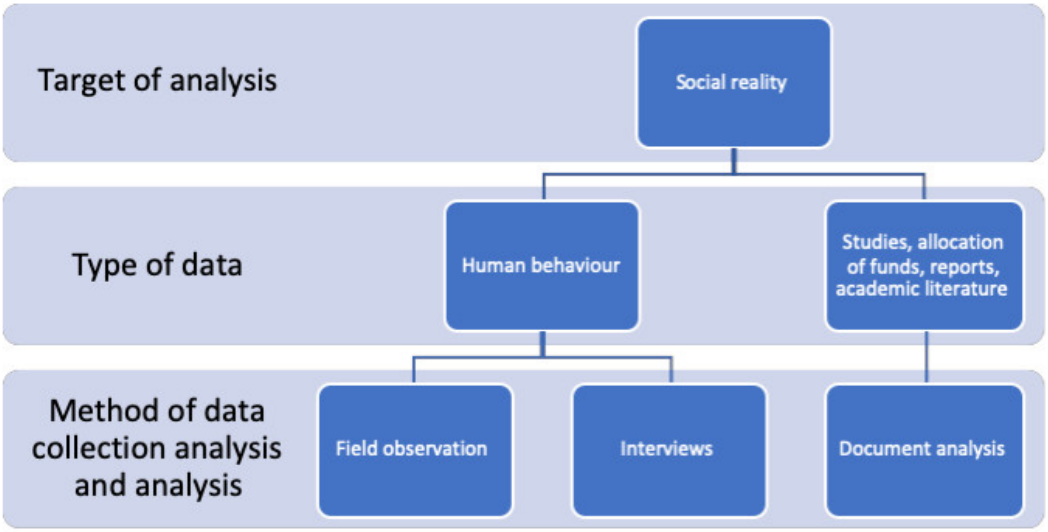

Figure 4.1: Applied methods of document analysis, observation and interrogation
Source: own elaboration

4.3 Detailed Research Questions

The focus of the thesis and the overarching research question are: 'How do actors employ ideas to influence political processes and the design of major climate finance institutions in Brazil?' To address this, the following set of sub-questions was formulated:

RQ 1: How is the governance of climate policy and finance carried out in Brazil?	RQ 2: What ideas are being constructed by whom?	RQ 3: How do actors ensure that certain ideas are enacted and enter the policy realm?

Table 4.1: Overview of research sub-questions
Source: own elaboration

As part of the analysis of this thesis and in order to answer the questions above, the relevant ideas and their origins were mapped and relationships between them were drawn. The funds under study were linked to the relevant actors and ideas, and the stories of conflict and convergence.

RQ 1: How is the governance of climate policy and finance carried out in Brazil?

This study hypothesises that the political system and specific Brazilian traditions and processes influence environmental and climate policy decision-making, including the set-up of the national climate funds. This question first investigates how far specific features of the political system such as Coalition Presidentialism, Federalism among others allows certain actors and groups of actors to disseminate their discourses, realize their political projects and gain legitimacy (Chapter 6). In a second step the study analyses the interplay of these structures with the specific actor constellations and discursive settings around two of the national climate funds (Chapters 7 and 8). To answer this question, academic literature and data from expert interviews were triangulated.

RQ 2: What ideas are being constructed by whom?

Here the process was to first identify and analyse key concepts and ideas in the realm of the establishment of the two climate funds (see Chapters 7 and 8). Second, the content and structure of relevant discourses were examined to identify the main discursive frames and the way different actors drew on these discourses. The question further seeks to identify the key actors in Brazil's climate policy, in the agricultural and in forest finance and their interactions with others (Chapter 6 and mainly Chapters 7 and 8).

Data was collected through semi-structured interviews with policymakers, practitioners and academics, and then triangulated with document analysis.

RQ 3: How do actors ensure that certain ideas are enacted and enter the policy realm?

In addressing this question, it was of special interest how actors interact across governance levels, policy fields and sectors and in the development and dissemination of discourses. Unveiling these interactions across governance levels, policy fields and sectors provides important information that informs both the analysis of actor constellations and discourse by showing how actor constellations draw on discourses and discursive frames (Dayton 2000). The thesis further analyses the extent to which these discourses entered Brazil's national climate funds and shaped them from idea to inception through implementation. For this policy documents were analysed and triangulated with interview data from the interviews with policymakers and practitioners (see Chapters 7 and 8).

Table 4.2 provides an overview of where individual research questions are located in the thesis and how they have been operationalized through guiding questions and analytical outputs.

RQ 1: How is the governance of climate policy and finance carried out in Brazil?	RQ 2: What ideas are being constructed by whom?	RQ 3: How do actors ensure that certain ideas are enacted and enter the policy realm?	Discussion: Compare the funds and link the research questions.
Guiding questions for operationalization: How do certain political procedures lead to the flow of ideas and deliberation? How do political procedures influence the role of ideas?	Guiding questions for operationalization: Where do these ideas come from? Which actors and actor constellations are promoting them?	Guiding questions for operationalization: How do certain actors, networks and actor constellations apply their resources to promote discourses in their favour? Which factors make certain ideas relevant for environmental and climate policymaking, and around climate finance?	Guiding questions for operationalization: Which power constellations and discursive alliances become visible? Which ideas are suitable for political mobilization?
Analytical outputs: Identify relevant rules, veto player constellations and agenda rights of political actors.	Analytical outputs: Outline relevant ideas and their origins.	Analytical outputs: Map actors (NGO, government, academia, business and relations between) and actor constellations.	Analytical outputs: Plot the stories of conflict and convergence.
Chapters 6, 7, 8	Chapters 7, 8	Chapters 6, 7, 8	Chapter 9

Table 4.2: Cascade of research questions and location in thesis chapters
Source: own elaboration

4.4 Types of Data and Methods of Data Collection

This section covers the methods of data collection as well as the field work period in Brazil including the research sites and research participants. It is followed by sections on data analysis and a critical reflection about field work results and the methods applied.

In line with the conceptual framework, data has been collected on:

- Institutions
- Actors
- Processes
- Ideas
- Climate finance flows

Data has been collected at all governance levels:

- International level/transnational
- National/federal level
- State level
- Local level

Table 4.3 provides an overview of the different data categories analysed to answer each research question:

	Overarching RQ	RQ 1	RQ 2	RQ 3
Stakeholder and expert interviews	x	x	x	x
Field observation	x		x	
Policy documents	x	x	x	x
Academic and grey literature	x	x	x	x
Descriptive quantitative data on allocation of climate funds	x			x

Table 4.3: Use of data categories for individual research questions
Source: own elaboration

The main techniques of data collection were semi-structured interviews (expert interviews and interviews with stakeholders), field observation, document and literature review as detailed in the following sub-sections.

4.4.1 Interviews

According to Lindlof and Taylor (2011), a qualitative interview is a conversation with a purpose. Its reasons and objectives are defined by the researcher. It has a referential purpose and one can assume a relevant, truthful and reliable relationship with empirical facts. However, influenced by the topic of the conversation, interviewees might be insincere, forgetful, or simply not a sound source of witness information (ibid). Language issues and cultural differences might further complicate things.

In order to address these challenges, I used the following strategies:

- a large enough number of interviews,
- considering the temporal, spatial and cultural setting,
- triangulation.

Making a distinction between expert interviews (for example academia) (Flick 2019[9]) and stakeholder interviews or problem centred interview (staff of government agencies) is an additional strategy, the latter being themselves involved in the processes of political interaction or climate finance, the first ones rather being observers of the process. The boundaries between these roles in Brazil, however, are in a state of flux (Aamodt 2018b). Some researchers are also involved in climate policy (through advisory roles or activism) and are not outside observers. Civil servants might be both experts and stakeholders.

As most of the interview partners for this research are professionals (government employees, academics, NGO or development agency staff) who allocate a limited amount of time to participation in the research, interviews are preferred over participatory observation, and informant interviews over ethnographic, respondent or narrative interviews or focus groups. The informants approached for interviews are often characterized by their long-term experience in a specific field or organisation, as they have had different roles and are knowledgeable about the issue area and have a wide social network (Lindlof and Taylor 2011). Often, they are respected members of a community (ibid). Generally speaking, informants recall stable, long-term patterns quite well but may have false recalls of the details; this can depend on how salient certain events or details are (ibid). Context relates as well to personal calls of details. To address this challenge, the social, political and cultural context has to be considered, for example through understanding the respondents' institutional affiliation or job history, status

in the hierarchy, ideological group, gender, nationality, etc. A long field work period in Brazil of eight months in total, the acquisition of the local language and working in a Brazilian office and campus context, as well as conversations, exchange and interaction with different groups of people provided me with the necessary ability to understand the context well enough to be able to take it into account.

According to Lindlof and Taylor (2011), interviews are particularly well suited to obtain an understanding of social actors' experiences, knowledge, and worldviews, to explore peoples' explanations, gather information about things or processes that cannot be observed effectively by other techniques, and to verify, validate or comment on information obtained from other sources. Criticism that the researcher influences the interview too strongly and introduces a subjective bias in this type of flexible conversational setting is countered by Flyvberg (2006): '*[…] Researchers who have conducted intensive, in-depth case studies typically report that their preconceived views, assumptions, concepts, and hypotheses were wrong and that the case material has compelled them to revise their hypotheses on essential points. […]*' (ibid: 235). Care needs be taken in the formulation of interview questions, and therefore an interview guide was used - rather than a strict interview schedule - for the semi-structured interviews. The interview guide is best suited for informant interviews as the wording can be adjusted to the informant's verbal style and competence (Lindlof and Taylor 2011). The guide contains keywords about thematic areas to be covered in the interview but is not strictly prescriptive and leaves enough freedom for the respondents' answers and emphases (Schnell et al. 2005). Questions asked during the interviews should have a certain uniformity to make the results comparable. During the conversations any possible relation between climate finance and domestic climate policy was allowed to be explored.

Criteria for Contacting Interview Partners

Criteria for the selection and contacting of research participants are their involvement in the fields of climate finance governance or implementation, climate policy and low carbon climate resilient development or other relevant insights. Interviewed experts included individuals with activities at a global, national or regional/local level.

Interviewees include stakeholders such as bilateral donors and development agencies, staff of federal and state ministries, both managers and recipients of climate finance and private sector representatives (financial sector as well as consultants). Additional

important sources were research institutes and NGOs active in the field of climate policy and finance. In order to shed light on the Brazilian position in the international negotiations, scholars publishing on this topic, Brazilian negotiators and civil society members following and participating in the negotiations have been interviewed. The influence of structure (the political system) on agency was explored with experts such as Brazilian and foreign political scientists but also with stakeholders such as NGOs and research institutes (allegedly critical observers). However, also critical observers can be influenced by the structure for example through financial support from the federal level to civil society (Toni 2007). Table 4.4 provides an overview of the institutions interviewed by interview group.

Institutions	**Number of interviews**	**by Interview Group**
USP	1	
UnB	4	
CPI PUC-Rio	1	Academia: 14
UFRJ	2	
Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA)	6	
Senado	1	
Ministério da Ciência, Tecnologia e Inovações (MCTI)	1	
Ministério da Agricultura, Pecuária e Abastecimento (MAPA)	1	
Ministerio do Meio Ambiente (MMA)	2	Government and state: 8
State Ministry of Environment Amazonas	1	
Secretário Especial de Assuntos Estratégicos (SEA)	1	
Itamaraty	1	
CNA	2	
BNDES	3	Private sector and financial sector: 9
BB	1	
Petrobras	1	
Independent Consultants	2	
Observatório ABC	1	
Instituto Socioambiental (ISA)	1	
Fundação Amazonas Sustentável (IPAM)	1	
Instituto de Pesquisa Ambiental da Amazônia (FAS)	1	Civil society: 7
The Nature Conservancy (TNC)	1	
Idesam	1	
Conservation Strategy	1	
Norwegian Embassy	1	
UKFCO	1	Donors and development agencies: 6
GIZ	3	
KfW	1	
Total		44

Table 4.4: Numbers of interviews according to interview groups
Source: own elaboration

Based on the overview in table 4.4, the following acronyms were introduced throughout the thesis for each interview groups for easier reference and readability:

- Academia = AC

- Government and states = GOV
- Private Sector (including consultants) and Financial Sector (including banks) = PB
- Civil Society = CS
- Donors and Development Agencies = DON

I am aware that this delineation can never be completely accurate as some banks are state owned, some consultants might have an industry or research background, some researchers work in state run institutions etc., but I hope that this classification will provide some guidance to the reader.

After identifying, selecting and contacting research participants, further contacts were identified during interviews and often personally referred to, following a 'snowball' approach. The number of interviews and interview partners was shaped by the willingness and availability of potential research participants, possibly leading to an associated bias in the selection of participants. Despite my persistence and continuous follow up, it was not possible for me to interview representatives from the following organizations: Ministry of Mines and Energy (MME), Ministry of Agrarian Development (MDA), National Institute of Colonization and Reform (INCRA), the National Institute of Space Research (*Instituto Nacional de Pesquisas Espaciais*, INPE), the Brazilian Environmental Protection Agency (IBAMA) and the NGO *Plataforma BNDES* (the latter was dissolved and reconstituted during the time of my field work and perhaps therefore not available for an interview). Especially the fact that MDA and INCRA are missing among the interviewees can lead to a certain bias; the views of the landless poor are missing. Chapter 5 attempts to balance the fact that these views have not been captured in the data collection by providing the essential background on land rights and land use patterns and the role of the landless poor, however, their specific role in the ABC programme could not be elaborated in as much detail as had been hoped for.

Another bias arises from the fact that stakeholders in general are anything but neutral. Even though there is no such thing as a non-interested insight or neutral knowledge, personal involvement – not only of members of ministries and NGO staff but in some cases also academics and private sector actors - in political processes through a variety of roles and engagements is potentially problematic for my interview data (stakeholder selection bias).

Interview Settings

44 interviews were conducted in total with 5 different groups of actors (see above). The interview settings varied. Between 1 and 5 individuals plus the interviewer were present in one interview. No translator has been used. Interviews were conducted in Portuguese, English or German. The duration varied between 20 minutes and 3 hours. Interviews were conducted at the headquarters of the respective organisations, other offices of interview partners or in public and private places depending on the availability and preference of the interview partners. In a few cases geographic distances and time constraints made it necessary to conduct an interview via skype.

The interviews were recorded and transcribed. In a small number of cases recording was not possible, because it was prohibited by the restrictions of the institution, because it was the personal wish of the research participant or the recording device in that specific interview situation was perceived as an alien element and barrier or it was simply not possible from a technical point of view (during workshops, lunch meetings or site visits in the field). These interviews or conversations were minuted after the event. The statements of interview participants have been interpreted in light of the position of the research participant (Flick 2019[9]).

The interviews have been assigned with random alphanumerical codes (for instance 2B or 33X) to ensure their anonymity and to prevent that conclusions can be drawn about their identity from the interview sequence or date.

4.4.2 Field Observation

Field observation has been applied during field work to a very limited extent and only in the case of two site visits: in the Cerrado biome (EMBRAPA Cerrado pilot sites) and in the Amazon (Bolsa Floresta site in Amazonas). The state of Amazonas in the Legal Amazon and the state of Goiás in the Cerrado biome have been visited during field work, to understand the field of relevant actors (EMBRAPA Cerrado, FAS). The city of Manaus and the Rio Negro FAS pilot site have been visited to understand the local social-environmental conditions, and the benefit sharing mechanism of the Bolsa Floresta pilot site.

For the field observation the relevant criteria for selection were the techniques of low carbon agriculture for instance or the piloting of a REDD+ scheme with commu-

nities in the Amazon which enabled me to study the implementation of the relevant schemes in practice. The field observation was used to complement the information gathered through expert interviews and to create the social ecological context. I attempted to understand the point of view of the observed groups without losing the distance (Lamnek 1995[3]). I was always recognizable as an outsider and observer. The discourses witnessed during the observed events were followed up later through document review and further interviews.

4.4.3 Document Analysis and Quantitative Data

Another important source of data was printed and digital documents such as policy papers, laws and decrees, submissions to the UNFCCC, minutes of meetings etc. which are relevant for all research questions. Published studies, reports, literature and documents including information on the climate funds and the allocation of their resources were analysed. Quantitative data has, however, only been used to create a sense of scale of climate finance in the Brazilian land use sector. The data has been used in a descriptive way showing trends and magnitudes without analysing it statistically without seeking to explain variations in financial distributions. This has nevertheless been useful for descriptive purposes to evaluate the relevance and impact of the respective programmes. Both the literature as well as my qualitative data suggest certain tendencies for allocation and disbursement of funds, for instance under the Amazon Fund towards larger projects and mainstream approaches (Zadek et al 2010, Forstater et al. 2013) and in the ABC Programme towards the agrarian states of the South (FGV 2014). The quantitative data display has a purely complementary and illustrative purpose. Sources used were the Amazon Fund website, BNDES annual reports, MMA website and publications, MAPA website and publications, Banco do Brasil website, Observatório ABC/FGV publications.

The relevant databases such as web of science or google scholar as well as specific databases for online journals (such as *Climate Policy, Environmental Politics, Science, Ecology and Society, International Affairs, International Environmental Agreements, Review of International Studies, Economic Theory, Energy Policy, World Development, The Geographical Journal, Bulletin of Latin American Research,* etc.) as well as ResearchGate and Academia were used throughout the research project.

4.4.4 Triangulation

Triangulation can have two main purposes: confirmation or completeness both aiming at reducing the probability of errors. When applying triangulation for confirmation purposes the strengths and weaknesses of the different methods of data collection need to be known and applied in a way that they ideally can counterbalance each other (Arksey and Knight 2009[2]). The use of different methods for few cases might be sometimes more effective than the application of one method in a lot of cases (Flick 2019[9]). Through the combination of methods different aspects of the same phenomenon can be captured.

For the purpose of this dissertation methodological triangulation in contrast to data, investigator or theoretical triangulation has been used (Arksey and Knight 2009[2]). Methodological triangulation uses a variety of methods to collect and interpret data. In this case, triangulation through a method mix of expert interviews and analysis of documents, including policy and legal documents and quantitative information of climate funds among others, has been used.

However, triangulation bears its own weaknesses. Drawing on Fielding and Fielding (1986) and Arksey and Knight (2009[2]) emphasize the origin of both theories and methods from different traditions of thought and with different ontological and epistemological assumptions. Hence the basis for the selection of methods might be difficult due to a lack of common theoretical foundations. Mason (1996) points out a limitation with regard to findings: that the application of different methods might lead to different problems or different research questions rather than different aspects of the same phenomenon (Mason 1996 in Arksey and Knight 2009[2]). Triangulation therefore bears the danger of leading to a more complete but not necessarily a more accurate picture.

4.5 Field work period in Brazil

For the purpose of this research project, two visits to Brazil with a total duration of 8 months were conducted. The first stay in Brazil was a scoping trip of six weeks in October and November 2013 with interviews in Rio de Janeiro and in Brasília, the planning of the actual field work period as well as a 3 week intensive Portuguese course. After obtaining ethical clearance, the official field work period began at the beginning of January 2014 and ended end of June 2014. January and February as well as the

month of June were spent in Rio de Janeiro at the office of the think tank Climate Policy Initiative (CPI) located on the Gávea campus of the *Pontifícia Universidade Católica do Rio de Janeiro* (PUC). The months of March until May were spent in Brasília at the University of Brasília (UnB). The visit to the state of Amazonas took place end of May 2014. The majority of the interviews were conducted between March and June 2014 in Brasília, Rio de Janeiro and São Paulo.

The data collection for this research project is a timebound record of expert and stakeholder knowledge at the time of field work mostly in the year 2014. It represents knowledge and analysis of states and processes - 'snapshots' - at the time of the research (Flick 2019[9]). Developments previous to the field work period are being considered as far as they were discussed during the interviews. This is mostly relevant for the Brazilian climate funds, the ethanol programme and the climate policy. The research area is very recent and dynamic and new developments, including political changes, were continuously taken into account. The entire process itself can therefore be considered a learning cycle (Bausch 2016; Atteslander 2010[13]).

I also used my stay to further my professional expertise and attended events such as workshops, lecture and conferences whenever possible (table 4.5).[1,2]

[1] '*Políticas agroambientais em debate: a experiência que temos e o futuro que queremos*'.

[2] '*Produção e proteção: os desafios da transição para uma produção agropecuária sustentável e uma economia de baixo carbono no Brasil*'.

Title	Date	Organizer
Colloquium of Professor Viola	Academic year 2014	University of Brasília
Various lectures and seminars	Academic year 2014	University of Brasília
Conference 'Agri-environment policies under discussion: the experience we have and the future we want', IPEA, Brasília	13.05.2014	IPEA
Rio Negro pilot site workshop (*Programa Bolsa Floresta*)	18.05.2014	FAS
Workshop Ministry of Environment Amazonas on REDD+ in Amazonas	20.05.2014	Ministry of Environment Amazonas
Conference 'Production and protection: the challenges of the transition to sustainable agricultural production and a low carbon economy in Brazil', Botanical Garden Rio de Janeiro	03.6.2014	MMA

Table 4.5: Attended workshops and conferences
Source: own elaboration

4.6 Methods of data analysis

This section introduces the methods of data analysis applied for this thesis. I started with a structured interview approach, which evolved into more flexible forms of data collection and analysis during the course of the fieldwork. This had the advantage that I was not rigidly bound to assumptions and themes. It led me to discover and explore themes beyond my interview guide that my research participants found relevant and finally to the reformulation of my research questions. While I originally set out to compare the Amazon Fund and the *Fundo Clima* and was unaware of the ABC Programme, my participants pointed out the relevance of the latter to me, which was only possible by asking questions openly.

The conversations were also an important reality check and made me realise that a survey among Amazon Fund recipients would go beyond the scope of the study and blur the (revised) focus. Consequently, my data analysis followed a hybrid approach: I started deductively with my assumptions derived from literature and theory (but also from the results of scoping) and in the course of the field phase, in the light of the interviews and the new findings, I was inductively guided by these findings and found a new focus. This, in turn, was again based on theory and literature, carrying out an alternating course in data analysis. My reading during fieldwork influenced my data collection and analysis consciously or subconsciously.

Finally, knowledge and experiences acquired as a GIZ adviser and freelance consultant also flows into the analysis. The interviews which I conducted as part of an appraisal mission for a new phase of the GIZ support project for the Amazon Fund in 2016 have not been included, as the participants were not informed, and the interviews were not designed as such. But the results of the missions, the impressions I gained of the functioning of the Amazon Fund and its projects, as well as the commitment of the team through this mission and other engagements (such as during the Global Landscape Forum 2015 and a consultancy engagement supporting the 2018 reporting) or a consultancy engagement supporting the 2018 reporting no doubt found their way indirectly into my thinking and my analysis.

4.6.1 Coding and Identification of Salient Themes

The collected and written up interview data has been processed using 'qualitative analysis of content' (Mayring 2015[12]). Although transcription is also a step in the initial process of reading and familiarization with the data, given my analytical focus being thematic rather than semantic, I consider reading the data thoroughly and repeatedly from the '*first person perspective'* (Watts 2014: 6) as my first step of analysis. There are different techniques for coding available in qualitative research, from line-by-line coding of grounded theory to three-level coding systems progressing from simple to data-led interpretive coding to a top level driven by theory; what they have in common is that they generally trace a path from the descriptive to the interpretative aiming at identifying key themes, issues and meaning within the data in a systematic way (ibid). The chosen technique for interview coding in this research project followed a three-step approach based on (Watts 2014). The first round of coding identified key terms; the second round put them into their respective context. Both steps work in an inductive way, trying to be as independent from theory and concepts as possible ('*first*

person coding' according to Watts 2014). The third step then used a deductive coding approach with theory-based assumptions in mind ('*third person coding*').

Before starting to code, however, interview transcripts were clustered according to types of actors such as (i) government representatives, ii) NGOs, iii) bilateral donors and development agencies, iv) academia, v) state research institutes, vi) financial sector, vii) other private sector actors). The actual coding for emerging themes during two rounds was done both in Nvivo and manually, identifying nodes across different transcripts. The first round of coding was descriptive, simply identifying an issue. The second step was interpretative, for example asking how the research participant understood and framed the issue. This was followed by the third round of coding using a conceptual and theory driven lens of Political Economy, political analysis and discourse analysis (see conceptual framework). Then for each group of actors, emerging themes from the first two rounds of coding were collected and listed together, followed by the results of the third step of coding (see appendix A). In an additional step interview transcripts or parts were grouped to issue areas.

All reading and coding have the purpose to identify a collection of themes derived from the first-person perspectives of the participants (Watts 2014). A pre-analysis of themes was carried out using the data collected through interviews; themes that emerged as salient from the interviews (criteria: mentioning by more than one interviewee or more than once within one interview) were followed up on and investigated further. Results of the themes by different groups were compared and cross checked for conflict and convergence. Based on the conceptual framework the categories 'actors', 'ideas' and 'processes' have been further detailed in an inductive process and processed for textual analysis and the writing of Chapters 6, 7 and 8.

4.6.2 Content Analysis Based on Text Derived from Interview Data and Documents

Based on the initial categories and themes identified during the analysis of interview data, documents of various kinds (official government documents, reports by NGOs, development agencies or researchers, academic literature) have been analysed. Both interview transcripts and other written documents have been analysed using the method of content analysis (Mayring 2015[12]). The handle the vast material (interview transcripts and documents collected in hard and soft copies before, during and after field work), the procedures of '*summary*', '*explication*' and '*structuring*'

were applied at this stage (Mayring 2015[12]). '*Summarizing*' shortens the content to a manageable size without losing the essential content. Relevant quotes and pieces of text were collected. An attempt was made to see the world through the participants' eyes and think which extracts should be used to communicate their viewpoint most effectively (Watts 2014).
From these text pieces, indicative categories were developed and compared with the initially formulated categories and they were subsequently questioned and revised (Mayring 2015[12]). During the step of '*explication*' initially unclear statements and pieces of text were explained and understood through the use of additional material. This is the case when for example policies or laws were mentioned which have not been known until then and which were then being followed up an where material has been placed in the wider context (Mayring 2015[12]). '*Structuring*' of content is a deductive process and has been used to analyse the material using analytical categories ('actors', 'ideas' and 'processes').

4.6.3 Analysis of Discourses and Discursive Frames

To identify and analyse the relevant ideas influencing the set-up of Brazil's national climate funds, it is necessary to understand what kinds of ideas are at work, what functions they serve, how they interact with one another and how they shape and are shaped by actors' choices (Mehta 2011). Following Jäger (2011), an analysis dealing with the connection between knowledge, action and visibility needs to reconstruct knowledge in discursive practices and the knowledge underlying non-discursive practices. I found several discourses and discursive frames in my interview transcripts. I was also able to create a hierarchy between discursive frames and wider discourses. Through further analysis I was able to identify underlying background ideas, public philosophies, ideologies and conceptions of zeitgeist (Schmidt 2016, Mehta 2011).

Much of what is being communicated is not explicit but between the lines or is unconsciously conveyed by the actors. Multivocality will thus remain an issue. Explication of tacit (non-textual) knowledge, concrete details and background settings as well as triangulation are needed to support the findings of discourse analysis. In order to ensure credibility and validity, I triangulated with different data sources. For example, to relate these themes and discursive frames (Dayton 2000) that emerged from coding and analysis of the interviews and the findings of document analysis to the wider discourses that I identified, I analysed national level discourses in policy documents and literature and allocated them to actor constellations identified. Through

my non-linguistic textual discourse analysis I identified the rationales, motivations and expectations of actors and drew conclusions why certain actions are framed in a particular way and how discursive battles over 'problem definitions' change social reality and institutions (Mehta 2011) (Chapters 7 and 8). This is in line with what Cannon and Müller-Mahn (2010) observe: '*modifications of development or climate policy do not simply happen as a reaction of policy makers to newly emerging problems, or because new facts are becoming available. Rather they are brought about because certain types of knowledge, perceptions, awareness, interests and values are negotiated and become powerful in public discourses*' (ibid: 630).

As a result, through the analysis of interview data, policy documents and laws, literature and complementary grey literature, a climate policy analysis of Brazil covering the period 2003 – 2016 was carried out, unveiling political, economic and discursive factors behind the Brazilian climate policy over time as well as understanding the processes leading to the formulation of the relevant laws and the creation of the national climate finance institutions. These were discussed against the background of the political system and the competencies between legislative and executive, electoral system (from academic literature and interview data). A rough review of sources of climate finance expenditure contained in annual reports of the respective climate funds, websites or external studies was carried out with the aim of creating a perspective of scale and magnitude of climate financing.

During data collection and analysis, theory has been consulted and a cross check between initial results and theoretic understanding took place. As a result, there was a constant interplay between assumptions based on the theoretical literature on the one hand and experiences and results from fieldwork on the other hand.

4.7 Ethical Considerations

4.7.1 Research Ethics

There were no direct costs, potential physical, psychological or disclosure dangers associated with this research. However, all matters related to public finance are usually regarded as sensitive and subject of national sovereignty. Hence participants – depending on their role and position – might be reluctant to discuss details of climate finance allocation and disbursement unless – or even if - anonymity is granted. Informed consent of the participants was sought before each interview. In any presen-

tation of the findings, names of participants remain anonymous. However, for the research presentation it is sometimes necessary to identify the affiliated organization of an individual. This has been done only in those cases where the explicit consent of the interviewed participant has been granted. This option was indicated on the consent form, which was approved and signed by every participant before the interview. The consent form is formulated both in English and Portuguese for full information disclosure. Interviews/conversations, written notes and electronic recordings are being assured full confidentiality through secured data storage on a password encoded laptop.

During my research I interacted with a wide range of participants, representatives of governments (on the national, provincial or municipal level), NGOs, bilateral donors, development agencies, think tanks, research institutes. The interview requests were transmitted via email and phone call, persons participating in the interviews did so voluntarily and were free to decline to participate or to leave the interview at any time without providing reasons. Participants were free to withdraw their consent for the information they have given to be used in the research, as long as they communicate this wish to the researcher. Participants were required to give permission before audio recording of the interview took place.

Only representatives from institutions, which are considered significant for climate finance in Brazil, were interviewed. The participants neither received payment nor any other incentive or free service to participate in the study. I was aware that different strategies may be required to communicate to civil servants or 'expat' respondents than to local level officials as well as to males and females. Participants' responses may be influenced by their perception of what information they think the researcher would like to hear and certain cultural norms such as gender norms. Advice from local experts and colleagues was sought in situations where I was unsure whether my presence might influence research participants.

Consent was sought both verbally and in a written form, by provision of an introductory letter using non-technical language, by talking through and giving the participant a copy of an information sheet with a consent form. However, certain groups of interviewees (government employees) in Brazil could be uncomfortable with signing a consent form out of fear that the researcher aims at unveiling mismanagement or corrupt practices. Consent therefore could be sought written or verbally. Participants were given the opportunity to ask any questions about the research and provide ap-

propriate explanations (for details see Appendix B).

4.7.2 Research Permissions

Formal affiliation with a host institution (the Department of International Relations at the University of Brasília) had been established prior to field work. The researcher was enrolled as a doctoral student at the University of Brasília during the entire time of fieldwork. The Chair of the Department for International Relations at the University of Brasília confirmed this in writing by letter. A research visa and in-country research permit had been obtained.

4.8 Reflections, Challenges and Justification of Case Selection

The study has a clear bias towards progressive climate action and seeks to understand the enablers of what it considers a successful period of Brazil's climate policy. Also coding, identifying themes and choosing extracts for analysis is a subjective process. However, carried out with sufficient rigor, all reading, and coding processes serve to identify a collection of themes that aspire to represent best the views of the participants.

I travelled to Brazil for the first time in 2013 for two months and spent another six months for field work in 2014. I returned in 2016 for two weeks and I am maintaining contacts and friendships since. I travelled to Rio de Janeiro (both city and state), São Paulo (both city and state), the Distrito Federal and Goiás, Bahia, Amazonas, Rio Grande do Sul, Pernambuco, by air and land (car, bus, bike). I was very much taken with the country and its people. The stakeholders I interviewed are impressively well educated and qualified. This may also have influenced my judgement.

I was able to communicate well and was familiar with the expert discourses through my own work experience and I used my professional network to make contacts. But I had only just learned the language in intensive courses lasting several months. Which impression did I leave with my interviewees? Nuances might have remained hidden from me. I tried to meet this challenge by transcribing and translating the interviews and other data carefully. The availability and tight schedules of the actors contacted were another obstacle. Despite good contacts and reference persons, several insti-

tutions did not respond to my interview requests. It was also not possible for me to visit a community on the deforestation frontier border. Instead, I was invited to join a study tour field trip of the EU REDD Facility to a Bolsa Floresta pilot site in the state of Amazonas, that is rather a model state in terms of deforestation and forest conservation.

Additional challenges I encountered during field work included analysing a current, ongoing and still unfolding process. Both regarding the ABC Programme and the national climate fund the public available data was very limited. The original case selection also included the national climate fund. However, it is still underfinanced and has much less practical relevance. It was therefore removed from the analysis. One possible explanation is that the legislature does not provide the fund with the necessary resources because it is not an instrument of the executive. This would mean that climate policy via parliament is possible but would mean more trouble for the government. This hypothesis is taken up in Chapter 6. Through the chosen approach of analysing two climate funds the analysis is less deep than would have been the case in a single case study. Yet the generalizability is also limited. On the other hand, macro effects and developments occurring at different locations in Brazil could be taken into account.

Most of my interviews were conducted in 2014. Several years have passed with transcription, translation, data analysis and write up until submission. Although at first, I was worried that my data would become outdated, on reflection I see it as an advantage. My interviews were conducted at a time when the interviewees were looking back on successes and the discourses and events of the time when the climate funds were created were very fresh and present in their consciousness. With some of them I maintained contact and followed up until end of 2020.

Chapter 5

Case Study Context

The issue areas covered in this chapter provide the relevant context for the following analytical chapters. The chapter draws on academic literature on climate finance, the nexus between land rights, land use and related GHG emissions of the agriculture and forestry sectors particularly from the interior of Brazil. The last section provides a brief and by no means complete overview of relevant conservation initiatives.

5.1 Socio-Ecological Background

Brazil possesses the largest forest carbon and biodiversity stock in the world, the largest reserve of arable land and the third largest stock of freshwater reserves, the largest reserve of hydropower and the most efficient and second largest ethanol production in the world (Viola and Franchini 2012). Its continental expansion encompasses five ecological regions: the Amazon rainforest, the Caatinga (scrubland in the semi-arid north-east), the wetlands of the Pantanal in the mid-south-west, the Cerrado savannah in the mid-west and the Atlantic rainforest (Mata Atlântica) along the coast (Zellhuber 2016) (see maps in figure 5.1 and 5.2). The Brazilian 'Legal Amazon', on the other hand, is a political concept and encompasses both Amazon and *Cerrado* biomes (see map in figure 5.3).

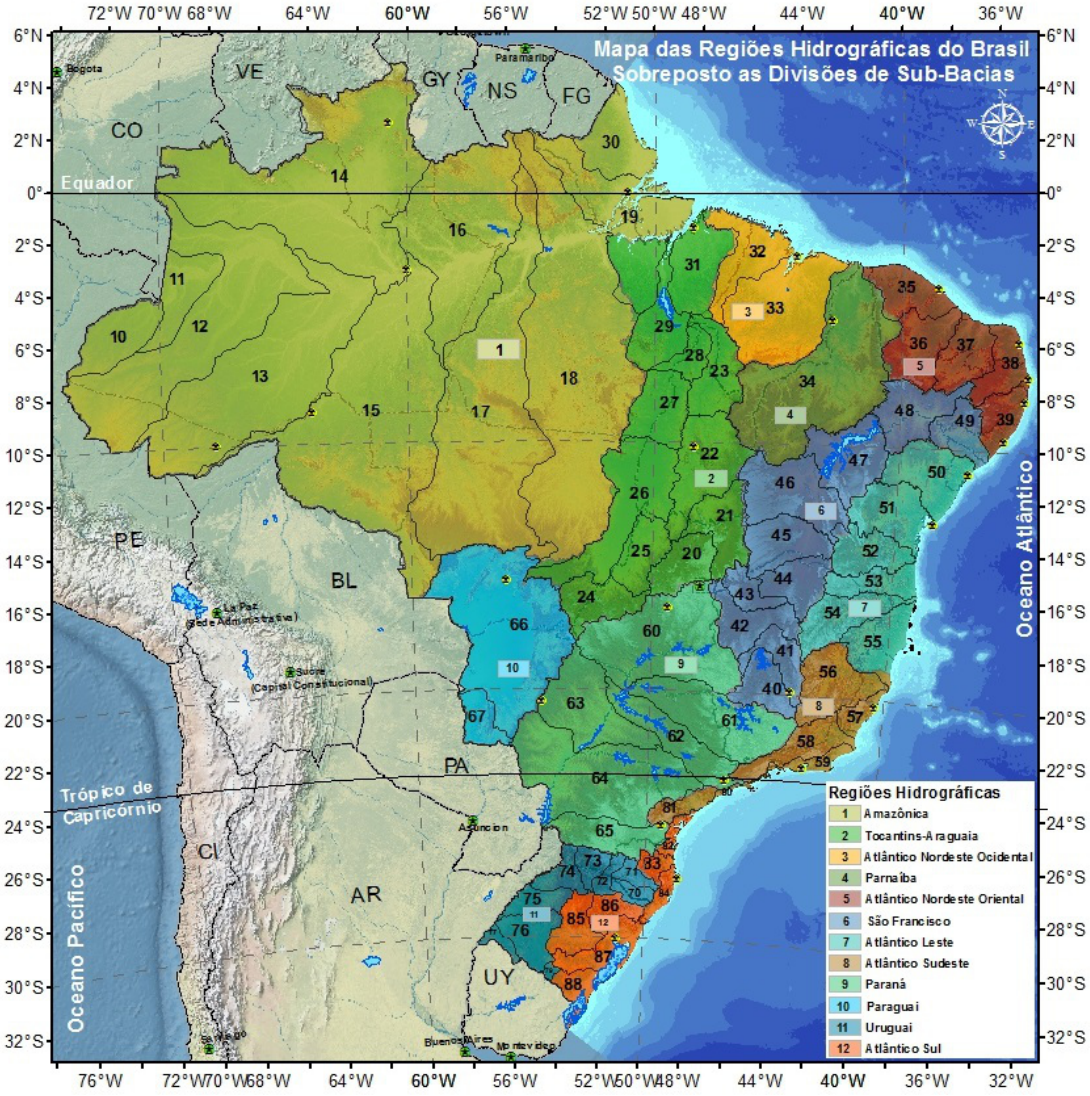

Figure 5.1: Topographic map of Brazil
Source: https://upload.wikimedia.org/wikipedia/commons/8/8f/Sub-Bacias_Brasil_Mapa_Altimetria_Policonico.jpg

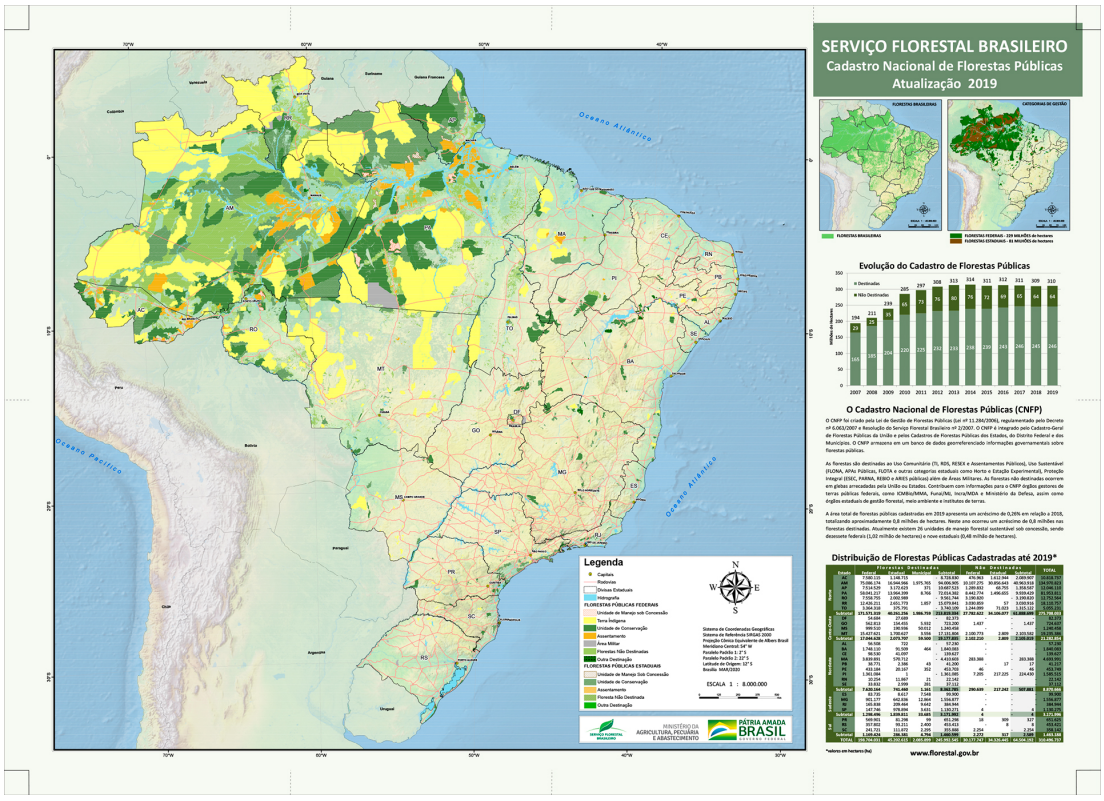

Figure 5.2: Brazilian public forests (federal and state)
Source: http://www.florestal.gov.br/images/conteudo/informacoes_florestais/CNFP/CNFP_2019_FINAL_g.jpg

The Amazon Basin spans over six countries and nearly six million km^2. The Brazilian Amazon biome alone covers 4.2 million km^2. It has the largest reserve of tropical timber, huge stocks of rubber, nuts, fish and minerals, as well as oil and gas reserves globally (Marcovitch and Cuzziol Pinsky 2014). The so-called Legal Amazon contains all nine states in the Amazon Basin: Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins as well as most of Mato Grosso and the western part of Maranhão (see map in figure 5.3).

Figure 5.3: The Legal Amazon
Source: https://www.researchgate.net/publication/314139863_A_matrix_clustering_method_to_explore_patterns_of_land-cover_transitions_in_satellite-derived_maps_of_the_Brazilian_Amazon/figures?lo=1

Brazil recovered swiftly from the global financial crisis which allowed its successful fight against poverty and hunger (Fontaine 2016). The Workers' Party (PT) government (2003 - 2016) increased Brazil's inclusive economic growth and reduced poverty from 20 per cent of the population in 2004 to 7 per cent in 2010 (Beddington et al. 2012). Although Brazil has achieved major successes in this regard, huge disparities

and inequalities inside the country persist, especially between urban and rural areas and regions and between social classes in cities (Coy 2016).

Brazil has a highly competitive agribusiness, but the related emissions are rising. Most of Amazonian deforestation is not only illegal but inefficient because it results from logging for timber, highly extensive cattle ranching and poor annual cropping. Nevertheless about 20% of the population depend on these activities (Viola and Franchini 2012). Amazônia has both low population density and socio-economic development levels (Marcovitch and Cuzziol Pinsky 2014) even though most of its population lives in urban areas (Tritsch and Le Tourneau 2016).

5.2 Land Use Dynamics and Agricultural Expansion

5.2.1 The Cerrado and the March West: Colonization, Manifest Destiny and Sovereignty

Land rights, agricultural land use and deforestation leading to climate change provide the backdrop against which the power plays around climate policy and climate finance have to be seen. Limited state capacity and poor infrastructure and coffeee and sugarcane monocultures in the south and northeast left the acidic soils in the Cerrado (in the Center-west) as well as the Amazon rainforest out of the focus of agricultural industrialization initially (Nehring 2016). Land was abundant there and could be dispossessed by issuing new titles (1950 few of the local 79,750 farms had formal rights to the land). In the 1960s 'expansive tracts of public land were put on the market and newly titled land sold for as little as US $0.42 per acre just north of Brasília' while private land was sold for a multiple (US$ 25 to $80 per acre near the city of Goiânia) (Nehring 2016: 7).

The military regime supported this development in the 1960s with road construction, regional investment, new government institutions, and in-migration (large corporate and private landholders and smallholder colonist farmers) leading to thousands of both spontaneous and planned settlements in the Amazon region over decades (Brown et al. 2016), on public lands or unused private lands along the Belém– Brasilia, Cuiabá–Porto Velho and Cuiaba–Santarém axial roads (Araujo et al. 2011). Agricultural expansion and commercial logging in Amazonia were supported by the Brazilian government through credit and tax policy (ibid). At the same time the legal system

governing landed property contains generous provisions for squatting and productive use (see next section). The desire for land was encouraged and partially accommodated but never adequately satisfied (Wolford 2010).

The promise of land for smallholder farmers has been part of the nation-making imagery through which the poorer, small-scale farmers could access land has been part of the nation-making imagery though ambiguous and fraught with conflict. The ideological justification was provided by president Getúlio Vargas in an address to the nation on December 31st, 1937 after the coup d'état when he proclaimed, '*the true meaning of Brazilianness is the march West [...] to climb the mountains, to surpass the tables and to expand ourselves through the latitudes [...] in a vigorous and epic journey, the milestones of territorial boundaries, we must again suppress obstacles, near distances, open ways and advance economic frontiers, definitively consolidating the bases of the Nation*' (Hoshino and Hansen 2017: 39).

The colonization and agricultural production in the interior and the West were seen as a national project and in this vision the *hinterland* was '*poor in State presence but rich in nationhood*' (ibid: 45). A plan was crafted to promote infrastructure, a wide grid of roads, airports and hydro-ways. The promotion of farming techniques and planned land distribution aimed at prompting the Far West and its 'dead areas' into a more profitable economic frontier while at the same time repelling any risk of disaggregation (Hoshino and Hansen 2017) (*integrar para não entregar*, see Chapter 7). Rural colonies were seen as the appropriate vehicle for this goal. These projects of 'progress' and the official discourse on sovereignty tended to ignore the social place of the indigenous peoples and the fact that those lands had never been abandoned. The March to the West settled the stage for both future indigenism and urbanism, visible in the creation of reservations, planned cities (Goiânia) and the project of the capital of Brasilia. Almost at the same time the 22 km^2 Xingu Indigenous Park was demarcated in 1961 as an 'indigenous metropolis' (Hoshino and Hansen 2017).

5.2.2 Property Rights, Land Ownership and Land Reform

In the Brazilian Amazon the existence of open access lands motivates speculative appropriation which in turn promotes deforestation in expanding agricultural frontiers. The expectation is that the appropriated land will increase in value in the future mainly due to road construction and market development. Furthermore, the easiest way to justify land ownership is by converting it to agriculture use. Pasture is the most com-

mon agricultural use being less costly than establishing cash crops (Pacheco 2009).

Public land can pass into private ownership in Brazil through sealed tenders to large private owners and by selling small lots to colonists in government-sponsored settlement areas (with five years of grace and 6% annual interest) (Pacheco 2009). However, the most effective way to claim land is squatting. The Land Statute (No. 4504, 1964) and the '*Usucapion*' Law (No. 6969, 1981) ratified the right of squatters to claim land ownership over small tracts of land (ibid). According to the Land Statute the '*squatter (posseiro) who lives on unclaimed public land (terra devoluta) and has farmed it for a year and a day, can claim the right of occupation for a further period of four years*' (ibid: 1339). This can be repeated three times for an area of up to a maximum of 100 ha. After that a title can be issued. Under the Usucapion Law, a person who has farmed uncontested land up to 25 ha (or up to the rural module) for more than one year can also acquire title to those lands. In federal lands up to 3000 ha can be claimed using these mechanisms (Pacheco 2009).

The Portuguese had already introduced the 'productivity clause', although largely unable and unwilling to enforce it (Wolford 2010). Notwithstanding the legal changes, force remained a major avenue for obtaining land rights and possession was often equivalent to ownership (Wolford 2010). Both the desire for land and the productivity discourse can be traced back to the early days of the Republic. The right of landless people to occupy unproductive land was further and most recently articulated in the 1988 Brazilian Constitution and the 2002 Civil Code. As a result, '*dozens of social movements through Brazil have relied on this right to occupy thousands of properties across the country in hopes the land will be expropriated*' by the National Institute of Colonization and Reform (*Instituto Nacional de Colonização e Reforma*, INCRA) and redistributed for the purposes of land reform (Brown et al. 2016: 4).

Commercial sale of untitled land is prohibited by law but is common practice because a large portion of the '*settling families suffers from poor infrastructure and overall living conditions and wants to leave before titling services begin to be offered*' (Ludewigs et al. 2009: 1355). Often local government agents allow untitled land purchases due to their inability to keep up with the responsibilities and promises of maintaining reasonable infrastructure conditions and public services (ibid). Ludewigs et al. (2009) found that titled possession of land positively correlated to deforestation in Altamira (due to the nearby *Uruará* settlement), contradicting the assumption that property rights per se provide protection against encroachment or expropriation or to help control

deforestation (Ludewigs et al. 2009, see also Araujo et al. 2011).

Land ownership in Brazil is grossly unequal. According to the 1995/96 agricultural census, one percent of landholders held more than 2,000 ha each and controlled 52.7% of the private land. In contrast, 83% of landholders held less than 100 ha each and controlled only 11.3% of all agricultural land (Pacheco 2009). According to the Statistical Office of Brazil the 2006 agricultural census revealed a stable trend of concentration and distribution over the previous 2 decades and that cattle raising is the most common economic activity (IBGE 2017).[1] Between 1995 and 2006, the number of smaller properties (less than 100 hectares) has increased and so did the average property sizes (10 to 1000 ha). The number of very large properties (100 to 1000 hectares) decreased since the last agricultural census. Nevertheless, of the 5 million rural properties in Brazil in 2006, 85% belonged to smallholders and 16% to large commercial farms that occupied 75% of the cultivated land (Assad et al. 2018). Largeholders dominate central and north-eastern Mato Grosso and some areas in southern Pará while smallholders tend to dominate the northeast of Pará, the Transamazon and Rondônia. Medium-scale landholders have tended to concentrate in the eastern Amazon around urban centres such as Altamira, Marabá and Redenção (Pacheco 2009).

Land redistribution through land reform in the Amazon aims to reverse the unequal land tenure structure (Pacheco 2009). In the period 1970–84 areas for colonization programmes were identified by the government differentiating between private and public lands (ibid). Land lots along the highways were distributed to smallholders in the 1970s who received tenure rights but often no official titles (GIZ 2018). This situation led to violent conflicts and land grabbing. It further made the establishment of Protected Areas and Indigenous territories and thus effective control of deforestation difficult (ibid). Since 1985, land distribution has been done through INCRA by redistributing large private landholdings that did not fulfil a social and economic 'function'.[2]

In 1993 Agrarian Reform was made a priority within the government and INCRA prioritized the process of land titling (Pacheco 2009). The Cardoso administration established ambitious goals for agrarian reform and settled 80,000 families per year during 1995–2002. The Lula administration continued agrarian reform, but with fewer num-

[1] https://censos.ibge.gov.br/agro/2017/en/2185-news-agency/releases-en/11748-asi-ibge-census-of-agriculture-2006-makes-a-portrait-of-brazil.html, last accessed 12.08.2021.

[2] Compensation for the expropriation was paid in Agrarian Debt Bonds (TDAs), which mature at varying times depending on the area expropriated (Pacheco 2009).

bers (Pacheco 2009). Although land reform was a historic PT topic, the track record of the Lula government was very modest in terms of land redistribution and inputs for settlers compared to the Cardoso governments. In addition, most of the redistributed plots were public lands rather than private holdings expropriated as a result of underutilization. Agrarian land ownership structures therefore did not alter and the tight fiscal policies of the government restricted credit for settlers and spending of INCRA, leading to frictions between the PT and the organization of the landless poor (Hunter 2010).

By 2013 an area equivalent to the size of France, Portugal, Ireland and Austria together had been redistributed to over one million families (Mueller and Mueller 2016: 15). The Gini index of actual land ownership concentration, however, remained at 0.842 among the highest in the world, despite the pressure by social movements and government efforts (Ludewigs et al. 2009). The concentrated structure of land holding and the nature of agricultural organization remained largely unchanged: '*under 1 per cent of the farms in Brazil still produce over half of the gross income*' in agriculture, while nearly 3 million farms (66% of the total) generate just 3.27% of the gross income, despite their important role for domestic consumption (Mueller and Mueller 2016: 15).

The Land Reform Programme has been an important driver of Amazonian colonization and agricultural expansion. As Wolford (2010) points out, settlement schemes on public land and colonization in new areas, especially under the military dictatorship, had not so much the character of land reform but of relocation. The percentage of public land in the northern region decreased from 30% in 1970 to 7% in 1996 (in contrast with the decrease of 7% to 3% in Brazil as a whole) with substantial environmental costs in the form of forest conversion to agro-pastoral use leading to depletion of biodiversity, nutrients, and hydrological resources (Ludewigs et al. 2009).

5.2.3 Land Use Patterns and Deforestation by Different User Groups

The question whether secure tenure and property rights reduce these effects has been the focus of many studies (Paneque-Gálvez et al. 2013, Araujo et al. 2011, Ostrom and Nagendra, 2006 among others). Under the threat of occupation, landholders may preemptively deforest land (Brown et al. 2016).[3] Araujo et al. (2011) see deforestation

[3] Brazilian law itself has provided an incentive to deforest land in order to show that it is productive, and landholders may collide with squatters and banks to encourage an occupation (Brown et al. 2016).

as a risk management strategy because insecure property rights reduce the value of forests and triggers forest conversion into agricultural and pasture lands. They see it as a strategic interaction between landowners and squatters: some landowners clear forest preventively in order to assert the productive use of land and to reduce the expropriation risk; squatters on the other hand invade land plots and clear the forest to gain official recognition with formal property titles afterwards (ibid). Private forest land is often classified as unproductive and hence eligible to expropriation; consequently, forest lands in Amazônia are even more vulnerable to invasion by squatters and redistribution by the INCRA than pasture and agricultural lands (Araujo et al. 2011); '*in such a risky environment, deforestation becomes a rational choice*' (ibid: 2463). And according to Fearnside (2001), the invasion of large ranches by organized landless peasants occurs almost exclusively in the forested portions of these properties, due to the greater likelihood of ranchers reacting with armed resistance if the pasture areas of the properties are invaded, and – perhaps most importantly – because planting annual crops such as rice and maize in pastures is extremely difficult because of the compacted soil and the thick mat of pasture grass roots.

Smallholder agriculture is usually dominated by more intensive production systems while largeholders often specialize (extensive cattle ranching and soybean cropping), because they have access to machinery and capital (Pacheco 2009). As a result, in areas with predominantly small-scale family farming, a combination of medium to high population density and medium to high deforestation tend to dominate, except where land speculation takes place and latifundios (large estates) emerge (Tritsch and Le Tourneau 2016). Pacheco (2009) argues that smallholders do not tend to deforest more likely than largeholders and sometimes they deforest at lower rates.

INPE, the National Institute for Space Research monitors Brazilian Amazon deforestation by its satellite system creating annual deforestation mapping. This data reveals that for several years Amazon deforestation has been increasing again, following livestock and crop expansion and reversing a trend of the previous decade discussed in detail in Chapters 7 and 8 (Santos et al. 2021). INPE observed that the total deforested area in the Legal Amazon grew from 15.2 million ha in 1978 to 72.5 million ha in 2007 (Pacheco 2009) and 27.6 million ha in 2020 (das Neves et al. 2021: 10). The major area of deforestation has been labelled the 'arch of deforestation' because of its east–west orientation. The municipalities with the largest deforested rates form a cluster in this southern area of the Amazon, with the highest values in the states of Pará, Amazonas (Southern part), Mato Grosso (Northern part), Acre and Rondônia (Santos 2021).

Most authors suggest that the majority of deforestation can be attributed to the agribusiness (70 per cent according to Fearnside 1993) while some attribute half the deforestation to smallholder shifting cultivation (Homma et al. 1995). Pacheco (2009) claims that only 15 per cent of land-cover loss (most of it forest, some *Cerrado* savannah) was attributable to smallholders with less than 100 ha, 29 per cent to landholders with 100–1,000 ha, and 56 per cent on landholdings larger than 1,000 ha in the Legal Amazon. However, Godar et al. (2015) emphasize the technical difficulties to detect small clearances (less than 25 ha) under the remote sensing-based observation system which might also partially explain the significantly higher levels of forest degradation in areas dominated by larger landholdings; small scale deforestation might be detected as degradation rather than deforestation. They further point out that smallholders have difficulties to comply with the revised Forest Code even under the amnesty for historic clearings (ibid, see also Chapters 6 and 8). This might make it difficult to motivate smallholders to further reduce deforestation rates without matching tailored support which is not even being attempted under the current political situation (Godar et al. 2015).

Another difficulty in attributing smallholder deforestation is that a part of the land occupied by INCRA settlements might have been deforested even before these lands were expropriated. Pacheco (2009) found that implications of agrarian reform for land occupation and land-use change was less significant than expected because only a small fraction of the occupied land in the Amazon has been allocated through agrarian reform, the newer smallholder occupation in the frontier was prompted by state-led land distribution favouring small farming in public lands and the invasion of cattle ranches. Smallholders' contribution to deforestation tends to increase in areas in which they rely more on cattle production (ibid). Agrarian reform may then reduce deforestation rates when smallholders take over lands that otherwise would be rapidly deforested for medium- and large-scale soybean and beef production. The impact of agrarian reform on deforestation thus strongly depends on the socio-economic and geographic circumstances of the frontier areas argues Pacheco (2009), while Godar et al. (2015) found a recent trajectory towards increased deforestation rates in smallholders independent of whether these areas contain agrarian reform settlements or not.

In Brazil largeholder farming activities rather lead to large-scale geometric clearings while smallholders rely mostly on agricultural on-farm incomes, which can result in

complex land-use mosaics due to a combination of crops, followed by secondary forests in fallows, which results in better environmental outcomes than large tracts of pasture. Less forest might be converted to pasture as a result; however, the many small clearings fragment the forest which is also negatively impacting on the forest ecosystem. In some cases, the pressure on the land can also be greater due to increasing population (Pacheco 2009). However, Tritsch and Tourneau (2016) argue that since the 2000s the positive relation between population density and deforestation has been changing and instead population density is viewed as a factor interacting with complex social, economic, and political processes at local and global levels.

Another debate with influence on global conservation and development discourses relates to the concepts of land sparing versus land sharing (Thaler 2017) and the question of whether ecological sustainability is better promoted through land sharing or land sparing (Anderson-Teixeira et al. 2012). Land-sharing aims maintain high densities of wild species by retaining small patches of natural areas within the farmed landscape, modifying crop-management practices, and reducing chemical input (Dotta et al. 2015). It is being promoted as an adequate solution for example for crops that require more land and therefore increase pressure on natural ecosystems. On the other hand, land-sparing values the maximization of yields in one area, often at the expense of biodiversity and ecosystem services through more intensive cultivation and high-yield farming but esteems the protection of large tracts of natural areas elsewhere (Dotta et al. 2015, Anderson-Teixeira et al. 2012).

The question which model is more sustainable depends on the ecosystem services in question (such as biodiversity or carbon, Anderson-Teixeira et al. 2012) and type of species (there are 'winner' and 'loser' species, but according to Dotta et al. 2015 and Fraanje 2018 most bird species for example fare better under land sparing) and is further complicated by the complex social aspects of rural livelihoods and local dependence on ecosystems (ibid). And Phalan et al. (2016) argue that even when looking at carbon only, it might not be as easy as for example higher profits might free funds for investment in restoration; higher stocking rates can instead result in reduced soil organic carbon. More efficient pasture management can increase the pasture productivity but increased carbon storage has to be balanced out well with the increased emissions from beef (ibid).

Scariot (2014) found that Brazil applied a mix of the two concepts with 17% of the territory dedicated to conservation and 11% designated as 'shared' or sustainable use

by traditional peoples for hunting, fishing, and harvest of non-timber forest products, and cultivation of crops. The same mix of land sharing (represented by sustainable use) and land sparing (denoted by integral protection) is observed for the regulation of private property, where large parts are set aside, and intensive farming is allowed on the remainder (ibid). However, the set aside area has been reduced with the revised forest code. Thaler (2017) on the other hand identified a 'project of territorialization and intensification' at the core of environmental governance to combat deforestation in the Brazilian Amazon which aimed at shifting the Amazonian economy from an extractive to a productive mode. He questions the land sparing effects of intensification in Brazil given the resistance of extractive interests, the absence of adequate support for intensification and - even more seriously – the danger of relaxed constrictions and thus risking efforts in forest conservation and deforestation reduction (ibid). The Amazon Fund and ABC Programme seem to follow the two different concepts of land sharing and land sparing respectively (see Chapters 7 and 8).

5.2.4 Agricultural Production, Economic Growth and Emissions

Between 2005 and 2013 Brazil's economy grew by an average of 3.5 per cent, stagnated in 2014 and entered a deep recession in 2015–16 with a historic loss of 8 per cent of GDP (Viola and Franchini 2018). Although most of the agrarian boom was export-oriented, domestic demand had contributed to the economic growth. The agriculture sector increased its share in Brazil's exports between 2007 and 2015 from 36 to 46 per cent. Reprimarization dominated the economy during this entire period (ibid); the most relevant agricultural products in this context were grain (mostly soy) and meat (especially beef) (ibid).

Amazonia's share in Brazil's beef exports increased from 5 per cent in 2000 to almost 10 per cent in 2005 (Schierhorn et al. 2016). As of 2016, the majority of the nearly seventy-five million hectares of deforested lands in the Brazilian Amazon are cattle pastures (Hoelle 2017). In the Cerrado shrinking pastureland was a trend since the late 1990s.[4] Across the Amazon, however, pasture has continued to expand, accompanied by a strong increase in cattle numbers from 27 to 54 million head from 1998 to 2004. Sixty per cent of this increase between 1998 and 2004 occurred in the Amazon region. Due to the availability of cheap land, cattle stock rates in Amazônia are low. Other factors are the low biophysical suitability for crop production and a scarcity of

[4] Livestock farmers moved from pasture to confinement or semi-confinement systems. This change resulted in the growth of both herds and productivity (Silva Neto and Bacchi 2014).

rural labour in this region (Schierhorn et al. 2016).

And while beef from the Amazon region is exported and transported to the more affluent regions of Southern Brazil and abroad, much of it does stay in Amazônia with its very high beef consumption rate (Hoelle 2017). Consumers in North America, Europe and Oceania still accounted for one-third of global meat consumption in 2010, but while levels are stabilizing there, emerging economies including China and Brazil see an increase in meat consumption. The production increase in Amazônia, together with poor transport infrastructure and long distances from markets and increasing standards of living for the mostly urban Amazonian residents, led to an increase in domestic consumption with many Amazon states at the top of the per capita consumption rankings (ibid; see Hoelle 2017 for an anthropological focus on local meat consumption in Acre).

From 1970 to 2006 grain production in the Cerrado expanded from 8 to over 48 million tons. Between 2000–2016 it more than doubled from 80 to 190 million tons and led to the expansion of agricultural land area from 370,000 km^2 in 2000/2001 to about 570,000 km^2 in 2014/2015 (Viola and Franchini 2018). The area for soybean production alone expanded from just under a million to over 23 million hectares (Nehring 2016). According to Schierhorn et al. (2016), land for soy production has replaced pasture since the early 2000s because of higher demand and greater profitability, pushing pastures to the deforestation frontier. Between 1990 and 2020 the area dedicated to soy cultivation has more than tripled, from 11 million hectares to over 36 million hectares, mostly replacing native ecosystems and smallholder farming (Bastos Lima 2021: 6). Brazilian soy is mostly sold as animal feed to China and Europe (ibid). The *reprimarization* of the Brazilian economy, the dominance as primary commodities as the main source of export revenues, aided by high investments in mining, extraction and agriculture to increase exports, has been noted with concern by actors abroad and at home (Toni 2015 and Bastos Lima 2021).

There are several multi-stakeholder initiatives such as the Round Table on Responsible Soy (RTRS) or Bonsucro (the former Better Sugarcane Initiative) in which large agribusiness actors are represented and Bastos Lima (2021) therefore argue that the push for the 'bioeconomy agenda' (see next section) has essentially supported the consolidation in the hands of corporate agribusiness at the expense of smallholders. The next section introduces a selection of landmark environmental initiatives and trends in Brazil.

5.3 Selected Climate and Conservation Initiatives and Green Finance Trends in Brazil

In the past deforestation has been responsible for the bulk of Brazil's emissions and international as well as domestic pressure led the government to act in the early 90s and to amend the main environmental legislation: the Forest Code. As an outcome the private use of land, particularly in the legal Amazon was restricted heavily, with landowners having to set aside 80% of their properties for conservation. However, the decline in deforestation was only temporarily. Within two years deforestation rates were on the rise again until they reached the 1995/1996 peak levels in 2005 again, revealing the difficulties to enforce the Forest Code (Toni 2015). The next emergency measures taken by the government and the Minister of the Environment Marina Silva were the creation of a large network of Protected Areas around deforestation hotspots, a fire monitoring system and restrictions for access to credit in municipalities with the highest deforestation rates (Toni 2015, Nunes and Peña 2015). Assunção et al. (2019) show empirically that the restrictions in access to rural credit as a result of the Brazilian Central Bank Resolution 3.545 (2008) has reduced deforestation rates. The PPCDAm, the legal centrepiece of the new policy, cannot be underestimated in its role for the decline in deforestation rates. It regulates the cooperation among the different levels of government in the combat of illegal deforestation and coordination of these actions by the federal government (PPCDAm 2003) (see 7.4.1).

However, apart from deforestation policies Brazil first engaged in GHG mitigation policies through the implementation of its ethanol programme, even before GHG emissions reduction became the rationale. The main motivation of the ethanol programme was energy security when it was launched in 1970. After its relaunch in 2003 it witnessed a new and huge investment cycle driven by oil prices, energy security considerations as well as climate change concerns (Buen and Castro 2012). Beyond its merits as a replacement for fossil fuels, the ethanol programme was also a subsidy programme for the powerful sugarcane sector which is dominated by landed elites in the face of low commodity prices and market challenges. When sustainability and climate change concerns gained prominence, the sector was able to reach scale quickly; a similar development followed with the biodiesel policy of 2004 which was soon dominated by established soy agribusiness actors (Bastos Lima 2021). Being the second largest biofuel producer country after the US, Brazil is the only country where more than 10% of the energy used in the transport sector is renewable (ibid).

Bastos Lima (2021) emphasizes that the 'bioeconomy transition' concept–in Brazil it mostly refers to bioenergy - gained broad support in Brazil from both economic and political actors and was readily embraced by the agribusiness sector. It supports a framing of the sector as a provider of foodstuff for the world, biobased goods and environmental services thanks to its technological advancement despite reprimarization and deindustrialization trends. This framing is being presented with prime-time commercial adds appealing to the pride of Brazilians and aiming to help Brazil to join the OECD (ibid). Chapters 7 and 8 show how this blends well with discourses around nationalistic grandeur.

Despite its domination by sugarcane, soy and cattle agro-industrial conglomerates, the bioeconomy concept has been gaining momentum and broad support in Brazil, including from scientists and government agencies (Bastos Lima 2021). The landmark biodiversity law of 2015 (13.123/2015) promotes the use of native flora and fauna for cosmetics, pharmaceuticals etc. but at the same time poses hurdles for public research and use by local smallholder and indigenous actors due to high bureaucracy costs. A very recent law has been issued on Payments for Ecosystem Services (PES) (Law 14.119/2021, ibid).

The Pilot Programme for the Protection of Tropical Forests in Brazil (*Programa Piloto para a Proteção das Florestas Tropicais do Brasil*, PPG-7) and the Amazon Region Protected Areas Programme (*Prográma Áreas Protegidas da Amazônia*, ARPA) are two large conservation initiatives in the Amazon region. The PPG-7 is discussed in detail in Chapter 7. The ARPA was a programme financed by GEF, the German government, the Amazon Fund and WWF, led by the MMA and managed by the Brazilian Biodiversity Fund (Funbio) for 13 years from 2002. It financed the creation and the management of 60 million ha of protected areas in the Amazon.[5]

Marina Silva, Minister of the Environment from 2003–2008 under President Lula, can be seen in this tradition of forest conservation and creation of protected areas. In the 1980s she had helped create the rubber tappers' movement in the Amazon region; she is an important figure of the social-environmentalist movement and promoter of the socio-ambientalismo discourse discussed in detail in Chapter 7. Together with Chico Mendes she developed the concept of 'development with standing forest' (*de-*

[5]MMA 2012: http://arpa.mma.gov.br/en/what-is-arpa-3/, last accessed 1.12.2020.

senvolvimento com a floresta em pé) as opposed to a development model based on the exploitation of natural resources and deforestation. Silva had been an important representative of environmentalists in the National Congress and also wielded great influence in the PT. Her appointment – though proposed by a campaign of NGOs soon after Lula's election as president - came as a pleasant surprise to environmentalists). Her strong roots in the environmental movement as well as the Workers Party granted her influence in both camps, however, this was also a constant source of tension when she became minister. She left the Ministry and the PT in 2008 and ran for President for another party in 2010 (Abers and de Oliveira 2015). Under her term as Minister of the Environment Brazil drastically widened conservation activities and tackled deforestation with a concerted set of measures (see Chapter 7). Silva was the first to create a Climate Agency inside the MMA for the first time. During her administration the Action Plan to Combat Deforestation and Forest Degradation in the Legal Amazon (PPCDAm) was launched. This flagship policy allowed for a concerted effort of all branches of government together with the judicative to go after illegal loggers and enforce Brazilian law in the Amazon. As a result, deforestation rates declined over several years (see Chapter 7 for details).

Brazil was the first country to have an approved Clean Development Mechanism (CDM) project and the first approved CDM methodology was also Brazilian (Friberg 2009). Brazil alone captured 45% of all CDM funding for Latin America in 2012 (CDM UNEP Risoe Pipeline) with most of these revenues being generated from cement plants, sugar mills for biofuel production and small-scale hydropower (see Boyd et al. 2009, Edwards and Roberts 2015). The World Bank Partnership for Market Readiness (PMR, now called the Partnership for Market Implementation, PMI) supports studies on carbon pricing and discussions about carbon pricing and a domestic carbon market and/or cap and trade scheme have already been underway since 2009 but still in early stages (Oliveira et al. 2019).

With regard to forest carbon Brazil opposed a market mechanism for REDD+ arguing it should be financed by public funds as compensation for historic emissions by industrialized countries (Carvalho 2012); nevertheless, there are several sub-national REDD+ initiatives (for example in Acre, Sills et al. 2014). The Amazon Fund is a national fund that channels international and domestic forest-related climate finance to national and sub-national actors, functioning as a financial mechanism for REDD+ (see Chapter 7). In 2019 the GCF approved its first REDD+ results-based payments pro-

gramme (FP 100), supporting the implementation of Brazil's REDD+ strategy. [6]

Until now the Amazon Fund is the most prominent element of Brazil's climate finance landscape, also due to the international involvement that includes the notable pledge of 1 billion $US from Norway. Its establishment (1) has involved all the key actors in Brazil's climate policy, including Amazonian states, nongovernmental organizations (NGOs), academia, the federal government and (2) was influenced by the discourses around deforestation, climate policy and climate finance of that time (see Chapter 7). The portfolio of the Amazon Fund thus includes projects with agrarian reform settlers, to address the interactions discussed in 5.2.

After the inauguration of the new administration under President Bolsonaro the federal government launched a series of attacks on the Amazon Fund; the new administration is particularly concerned about the strong role of NGOs and international donors and draws heavily on a discourse about national sovereignty (see Chapter 7, see Mayer Pelicice and Castello 2021 for the main changes regarding Amazon conservation during the first two years of the Bolsonaro government).
The National Climate Fund, financed by Petrobras and the Brazilian government, supports mitigation and adaptation activities across the country through grants and loans (Chapter 6). Several Brazilian Banks such as the *Caixa Econômica Federal, Banco do Brasil* or BNDES have dedicated credit lines for reforestation, renewable energies, energy efficiency, low carbon agriculture as well as for climate change adaptation (UNEP, FGV, Embaixada Britânica 2010).
The ABC Programme for Low Carbon Agriculture is not widely known beyond Brazil although its financial volume is significant. Nevertheless, the investments for low-carbon agriculture are still low compared to total agricultural investments (Aamodt 2015). The ABC Programme focuses on the interface between land use and climate change; it is financed by Brazilian banks and open to the private sector (see Chapter 8).

More broadly, sustainable finance considerations have received heightened international attention in recent years and efforts for international harmonization are underway (see for example the EU and Chinese taxonomies and disclosures and the work of the International Platform on Sustainable Finance). Brazil has a legacy of sustainability regulations for the financial system with the milestone regulation (Resolution CMN 4.327) introduced in 2014. In 2020 Brazil's central bank BCB joined the *Central*

[6] https://www.greenclimate.fund/project/fp100, last accessed 16.03.2021.

Banks and Supervisors' Network for Greening the Financial System (NGFS) and subsequently announced to integrate sustainability into the bank's strategic plan and future regulatory changes. BCB also recently joined the *Laboratório de Inovação Financeira* (LAB), the biggest national platform for innovative and sustainable finance and is the first South American member of the *International Network of Financial Centres for Sustainability* (FC4S) (Teixeira and Rink 2020). Federal Decree No. 10,387/2020 extended the list of sustainable infrastructure projects eligible for issuing incentivised debentures in Brazil. Brazil is also one of the largest green bond markets in the region with 55 bonds issued totalling USD 10.2 billions (ibid).

Chapter 6

Governance Structures in Brazil: the Possibilities and Constraints of Governing Brazil's Environmental Resources

6.1 Introduction

This first analytical chapter investigates how several key factors impact on Brazil's (environmental) policy-making. It first outlines the factors guiding and constraining it that are inherent in the political system. This includes the practice of 'pork-barrel politics'.[1] It further discusses agenda-setting powers through internal rules of the legislature, and shows how the executive gains ideological power through a set of instruments in the political process which enable it to disseminate its discourses, gaining support for its climate policy and the set-up of national climate funds.

Drawing on political economy and rational choice institutionalism, my conceptual framework considers the rationality of actors to take decisions in a given political environment. Actor rationalities lead to actors becoming involved in certain issue areas, and the framing applied leads to certain ideas being realized in the political realm, while others are not (see figure 2 in the conceptual framework, section 3.4). This lens helps me to understand the conditions under which political actors in Brazil pursue certain objectives which might lead to – at first sight - surprising results. This framework further helps me to show how actors do or do not influence institutions (for example

[1] Pork-barrel politics refers to spending or office appointments which benefit one's constituency.

state governors and other legislative veto players influence the party system and policy outcomes). Institutions such as legislative internal rules, the electoral system or executive instruments influence actors such as the president, political parties and interest groups (see figure 1 in conceptual framework, 3.4).

Brazil has been characterized as 'ungovernable'[2] by earlier literature (for example Almeida 2001) due to its electoral system, the federal structure and weak parties, leading to a large number of veto players. There is an ongoing debate about Brazil's alleged ungovernability in comparative politics (see for example Figueiredo and Limongi (2016, 2000) and Power 2010, see also Hochstetler 2017a on the connection with environmental policy making) which is blamed for the practice of 'pork barrel politics', evident everywhere. Ungovernability is hereby understood as the federal government's real or supposed difficulty in fulfilling its agenda, especially regarding monetary stabilization, the adjustment of the public sector, and economic reform (Almeida 2001). Nevertheless, the Workers' Party (PT) administration under President Lula da Silva (2003 - 2011) created a discursive setting which enabled the creation of a low-carbon policy and three national climate funds. This is in agreement with Hochstetler's (2017) expectations of Brazil's coalition Presidentialism; she found that environmental policies were influenced more strongly by the visions of the presidents and much less by economic development or outside factors such as international policy diffusion (ibid). The PT administration realized a progressive climate policy agenda. My analysis shows that in doing so the PT drew heavily on executive instruments and thereby avoided confrontation in Congress. It also used participatory tools to spread its discourses and create legitimacy for executive proposals. My analysis finds there are a number of federal executive rights and legislative instruments to fulfil the federal agenda, some of which allow the avoidance of pork-barrelling (see in particular 6.2.5 and 6.3.1).

This chapter draws on secondary and interview data and mainly addresses research question 1 (How is the governance of climate policy and finance carried out in Brazil?), but extends to research question 2 (What ideas are being constructed by whom?) and also question 3 (How do actors ensure that certain ideas are enacted and enter the policy realm?). The chapter relies more on secondary sources than the interview data, which are applied more in the following two chapters. Following an initial hypothe-

[2] Examples of this alleged ungovernability are fiscal wars between states; the difficulty of implementing effective anti-inflationary measures before 1994; complications of fiscal adjustment negotiations between the federal government and state governments, including the situation of the state banks and the equalization of states' debts (Almeida 2001).

sis, I collected interview data on the question of whether the nature of the legislative or executive decision-making process affected the development of the Brazilian climate funds. While this hypothesis was not confirmed, the interview data revealed an interesting pragmatism in Brazilian environmental policy-making, rooted in a set of special Brazilian features such as the above mentioned executive instruments and participatory tools for preparing discourses and gaining legitimacy for policies. I have complemented and substantiated this finding with document and literature analysis.

The chapter has three main sections below. Section 6.2 starts by analysing the possible influence of the political system (mainly presidentialism and multipartyism) on the emergence of ideas and discourses, and on the establishment of national climate funds. It then introduces the relevant veto players (originating from the powers of the president, federalism, parties and the electoral system), as well as legislative and executive instruments, that help explain the enactment of certain policy ideas (RQ1). In section 6.3 I discuss implications for environmental policy-making, climate policy and climate finance. This includes the revision of the Forest Code, an example of how Congress pushed back policy-making through the Executive and a clear victory of the ruralists and a reaction to the side-lining of Congress (RQ2 and 3). I discuss conferences and councils as participatory tools which disseminate discourses and provide legitimacy to executive policy-making, avoiding the legislature. I finally briefly elaborate on the legislative or executive process under which the three national climate funds were created (6.4). Of the three national climate funds, the Amazon Fund, the National Climate Fund and the ABC Programme, the subsequent analysis in Chapters 7 and 8 will focus on the Amazon Fund and the ABC Programme for Low Carbon Agriculture.

6.2 Factors of (Un)governability and (In)Stability

The purposes of this section are to i) demonstrate the degree of decentralization, the rather fragmented nature of Brazilian politics between national, regional and local levels, and ii) introduce the different political actors, veto players and the resulting complexity of the political economy, as these do not determine, but influence the possibilities for actors to establish institutions relating to environmental governance. These framework conditions and veto player constellations, among other things, are identified by this thesis as an explanation for the different design of Brazil's national climate funds, although not a determination.

6.2.1 The Political System

Brazil is a presidential democracy with a multiparty system and a bicameral Congress (House of Representatives and a Senate). Its major structural components are a strong presidency, multipartyism, proportional representation, federalism, and coalition governments (Abranches 1988). Such a pattern requires additional conflict management mechanisms, as government coalitions based on very heterogeneous interest structures are extremely unstable (ibid). The presidential democratic systems in Latin America are traditionally thought to have a major predisposition for political gridlock between the president and the legislative bodies (parliaments). They have many more veto points compared to parliamentary democracies which makes passing ordinary legislation complicated, and constitutional amendments even more so (Nolte and Schilling-Vacaflor 2012).[3] Policy proposals threatening to change the political economy of a country, such as a progressive climate policy, can be expected to be particularly complicated and hard to realize in this context.

Bicameralism and Presidentialism

The two chambers in the Brazilian Congress share legislative powers which means they have to agree on a legislative proposal before it can be passed as law. The executive[4] acts as the agenda-setter, formulating policy initiatives and executive proposals, but is not involved in the formulation of laws, which originate in Congress. Congress therefore is the agenda-setter on the legislative side. The president can veto laws or their individual clauses, but Congress can only veto the whole of a presidential decree and not individual clauses and is not involved in decree formulation (Interviewee 76F (AC)). Once a bill has been passed by Congress it applies to the entire federation, including subnational governments. The state legislature has very limited powers to influence a bill once it has been passed (Arretche 2012) (a number of environmental competences, however, remain at the state and local levels). The chambers of Congress are thus a partial substitute for other forms of intergovernmental relationship. It is common practice that all relevant issues are introduced in the form of legislative initiatives and are put on the legislative agenda (ibid).[5] One might expect that climate policy and climate financing instruments would be presented as legislative initiatives, but they

[3] Constitutional amendments require a three-fifths majority in both chambers during two sessions within the same legislative period (ibid).

[4] The executive includes the president, governors, and mayors, but here I refer to the president and his/her cabinet.

[5] When subnational units cannot influence federal legislation, they can take it to court. However, the Supreme Court generally rules in favour of the Federal Union (Arretche 2012).

were not in every case (see section 6.4).

The strong presidential tradition is characterized by a high propensity for conflicts of interest, cutting the class structure horizontally and vertically to reveal inter- and intra-regional cleavages (Abranches 1988). Brazil's system of 'coalition presidentialism' (Power 2010, Abranches 1988) is said to be prone to instability compared to other countries (Abranches 1988). The question here is what this means for environmental and climate policy. A likely solution in this situation with diverging interests is a large coalition with a large number of partners and greater ideological diversity. However, although this increases stability, the complexity of negotiations is greater and requires institutional mechanisms and procedures to resolve conflicts, complementary to the representative framework of a liberal democracy (ibid). A coalition's instability can directly affect the presidency. In Congress, polarization tends to create 'veto wars' among coalition and party factions, raising the likelihood of decisive paralysis and consequently disruption of the political order. As a result, the president may become the captive of his/her party's will; alternatively, the president could decide to face the party and confront parliament, which can result in the submission of Congress or the submission of the president, subverting the democratic regime. This ever-present risk destabilizes presidential authority itself (see the impeachment of Rousseff as a recent example), suggests a certain degree of instability and competition between the legislature and the executive (both veto players; ibid), and a difficulty in realizing complex political projects.

Government initiatives for a national climate law with binding mitigation targets for the national economy, the subsidisation of Low-Carbon-Agriculture (through the ABC Programme), or conservation measures through the Amazon Fund in certain regions, might trigger resistance or covetousness on the side of the veto players, particularly the ruralist benches in Congress (*bancada ruralista*, see Chapter 7 and 8). However, these projects passed quite smoothly, and my analysis will show how and why. But first another key factor will be introduced: federalism.

Federalism

Federalism is a set of political institutions with a combination of two principles, self-government and shared government (Almeida 2001). A federation is a form of political organization in which national and subnational governments are independent in their own spheres of action. Federalism is characterized by both power conflicts and nego-

tiation between these spheres of government. (ibid).

Brazilian federalism shows one of the highest degrees of decentralization in the world, exceeding all other Latin American countries, having more similarities with the US, Canada and Germany (Samuels 2003). It combines decentralized federalism and diverse regional societies, due to Brazilian states' very different political histories, economic development and demographic profiles. The human development indices of the richest states are nearly 50 per cent greater than those of the poorest (Desposato 2004). The cultural and ethnic differences across states are also significant: the northeast is predominantly Afro-Brazilian and the Deep South includes descendants of Japanese, German, and Italian immigrants, making Brazil an extreme case of federalism (Desposato 2004). Maintaining territorial integrity has been a central and recurring issue on the political agenda since Brazil gained its independence in 1822 (Almeida 2001) (see Chapters 7 and 8). Federalism can also be seen as the elites' institutional response to the challenge of keeping together a country with strong localist traditions inherited from the colonial period (ibid). This still has implications for policy-making in Brazil's bicameral legislative system.

Brazil's federalism is asymmetric, since state autonomy does not offer the same latitude to all federation members but varies according to the financial, military and political conditions of each state (Almeida 2001). Different state population sizes, however, are not proportionately represented in both chambers (ibid; Nicolau and Stadler 1997). While distorted representation in one of the legislative chambers is characteristic of all federal systems (Lijphart 19992), in Brazil this distortion in both the Senate and the Chamber is unusual (Nicolau and Stadler 2016). Each of the 26 states and the federal district Brasília have three seats in the Senate (Senado). Distorted representation has been a problem for the Brazilian Federation since at least 1945, increasing the power of conservative and rural elites by means of political artifice (Almeida 2001).

Samuels (2003) argues that the institutions of federalism shape political ambition and strengthen state-based interests in Brazilian national politics. Not only the senate but also the chamber of deputies is impacted by federalism: deputies are nominated and elected in multimember constituencies that conform to state boundaries. Unlike in the US chamber, deputies do not simply represent an institutionally disembodied district but a state. As a result, state-based political pressure affects deputies' rationalities and behaviours. Many deputies seek positions in state governments before, during and after serving in the Chamber. This can explain why they tend to favour state-

based political interests in Congress. But does this mean that national climate policies and national climate finance institutions are difficult to establish? Or only if they do not oblige the states to implement these? And do states act as veto players?

Brazilian governors have a lot of influence on deputies and they may also dominate municipalities. Because of their large influence, presidents often deal with governors directly, rather than the deputies, to discuss 'pork-barrel' resources in exchange for political support. Very few deputies build long-term careers within the chamber, as can be seen by the very high turnover in the Chamber of Deputies. At the start of each new legislature, on average 80 percent of all deputies are either newcomers or have served only one prior term (Samuels 2003). On the other hand, many parliamentarians under Lula had a previous political career in local or state politics (Galvão 2016).

The constitution's central objective of the legitimation of the new democratic order has placed Congress and local and regional politicians at the centre of the decision-making process, and many veto players are jamming the political agenda with their contradictory demands (Almeida 2001). Most state government budget and policy authority is centralized in their executives, making state governors the most powerful of subnational actors. Governors may use pork barrel politics to reward and punish federal legislators behaviour and control access to state jobs (Desposato 2004).

While Brazilian presidentialism is characterized by weak checks and balances due to the comparatively weak other branches of government (dubbed as the hyperpresidentialism of Brazil) (Hochstetler 2017a), the need to strike coalitions with Brazil's dozens of 'undisciplined' parties (see next section for elaboration) and pressure from state level complicates policy making in general and environmental policy making in particular. But this was not the case in the era of the Workers' Party and the creation of the Brazilian climate funds. One would have expected states to challenge the federal initiatives on climate change policy in Congress when it would incur costs for them, but this is not what happened (see 6.3 and 6.4). Many votes at the federal level deal with national and administrative questions that are not likely to mobilize pressure from state interests, and state effects are thus non-existent in most bills. On some issues, however, powerful and significant influence may be exercised. Anticipating this, Brazilian presidents frequently negotiate to secure the support of regional actors before introducing new legislation. For example President Lula da Silva negotiated a set of social security and tax reforms with governors before introducing them to Congress and then, in a highly symbolic gesture, delivered the reforms to Congress

in the presence of all 27 governors (Desposato 2004). As another example, Cardoso made alliances with state governors to cut down on the time and expense of dealing with the nearly 400 deputies in his potential coalition on each vote. He convinced the state governors to lobby the deputies from the states on his behalf, promising that federal rewards ('pork') would go to the governors rather than the deputies (Desposato 2004). Samuels (2003) therefore calls the state governors the 'fourth branch' (ibid).

The federal system of the 1988 constitution, with state governments holding a lot of influence (Almeida 2001), is thus one factor explaining the barriers to the country's smooth governability. According to this interpretation the following assumptions can be made: state governors: 1) become powerful national actors by controlling the state benches in Congress; 2) seek to prioritise state interests so do not cooperate with each other; and 3) do not cooperate with the federal government, mainly by using their veto power. Governors not only exercise unchallenged power in their states but are also able to block reforms proposed by the federal government that may threaten the powers that they acquired during democratization (Almeida 2001).

Beyond the veto player constellation, Brazil's federalism has repercussions on its environmental policy. Since the democratization following the 1988 constitution many responsibilities and resources have been shifted to the state and municipal levels. While increasing the veto points it also allows for democratization of issues as inputs from more societal actors are possible. In the environmental realm, responsibilities are shared, and deliberation required as the constitution often does not clearly delineate mandates. And even within the same policy area, procedures differ from one state to another. In addition, states can create additional governance levels, such as metropolitan regions with environmental competences. Approaches to environmental governance and capacities to implement them thus widely differ across Brazilian states and regions (Hochstetler and Keck 2007).

The Electoral System

Brazil's electoral system is another factor that is often claimed to be responsible for instability and problematic governance processes. The electoral system is one of the most complex components of a country's political system (Samuels 2003) and Brazil's is considered particularly complicated (Interviewee 76F (AC)). It is bicameral at the national level and unicameral at the state level. Brazil has an open-list proportional representation system (OLPR). Some parts of the legislature (the House of Representa-

tives (Câmara) and subnational chambers) are elected proportionally for 4 years; while the other part of the legislature (the Senate) is elected following majority (so called first-past-the-post) voting for 8 years. The executive is elected by a simple majority (Nicolau and Stadler 2016). The Presidential elections are the most important elections with two rounds for a 4-year term, senators, governors and mayors of large cities are also elected in two rounds by simple majority. The open-list proportional representation system causes many problems, because votes for individuals strengthen the personal relationship between voter and representative, but weaken parties' control of their deputies (Interviewee 76F (AC)) and leads to a high degree of individualism (Samuels 2003). As a consequence of this electoral system roughly 90% of votes go directly to candidates, and only a few per cent to parties (Nicolau and Stadler 2012).

The electoral system leads to multiple fragmented and undisciplined parties, with party leaders unable to fully control their deputies votes (Alston and Mueller 2006). No party ever controls more than 20 percent of the seats in Congress (Viola and Franchini 2012). Presidents therefore face high costs in getting their proposals approved.[6] According to this view any political reforms are almost impossible to realize (Interviewee 76F (AC), Power 2010)[7], and notably progressive climate policy could be expected to be difficult to implement. On the other hand, authors such as Alston and Mueller (2006) argue that it is possible to govern under such a system, although the application of pork barrel politics is widely required. Their argument is that it is very difficult to negotiate within Congress because the electoral system provides an incentive for federal deputies to defect from the party line and drive a hard bargain via pork-barrel politics.

6.2.2 The 'Parties Do Not Matter' Argument

A weak and fragmented party system with limited party discipline can also make coherent policymaking difficult and the resolution of conflicts challenging (Hunter 2003), creating challenges for developing a stringent climate policy and dedicated climate funds. Brazil's weak political parties have been identified as a risk for regime failure (Desposato 2004). Party discipline is weaker in all presidential systems because it does not require disciplined parties to elect a government and keep it in office. But it has been argued that it is particularly low in Brazil because the president and national

[6] See for example Mainwaring (1999), Ames (1995, 2001), Mainwaring and Shugart (1997).

[7] Although Nicolau and Stadler (2016) point out that the fact that the reform of the political system (*reforma política*) has been on the political agenda since the 1990s and that it has not taken place yet should not be mistaken for its impossibility.

party leaders lack resources to force their backbenchers to vote or to punish defection (ibid).

The 'parties do not matter' - for deputies' rationality - argument is not just derived from the electoral system, but also relates to the Chamber of Deputies (Interviewee 76F (AC)). The argument is that parties matter little because the deputies depend only on themselves for election. My data, however, suggest that this is not totally true. It is true in terms of the order of the electoral list, which is defined by individual votes (Interviewee 76F (AC)), but the number of seats is determined by the sum of the votes for a party's candidates; too much intraparty competition among candidates vying for a place on the list can lead to fewer votes for the party and negative consequences for all candidates (Interviewee 76F (AC)).

Brazil's party system is still influenced by the dictatorship that lasted until 1985 (Interviewee 6E (GOV)).[8] A stark difference to the military era, however, is the lack of party discipline. During constitutional reform in the late 1980s, deputies reacted to previous centralised authority and decided to abandon the party discipline that was enforced under the military regime (Mainwaring 1999). The 1988 constitution decentralized political and budgetary authority to state and municipal governments, and this fiscal decentralization was matched by political decentralization. Nominations for most political offices, electoral coalition formations, and the distribution of free media time for campaigns take place at the subnational level, enhancing local politicians' influence over national legislators (Desposato 2004).

The legislation inherited from the military period that favoured disciplined parties was also abolished soon after the transition to democracy and weakened party leaders and reduced executive control over parties. Mainwaring (1999) argues that Brazilian politicians chose to allow for loose parties because they already depended on patronage from the president and the governors for survival. Many governors dominate the parties that support them, and so deputies seek not to be tied down by a party as a reaction to this dependence. In this logic, loose parties best enable them to represent

[8]The military era had only two parties: the ruling party, Arena, and the opposition party, Movimento Democrático Brasileiro (MDB). The MDB - which is the original name but renamed to PMDB subsequently - is now a very heterogeneous party. Although it is one of the major parties it has no clear ideology due to its mixed origins. It has functioned as a balancing factor since the end of military rule, often guaranteeing the country's governability, for instance in 1994 when Fernando Henrique Cardoso (PSDB) was elected president. When the Workers' Party (PT) formed the government after the 2002 elections it was again the PMDB that supported the government and guaranteed governability, as the PT is small in relation to the '*the scale of the challenge of governing Brazil*' (Interviewee 6E (GOV)).

their local constituencies.

Brazil's national party leaders lack the usual carrot and stick mechanisms, such as nominations[9] or financial resources for campaigning, needed to discipline members (Desposato 2004). More curiously, Brazilian legislators do not seem to value the few resources national parties have, or the committee appointments which can be valued or status positions in other systems (ibid). The electoral system encourages politicians to develop personal constituencies because it is not the party leadership that designates the order of the ticket (Interviewee 76F (AC), Nicolau and Stadler 2016). Brazilian parties do not have strong or clear ideological bases (Interviewee E6 (GOV), Interviewee 55H (AC), Ames and Smith 2010, Viola and Franchini 2012) and so the degree of loyalty within can be low (Mainwaring 1999). This allows political newcomers to disrupt the political landscape (see textbox 2).

Party leaders however do have power: they meet with the chamber president to establish the legislative agenda, they have extra office space, and their own staff. Most of the agenda-setting and decision-making powers of parties are concentrated among party leaders and in the hands of members of the mesa diretora, the board of directors (Interviewee 76F (AC), Samuels 2003). But there are only as many positions as there are parties represented in the parliament. All other deputies that do fail to seek one of those few positions within the Chamber are described as *baixo clero*, the '*lower orders of the clergy*' (Samuels 2003: 44).

Textbox 2: Political newcomers and the rise of the Workers' Party

Luiz Inácio Lula da Silva of the PT won the 2002 presidential elections against José Serra, the candidate for the PDSB. Da Silva had been an outsider to Brazilian politics, breaking the pattern since the post-authoritarian period beginning in 1985. The first post-military president, José Sarney (1985–1990), had been a leading member of the official military-era government party, as was his successor, Fernando Collor de Mello (1990–1992). Fernando Henrique Cardoso, senator of the opposition party MDB during the military

[9] Legislators in the Chamber of Deputies are guaranteed re-nomination to their party lists under the 'birthright candidate' (*Candidato nato*) rule, which means that incumbents' names are automatically placed on the ballot, regardless of their voting records (Deposato 2004; Samuels 2003). This makes it difficult for party leaders to punish incumbents by limiting ballot access. Party-switching is also commonplace.

rule, played a leading role in brokering Brazil's democratic transition, compromising with the outgoing regime. Unlike Lula, all three were members of the elite in a class-conscious society (Hunter 2003).

Once elected into power observers expected the PT to cause a historic shift in Brazilian politics as a programmatic leftist party that championed popular participation, accountability, and redistributive change, supplanting the political clientelism, social elitism and technocratic policy-making for which Brazil had been known (Hunter 2003). And where they had won the city halls, the PT did introduce participatory budgets and governance methods at municipal level (Abers 2000). At the federal level, the PT often side-lined the Congress (see 6.4).

Souza (2011) argues that Lula engineered a political realignment aimed at forming a new majority in Brazilian politics by changing social policies to boost his popularity with the poor. The PT voting base shifted from his traditional stronghold in the urban industrial South and South-east regions to the impoverished municipalities in the North and North-east, where many households benefited from the Bolsa Família programme, a social welfare programme providing financial aid to poor Brazilian families which had reached twelve million poor families by the end of Lula's second term. This was decisive in the 2006 re-election because middle-class voters had meanwhile distanced themselves from Lula and the PT. Lulism was mostly a personality cult focusing on the ex-president rather than his party. When, Dilma Rousseff (PT), Lula's successor ran for president in 2009, she promised voters that she would continue Lula's work, notably *Bolsa Família* (Souza 2011).

In the most recent elections in 2018 Lula still played a decisive role. A corruption scandal (the *mensalão* scandal, Galvão 2016) and a subsequent court sentence – that has since been described as politically motivated and has therefore been overturned - as well as his late resignation and endorsement of PT candidate Fernando Hadad as his successor probably cost the PT the victory and opened the way for the presidency of Jair Bolsonaro.

Brazilian politicians do not obtain electoral resources from national parties or pres-

idential candidates, but from state-level connections. They have little incentive to coordinate around national parties or line up behind strong presidential candidates (Samuels 2003). As a result Brazilian presidents must construct coalitions that are as broad as possible because they cannot count on their own party's support.

The party system does not inevitably lead to 'ungovernability', and in fact has recently stabilized (Amaral and Meneguello 2017). Many political projects of the executive are also not likely to raise opposition, and for controversial projects the executive organizes its support in advance. This meant that when the government wanted to develop an ambitious climate policy, it could do so, but it had to take other interests into account.

Despite the lack of ideological foundation for the majority of Brazilian parties, there is a recent development described for example by Samuels and Zucco (2018) who add additional conceptual detail to the classic partisan-nonpartisan nomenclatura by developing their classification scheme of 'hardcore partisans' (those who like a party and dislike others), positive partisans (those who like a party without disliking others), 'antipartisans' (those who dislike one or more parties without liking another party), and nonpartisans (those who are indifferent towards parties in general). With the help of this conceptual framework they argue that the PT was indeed able to gather unexpectedly large levels of mass mobilizing civil society and created a social identity around '*petismo*' and strong loyalty to the PT (ibid, Amaral and Meneguello 2017). But once this had become widespread, an 'antipetism' also developed as a reaction. They observe an increased number of '*petismo*' during the terms of Lula and a rapid demise during Roussef's first term due to the negative perception of the PT's performance in office. The authors suggest that once established, these attitudes translate into consistent voting patterns (and are different from those of nonpartisans) which can be used to explain the election of Bolsonaro as 'antipartisans' share several characteristics of partisans such as being highly motivated and mobilized while being undemocratic in their rejection of parties in general (ibid). As the Brazilian political system relies on direct votes at federal, state and municipal levels, voters have the power to shape both executive and legislative electoral outcomes (Amaral and Meneguello 2017: 32).

6.2.3 The 'Pork for Policy' Practice

Pork barrel politics appear to be widespread in the legislature and cabinet appointments are another mechanism for rewarding legislative behaviour. Party leaders pro-

viding a cabinet member will then have more means of disciplining their party (Alston and Mueller 2006). Influential individuals who bring with them the support of several Congressmen are directly appointed. Cardoso has even been explicit about this mechanism in the media, '*making it well known that the appointment remain[s] contingent on continual support in Congress*' (ibid: 8). Coalitions are often struck based on the distribution of patronage and benefits rather than on political programmes (Interviewee 6E (GOV)). Coalitions at the national level are created by first negotiating the Cabinet appointments among parties that agree to support the president's legislative agenda. For example, the Ministries of Agriculture and Environment have usually been allocated to conservative parties or influential groups (Interviewees 6E (GOV), 66M, 55H (AC); Viola and Franchini 2012; see also Chapters 7 and 8).[10] But the leverage of the Brazilian Executive via patronage goes well beyond the ministry level, as it controls over 40,000 jobs throughout the country from Cabinet positions to second- and third-ranking jobs (Alston and Mueller 2006).[11] Some of these positions are appointed to longstanding members of Congress, '*suggesting that time spent in Congress is an investment made to secure an executive appointment'* (ibid: 8).

When cabinet control is not enough, the president can try to assemble a working majority vote by vote by trading 'pork' for support. After the executive submits a legislative proposal for a bill to Congress the legislature has the right to amend it. According to Alston and Mueller (2006), the 'pork barrel' is introduced at this stage, as many of the amendments entail benefits for legislators' districts. After Congress as a whole has amended a bill, the budget goes to the Combined Budget Committee which '*prunes out some pork*' (ibid: 7). Then the bill goes back to the president, who has the power of line-item veto and therefore decides which amendments are to be executed. Thus, the president has enormous power to reward or punish legislative behaviour. This power is used strategically (Ames 1995).

The prediction that legislators seek access to 'pork-barrel' goods is based on the re-election rationality assumption (Samuels 2003). This, however, is disputed. Samuels (2003) for example argues that they engage in 'pork-barrelling' because they want to leave the legislature and improve their chances of winning a position outside. Deputies therefore do not spend a good deal of their time 'pork-barrelling', but rather see the

[10] Marina Silva's sustainability network must be acknowledged as an exception, as it was based on a coherent programme (Interviewee 6E (GOV)).

[11] Hochstetler and Keck (2007) speak of about 20.000 federal jobs (*cargos de confiança*), opposed to for example around a dozen jobs in the prime minister's gift in the UK (ibid).

Chamber as a springboard to higher office (Samuels 2003).[12]

According to these arguments one could expect the executive to have problems realizing its agenda and passing substantial policy projects, especially in relation to introducing low-carbon development pathways and the implications for cutting greenhouse gas emissions and changing dominant economic practices. According to Alston and Mueller (2006), however, Brazil's presidents have not only achieved high levels of success in the legislative arena but have also done so at relatively low cost, using their control over agendas and patronage to pursue policy and stressing the trade-off between policy outcomes and patronage. This means that the outcome depends on how both members of Congress and the president value patronage (in other words perception of the gains of trade). In their article 'Pork for Policy' Alston and Mueller (2006) argue that mutually beneficial deals are struck between the executive and the legislature. They identify several relevant power parameters, arguing that as a result the president actually dominates the legislative agenda in terms of both timing and content. The president's proposals are rarely defeated by the legislature, even though Congress as a whole has the power to veto executive proposals and even to change the rules that underpin the executive's power. The majority of Congress apparently sees the current practice as beneficial (ibid).

6.2.4 The Internal Rules in the Legislative Branch

The previous sub-sections have shown how elements of the political system - presidentialism, federalism, the electoral and the party system - lead to many veto points, increasing the danger of gridlock and blockage. Pork-barrel politics is a practice to counter this gridlock and to gain support from Congress. However, it is not the only mechanism that allows governability. The internal rules within Congress also create room for manoeuvre: there are key steps in the legislative process, involving the governing board of the Chamber of Deputies, key committees which check bills, and an appointed rapporteur who facilitates voting or bill amendments (see textbox 3). To elaborate on these internal rules, two arguments are sketched below.

[12] Being a mayor of a city of several hundred thousand inhabitants for example affords more power and prestige than being a federal legislator (Mainwaring 1999).

Textbox 3: The steps of the legislative process

The steps of Brazil's legislative process in the Chamber of Deputies are as follows:

1. A bill proposed by the legislature is sent to the governing board (Mesa diretora) of the Chamber of Deputies, which is headed by the president of the Chamber.

2. The governing board usually sends the bill to three committees within the Chamber of Deputies, or to a special committee that has to be created in the case of cross-jurisdictional issues. The Justice Commission for example checks that the bill conforms to the constitution, and the Financing Committee checks the budgetary implications. After the committee phase, a rapporteur is appointed to write a report describing the bill and suggesting a vote to approve or reject it, and possible amendments. The rapporteur is therefore a key figure: he or she can increase the bargaining costs by holding on to a bill or even proposing a substitute bill on which the committee then must vote.

3. After approval by all relevant committees, the bill goes to the floor (Interviewee 76F (AC)).

The committee argument

Brazilian national parties control access to several resources within Congress that could give them influence over legislators' behaviour: for example, party leaders can affect the legislative agenda and cause the success or failure of bills and budget amendments (Desposato 2004) (6.2.2). Their influence is exercised through their membership of the Council of Leaders (Colegio de Lideres), and their leverage to push bills through the legislative process is through granting bills 'urgent' status or pushing for roll-call votes (Interviewee 76F (AC)).

The composition of each committee must be identical or in proportion to the representation of the parties present on the floor. The government usually controls the most important committees, for example the budget committee, and the opposition the least important ones (Interviewee 76F (AC)). The assignments belong to the party and can be reassigned as punishment or reward (Desposato 2004). The rapporteur

has a key position in the legislative process (see Textbox 3). The government usually ensures that either the president's party or a close ally appoints a representative to this position if the bill is considered important (Interviewee 76F (AC)). The president of the Chamber, the main committees and the rapporteur are therefore extremely important functions which centralize the decision-making power in the Chamber of Deputies. This leads to the next argument.

The centralization argument

The centralization of the legislature means that the president of the Chamber of Deputies (Presidente da Câmara) is a powerful figure in the Chamber, together with the Council of Leaders. Their tasks are written in the Chamber's formal Internal Rules of Procedure (Regimento interno). With the Council of Leaders, the president of the Chamber of Deputies sets the agenda for the Chamber and decides which bills are to be voted on and when. Thousands of bills approved by the committees await their decision (Interviewee 76F (AC)). Figueiredo and Limongi (2016, 2000) argue that internal Congress rules and the code that coordinates the functioning of the lower house (the Chamber of Deputies, Câmara) centralize power and enable cooperation between Legislature and Executive. While policy-making works quite well, bills can still take a long time to pass (legislative projects on average need 1090 days, executive projects 410 days, according to Figueiredo and Limongi 2016) and governments need allies in strategic positions within the Chamber, which controls much of what is done and how the agenda is set (Interviewee 76F (AC)).

The above arguments suggest that institutional factors within the Chamber of Deputies and the constitution centralize power and create strong incentives for party discipline. Voting behaviour may also be shaped by incentives outside the Chamber and the electoral system such as seeking reputations, ideological beliefs, and political programmes (Interviewee 76F (AC)). Examples include the passage of the National Climate Policy Law (*Política Nacional sobre Mudança do Clima*, PNMC) and the National Climate Fund in a politicized atmosphere in 2009 and 2010 during the Copenhagen climate conference and the candidacy of former minister of the Environment Marina Silva (see Chapter 7), or the reform of the Forest Code in 2012 (see 6.4 and Chapter 8). During the 2010 presidential elections environmental topics were pushed by all three promising candidates, Marina Silva, Dilma Rousseff as well as José Serra (at the time governor of São Paulo). Serra pushed a strong state law on climate change for São Paulo, Rousseff '*attached herself to the national climate law*' and Marina Silva tried to get Brazil's vol-

untary mitigation commitments cast into law (Hochstetler 2017b: 110).

Figueiredo and Limongi (2000) first drew attention to the centralization process within the legislature. Many scholars, especially Alston and Mueller (2006), still argue that negotiation in Congress is based on the distribution of patronage for political parties, the distribution of office at the federal level, and budgetary amendments.[13] The academic debate about negotiations in Congress is still ongoing: is the negotiation programmatic, ideological, or based on the exchange of pork for patronage (Interviewee 76F (AC))? Generally speaking, the government finds ways to realize its agenda with the help of a 'presidential toolbox' that includes but is not limited to pork and posts (Amaral and Meneguello 2017). The next sub-section presents additional instruments at the disposal of the executive.

6.2.5 Governing through the Executive

This sub-section presents instruments for executive policy-making which are applied also to climate policy and climate finance. These do not influence the number or competencies of the veto players but can explain how the Executive is able to influence discourses and politics. The 1988 constitution grants the executive a set of exclusive rights including the right to initiate, develop and make subsequent changes to the budget, to initiate legislation creating new ministries, agencies or public enterprises, and to make cabinet appointments (6.2.3, Alston and Mueller 2006). The executive (the president and the federal government) can introduce bills in certain policy areas and veto those passed by Congress (6.2.1). The president not only has the power to veto but also the prerogative to move legislation to the top of the congressional agenda and the authority to write provisional measures or provisional decrees (medidas provisorias) with the force of a law (Desposato 2004, Figueiredo and Limongi 2016).[14] The president also has the constitutional right to issue decrees, which remain in force for thirty days unless overturned by a majority vote at a joint session of Congress. After the thirty days they can be reissued (Alston and Mueller 2006). Provisional measures

[13] This view, however, was disputed by Figuieredo and Limongi (2000), as well as Pereira and Mueller (2001), who argue that incentives for individualistic behaviour from the electoral system are countered by Congress incentives derived from the legislative powers of the presidency which trigger cooperative behaviour (Alston and Mueller 2006).

[14] Medidas provisorias (or decree laws), are an alternative to a legislative project or a regular bill, and give the president huge agenda-setting power. When the executive publishes a medida provisoria it has the effect of a law.. Congress then has up to 120 days to approve or reject it. In the case of rejection, Congress must create a new law regulating the same issue – hence the agenda has been set– and this power is often used (Interviewee 76F (AC)).

can be used to change the status quo of a policy, as Congress must act to change it. Figueiredo and Limongi (2016, 2000) discuss how decrees have been used extensively since 1889. In addition the executive has portarias (ordinances) that are only used to address issues within the executive itself; both instruments are very powerful (Interviewee 76F (AC)).

Another way the executive gets its agenda enacted is by asking for its proposals to be passed as 'urgent' measures (Interviewee 76F (AC)) which the legislature endorsees (Figueiredo and Limongi 2016). The government can also speed things up in general, for instance by placing bills high on the priority list, thanks to those individuals in important strategic positions who set the agenda for the floor (Interviewee 76F (AC)). And finally, the government has the power to authorize bills (ibid).[15]

Brazil's presidents must typically forge and maintain multiparty coalitions to secure legislative support for their agendas (Souza 2011). A political majority and all of the presidential powers discussed above do not guarantee the passage of certain political projects. None of the presidents with comfortable majorities have been able to implement a tax reform; even Cardoso who had an 80 percent government coalition has left some key elements of his agenda unfinished (such as political reform and fiscal reform) (Samuels 2003). The bills passed by the Cardoso administration were mostly day-to-day business: 'there is the impression that Congress approves everything, but what it approves is mostly minor bills, nothing very important', according to interviewee 76F (AC). Dilma Rousseff headed a ten-party congressional coalition with a three-fifths majority in each house: enough to amend the constitution. However, as Souza (2011) says, '*looks can be deceiving in the Brazilian Congress, as legislative parties' support is more nominal than real, with renegades ready to break ranks*' (ibid: 77).

The PT did not have a big traditional economic reformist agenda regarding the tax system for example which would require a very broad legislative support in Congress, and was therefore able to govern with a policy style that took small steps. Instead of a big tax reform the first Lula administration used *medidas provisorias* (provisional measures) to create several tax incentives and trigger consumption. Lula addressed other tax issues through ordinary bills passed by a simple majority. The attempt to bring

[15]These rights are used often: between 1989 and 1994 the president initiated almost 70% of the 1,259 approved laws, and between 1995 and 1998 Cardoso initiated over 80% of all legislation enacted (Alston and Mueller 2006 and Figueiredo and Limongi 2016).

order to the tax system was, however, never very successful (Interviewee 76F (AC)).[16] The Lula government introduced only one major reform, of the pension system, which was strongly supported by the opposition (Samuels 2003). Lula's big legislative project was the *Bolsa Familia* programme. The *Bolsa Familia* programme was executed by the Ministry of Social Development and Fight against Hunger (MDS), avoiding the legislative system and the need for deals for benefits. The creation of the MDS was another of the PT government's institutional reforms. It was created via a very minor law which briefly outlined the attributions and responsibilities of the new ministry. Everything else was done from inside the executive and through *portarias* (ordinances, Interviewee 76F (AC)). [17]

According to interviewee 76F (AC), the PT has never been overly interested in Brazil's legislature but considered it as a house of clientelism, pork-barrel politics and bad politics in general. Instead it has always been oriented towards the executive and its direct relationship with the population through participatory mechanisms (Amaral and Meneguello (2017), see 6.3.2). Lula's electoral campaign stressed the ethics and anti-corruption engagement of the PT. The first cabinet under Lula reflects this tension when – as result of PT insistence-, the majority of ministries was occupied by the party itself which meant fewer seats for coalition partners and fragile support bases incapable of guaranteeing victories in Congress. Nevertheless, the government was able to pass a social security reform programme with the support of the opposition (Amaral and Meneguello 2017). Amaral and Meneguello (2017) explain the *mensalão* corruption scandal with the narrow support basis in Congress. Instead of sharing the power with other parties through cabinet appointments, the PT bought support with a 'monthly' payment scheme. According to Amaral and Meneguello (2017), the PT '*lost one element of the ethical politics brand it had strived to build in the 1980s and 1990s, as its leaders were embroiled in corruption scandals*' (ibid: 36, see also Goldfrank and Wampler 2017).

The creation of national climate funds through different instruments (6.4) thus seems a strategic choice insofar as the PT administration did not want to see the projects' climate objectives watered down in pork-barrelling and sought to avoid gridlock. However, beyond the climate funds and some flagship policies, such as the action plan to reduce deforestation (PPCDAm, see Chapter 7 for details), the Lula administration did

[16]The attempt to bring order to the tax system was, however, never very successful (Interviewee 76F (AC)).

[17]The MDS was abolished by the Temer administration shortly after it came to power.

face severe constraints for its own climate policy, by pressures from economic actors for example and by its own large-scale projects including the Growth Acceleration Programme PAC (*Programa de Aceleração do Crescimento*) of 2007, followed by PAC 2 in 2010 (Riethof 2016). During Dilma Rousseff's term even the controversial large-scale hydropower project Belo Monte dam was pulled from the drawer and implemented, contradicting the pro-environmental agenda (Hochstetler 2017b).

It can be argued that executive practices, combined with centralization within the legislature, gave the executive enough power to realize its agenda. But the PT government were stalled in its environmental policy making and watered down its own climate objectives, leading to policy inconsistency. Another exception from successful policy making without triggering much opposition is the Forest Code (FC) reform, where ideology played the most important role (Interviewee 55H (AC)). This process was taken entirely out of the control of the executive (Interviewee 55H (AC)) and the Forest Code was changed despite President Rousseff's repeated vetoes (Hochstetler 2017a, Riethof 2016). This process can also be seen as a conservative reaction to PT's governing through the executive (discussed in detail in Chapter 8).

6.3 Implications for Environmental and Climate Policy in Brazil

Brazil's political system seems far from being dysfunctional, however, it is still prone to gridlock, which means that bills can take a long time to be approved. President Dilma Rousseff was less successful in managing a coalition than her predecessors Cardoso and Lula (Interviewee 76F (AC)) but due to a much larger opposition from *ruralistas* in Congress as a result of the 2010 elections. The opposition and dissatisfied allies in the Chamber can use mechanisms to prolong the process of approving a bill and increase the negotiation costs. And according to interviewee 76F (AC) this is not just pork and patronage but has to do with how influential allies are in constructing a shared agenda, which can vary greatly from one government to another, the Forest Code reform being an example. According to Hochstetler (2017) the loss of the executive over the legislative struggles over the Forest Code revisions can also be attributed to the dissatisfaction with the legislative ally Brazilian Democratic Movement Party (*Partido do Movimento Democrático Brasileiro*, PMDB) and its representation in the cabinet (ibid).

6.3.1 Forest Code Reform as a Conservative Reaction

Environmental laws and policies in Brazil result from centralization and planning policies conducted by a development-oriented state. The environmentally aware and organized civil society demands the regulation, which is characterized by more participatory and democratic elements and improved scientific knowledge (Drummond and Barros-Platiau 2006). However, the underlying philosophy and focus of Brazilian lawmaking has been developmentalist rather than environmentalist for most of its history. Developmentalism was a national consensus for almost 60 years until the eve of the 1992 Rio Summit (ibid; see also Hochstetler and Keck (2007) and Chapter 7). The tension between environment and development also characterised the PT administration (Zellhuber 2016). Additional challenges for the implementation of environmental law are for example a lack of regularization of law and a lack of clear responsibilities between the different levels (ibid) as well as pressure by economic actors and the importance of pork for coalitional presidentialism (Hochstetler 2017a).

Brazil's Forest Code (*Código Florestal*, Decree 23.793) of 1934 was the first law regulating forests and the management of private land. The New Forest Code (Novo Código Florestal, Law 4.771) had been discussed in Congress for seventeen years. Article 1 stated that 'limits' need be set to the private possession and use of forests. It also stipulated that violations would be subject to criminal punishment under the Civil Code (Drummon and Barros-Platiau 2006). Article 5 expanded the concept of national parks and introduced '*national forests*'. As a result, new and better-designed parks and numerous national forests were created. Article 6 allowed the classification of privately-owned land conservation units if the owners voluntarily made a conservation covenant, in return for tax breaks. The law's enforcement, however, was weak, and several legal additions and administrative ordinances created loopholes (Drummon and Barros-Platiau 2006).[18] Since the mid-1990s the Forest Code had become environmental law (Mueller and Mueller 2016).

In 2012, during Dilma Rousseff's first administration, the Forest Code (Law 12.651/2012) was reformed due to an initiative of the more conservative rural advocacy groups in Congress. Advocacy groups (*bancadas*) in both Chambers, such as the rural lobby (*bancada ruralista*), the feminist lobby (*bancada feminista*), and the evangelical lobby

[18] Passing legislation alone, however, is no guarantee that it is being enforced or enacted and most legislation requires complementary legislation and procedures for implementation; enforcement thus requires an entirely new struggle after environmental legislation has been obtained (Hochstetler and Keck 2007).

(*bancada evangelica*), do not vote according to their party affiliation but rather act together on specific issue areas (Arretche 2012). A famous example of both senators and deputies not voting with their parties is the Forest Code reform. The Forest Code reform was a conservative reaction to PT's pro-environmental policy-making mainly through executive instruments. According to Interviewees 76F and 55H (AC), the forest code reform was a clear victory of the ruralists and proof of the government's inefficiency to dominate the discourse and the legislative agenda. The rationale and context of this decision will be discussed in more detail in Chapters 7 and 8.

The victory of the ruralists can be attributed more to their degree of organization, power of mobilization and communication strategy, rather than the power of the agribusiness lobby (*frente parliamentar do agronegocio*) (Interviewees 55H, 76F (AC)). Environmentalists within the executive had used several changes through *portarias* which did not go through the legislature. The Ministry of Environment (MMA), at the time seen as '*a stronghold of activists and environmentalists*' (Interviewee 76F (AC), see also Chapter 7), had used *portarias* repeatedly to change significant relations which affected the agribusiness sector. These centralized executive environmental decisions had impacts on production, including agricultural production. The conflict over the Forest Code reform can be described as a 'classic postmodern' challenge or confrontation between ruralists and environmentalists. As a result, the legislature was used to support more conservative forces.

A traditional view of the legislature in Brazil is that it is dominated by conservative forces mostly from poor states (Interviewee 76F (AC)). This view was shared by the PT, which saw Congress as a conservative clientelistic force, although pork was applied widely during the PT era as well in environmental policy (Hochstetler 2017a, Amaral and Meneguello 2017).[19] Excluded from policy-making, the pro-business forces tried to regain control over this process in the legislature as they could see no space for influencing and changing it within the executive. They brought Congress back in by bringing the discussion to the Chamber of Deputies. Ruralists across the party spectrum pushed for discussion of the Forest Code and tried to control the process. During this period '*all the parties except the PT were split in half over this issue*' (Interviewee 76F (AC)). The ruralists proved highly successful and controlled the process in Congress, forcing the government to first discuss the issue and second to concede on many points: '*the government lost control over the agenda, and with this also over*

[19]There is also dispute between different parts of the government, for example between MDA and pro-business MAPA (76F).

the final result' (Interviewee 76F (AC)).

The main features of the revision were the following compliance requirements for all landowners: Permanent Preservation Areas (APP), and; the maintenance of the Legal Forest Reserve and rural property registration in the Rural Environmental Registry (or *Cadastro Ambiental Rural*, CAR) (Chiavari and Lopes 2015). As a result of the Forest Code revision, the area that had to be set aside for conservation decreased. In addition, the minimum areas that need to be protected near rivers and lakes on properties in the Cerrado were reduced. The reform also included an amnesty for illegal deforestation before 2008 (Aamodt 2015). The purpose of the CAR is to monitor land-use changes, although it is often used as a proof of land tenure. Consequently, entries have been used for obtaining credit (see also Chapter 8) and overlapping claims are rather frequent, particularly salient in the Amazon region with its fragile tenure security. In practice, land grabbing is commonplace despite the CAR system (Bastos Lima 2021) and has been encouraged further by the Bolsonaro administration that changed the land tenure system to facilitate the legalization of invaded lands (Pelicice and Castello 2020). Since its inauguration even the reduced requirements of the revised Forest Code cannot be expected to be met anymore. Satellite data from 2019 and 2020 indeed show a sharp increase in deforestation rates (Mayer Pelicice and Castello 2021; França et al. 2021).

The PT administration was successful in realizing a low-carbon policy and creating the three national climate funds, enacting its agenda using executive instruments and avoiding confrontation in Congress. This strategy was not without risk, as shown by the Forest Code reform, because it alienated the conservative, rural and agricultural forces in Brazil's legislature. The Forest Code reform was a conservative reaction to PT's pro-environmental policy-making mainly through executive instruments – although the climate law itself was a law-, and demonstrated that the executive could not fully dominate climate policy discourse and the legislative agenda.

6.3.2 Conferences and Councils: Brazilian Participatory Tools

The PT did try to supress opposition discourses or build alternative ones. This included the use of participatory tools to spread discourses and create legitimacy for executive proposals. Until 2015 the PT held 60.000 municipal councils, hundreds of state level councils and dozens of federal councils. 2003-2015 the PT hosted almost 100 conferences with about 9 million participants. This allowed the government to its

constituency, with citizens and civil society and also to bypass the traditional media and provided political and policy resources (Amaral and Meneguello 2017). Councils had been mandated by the 1988 constitution, often at the municipal level, but the military government used them already (Hochstetler and Keck 2007). In Brazil, local participatory bodies (councils) for policy areas are created to monitor the provision of public services and public representatives, with the aim of bringing the state closer to the people (Arretche 2012). Most policy areas have a national council with a long history dating back to the National Environmental Policy from the military era (Hochstetler and Keck 2007, Interviewee 66M (AC)). Stehnken (2010) links the tendency for creating national councils in areas of specific strategic interest with the tradition of corporatism (between industry associations and other interest groups) prior to the 1964 coup. Councils can also be seen as an attempt to overcome the shortcomings in Brazil's representative democracy, as they can fill a representation gap by including social groups and act as a forum for communication and negotiation (Leubolt 2016, Stehnken 2010).

The National Council of Science and Technology (Conselho Nacional de Ciência e Tecnologia, CCT) was created in 1975; however, it was soon abandoned by the government because of its lack of effectiveness (Stehnken 2010). In 2003, during Lula's first administration, the CCT was reactivated with the president at its head. In 2010 the CCT consisted of thirteen federal ministers, eight representatives of producers and users of science and technology appointed by the federal government, and six representatives of national education, research, and science and technology entities.

The National Environment Council was created in 1980. While all councils include civil-society participation, only a small civil elite participated in national environmental councils with the chance to discuss their issues and environment policy areas with the government. (Interviewee 66M (AC)). Only those environmentalists registered with CONAMA and active at the national level could participate which was only a minority in most states and the same organizations appear in national, state and municipal councils (Hochstetler and Keck 2007).

Brazil's national conferences have different goals to those of the national councils. National conferences generally exist to establish national policy priorities. There have been 80 to 100 national environmental conferences in total with 5 of these during the PT administration. The organizing partner for these conferences is the Secretary

General of the Republic.[20] There is usually a parallel set of municipal conferences, coordinated by municipal environmental agencies, where local groups come together for discussion. Municipal delegates then participate in state conferences and states send delegates to the national conference in Brasília where proposals are voted on (Interviewee 66M (AC)).

The first environmental conferences under Lula's Minister of the Environment Marina Silva was, however, were very top-down. The government 'produced text' (Interviewee 66M (AC)) (developed draft negotiation texts) and asked the delegates to discuss it. Other sectors' conferences were more bottom-up or much more loosely structured. The environmental conferences were steered by the government, despite amendments and potential for rejecting certain aspects. Many NGOs also felt alienated because the majority of participants were from the rural labour unions, not traditionally associated with environmentalism; their participation was encouraged by the MMA (Interviewee 66M (AC)). This form of leadership led to frustration and tension (see also Chapter 7).

Lula's idea was to transfer tested concepts and processes from other sectors, including national conferences, and apply it to the environmental sector. This general multilevel participatory approach is considered the most important contribution of the Ministry of Environment and the PT government (Interviewee 66M (AC)). The Brazilian Climate Change Forum (*Forum Brasileiro Mudanças Climaticas*), a platform for consultation and discourse on climate change for stakeholders, is an expression of this endeavour and modelled on and influenced by the tradition of environmental and other conferences (Interviewee 66M (AC)). The Climate Forum is not a highly structured cooperation mechanism but rather has an advocacy role. An example of its activities was a climate bill presented by the climate observatory and introduced in Congress Interviewee 38T (PB)).

Another platform for civil society collaboration and policy advocacy is the *Fórum Brasileiro de ONGs* (FBOMS), founded in 1990 to facilitate the participation of Brazilian civil society groups throughout the Rio 92 (UNCED) process. Since then, it has become an 'umbrella network' of around 500 members including NGOs, environmentalist networks and federations, labour unions, grassroots associations, rubber-tappers,

[20]The Secretary General of the Republic assists the President in his relationship with civil society. http://www.brazil.gov.br/government/ministers/general-secretariat-of-the-presidency, last accessed 18.08.2020.

women, youth and consumer groups dedicated to engaging with global, national and local policies, and action for sustainability and the environment. Within FBOMS the Climate Change Working Group has facilitated and organized its members' participation, monitoring and analysis of national and international climate change policies since 1992. It also serves as the Brazilian node of the international Climate Action Network (CAN).[21] Its members see the benefit in its ongoing political coordination and degree of organization (Hochstetler and Keck 2007) and FBOMS was consequently repeatedly able to pressure the government to advance progressive climate legislation (Interviewee 38T (PB)).

The role of states in the Amazon region and at conferences is also worth considering, as it led to a discourse in the early 2000s that brought forth the idea of the Amazon Fund. The National Conference on the Environment served as a basis for the discussion around the Fund. The states played an active role in this discussion and regarded this as an opportunity (Interviewee 13M (DON)). The creation of the Amazon Fund was a federal government initiative, but at the same time also the result of a broad national dialogue:

> *Because civil society at the time was very close to the government's discussions, and Marina Silva valued state and national conferences very highly, a federal government dialogue with civil society was started. Some people in civil society say the idea came from civil society. Federal government staff say it was theirs; actually, the concept, the idea of the [...] [Amazon Fund] was a collective construction. (Interviewee 13M (DON))*

Therefore, Brazil's tradition of conferences also left its imprint on the Amazon Fund itself. The development of the idea of the Fund was a joint project between the federal government, states and civil society, and environmental conferences provided a forum for developing this idea.

Councils and conferences, as tools for encompassing a society's complex and diverse interests and motives, might be useful to increase governability (Stehnken 2010). The PT also used councils and conferences to avoid dealing with Congress. At the same time these participatory instruments allowed them to generate legitimacy for political projects, such as climate policy and the creation of the Amazon Fund.

[21] https://unfccc.int/resource/docs/2006/smsn/ngo/016.pdf, last accessed 23.05.2018.

6.4 The Legislative and Administrative processes of Setting Up Brazil's National Climate Funds

Brazil's climate funds were established in three different ways: the Amazon Fund by presidential decree; the National Climate Change Fund as a legislative project initiated by the executive and passed by Congress; and the Low-Carbon Agriculture (ABC) Programme after a consultation process, and as a regulation rather than a law. This section briefly presents these three different government initiatives, showcasing the different legislative and administrative possibilities of the executive, and, by elaborating on the actor constellations that enabled their creation, connecting them to my conceptual framework on actors, institutions and discourses.

6.4.1 The Amazon Fund

The Amazon Fund was established by presidential decree N 6,527 on August 1st, 2008. This was a government initiative following diplomatic negotiations between President Lula and the Government of Norway during the UNFCCC conference in Bali in 2007. The Amazon Fund finances forest conservation activities and the fight against deforestation in the states of the Legal Amazon mainly via state governments or civil society organizations (see Chapter 7). The allocation of Amazon Fund resources is decided by a steering committee consisting of representatives of the federal government, of states in line with federal policy against deforestation, and of academia and civil society, including Indigenous Peoples' organizations.

Article 1 authorizes BNDES to allocate donations received by the Amazon Fund for the prevention, monitoring and combating of deforestation, and to promote the conservation and sustainable use of the Amazon. This includes activities such as the management of public forests and protected areas, monitoring and surveillance, sustainable forest management, and zoning and reforestation. Article 1 § 1 further states that up to 20% of the resources of the Amazon Fund may be used for the development of systems for monitoring and controlling deforestation in other Brazilian biomes and in other tropical forest countries (AF 2008).

The Amazon Fund was criticized in its early years (Zadek et al. 2010) for lack of transparency about its fund-allocation decisions and a tendency towards macro-level policies and large projects. Civil society projects have gained more access and prominence over time. After 2015, as a result of the political and financial crisis in Brazil, the Fund

has come under political pressure to finance tasks of the executive in controlling deforestation (see Chapter 7). Recently the Bolsonaro government has sought to discredit civil-society projects financed by the Fund, to change its governance structure, refuse international donations framed as foreign influence and open the Amazon Fund to access by private companies (Pelicice and Castello 2020).[22] Its future is currently more uncertain than it was in the first ten years of its existence.

6.4.2 The National Climate Fund

The National Climate Policy (PNMC) was created in December 2009 by Law No. 12187. Among its instruments, in addition to the National Plan on Climate Change, were nine mitigation- and adaptation-related sectoral plans, including two action plans to control and combat deforestation in the Cerrado and in the Amazon biomes to be established by executive power (Taboulchanas et al. 2016, Viola and Franchini 2012). The law encompassing Brazil's National Climate Policy has several instruments, among them the financial instrument, the National Climate Fund.[23] The National Climate Fund was passed into legislation before the National Climate Policy, which underwent several alterations during the legislative process, although logically the financial instrument depends on the guidelines set out in the Policy (Interviewee 12L (GOV)). The National Climate Change Fund was created by Law 12.114 on 12/09/2009, regulated by Decree 7.343, of 10/26/2010, and currently governed by Decree 10.143, of 11/28/2019.[24] In 2010 the Fund was regulated under public administration by Decree 7.343 (Taboulchanas et al. 2016)[25] which guarantees its compliance with the National Policy on Climate Change.

The Climate Fund, linked to the Ministry of Environment, leverages resources to support projects and scientific research for mitigation of and adaptation to climate change and its effects (Article 5 § 4o). The objectives of the Climate Fund, the range of eligible activities and its geographical scope are broader than those of the Amazon Fund (Article 5 § 4o). All Brazilian biomes qualify for funding, from the semi-arid north-east

[22] https://www.oeco.org.br/reportagens/embaixada-da-alemanha-e-entidades-ambientais-contradizem-declaracoes-de-salles-sobre-fundo-amazonia/, last accessed 20.05.2019.

[23] The Portuguese acronym is FNMC, but it is commonly referred to as the Climate Fund.

[24] http://www.planalto.gov.br/ccivil_03/_Ato2007-2010/2009/Lei/L12114.htm Accessed 25.03.2016 and https://www.bndes.gov.br/wps/portal/site/home/financiamento/produto/fundo-clima Accessed 12.08.2021.

[25] http://www.planalto.gov.br/ccivil_03/_Ato2007-2010/2010/Decreto/D7343.htm Accessed 25.03.2016.

to the rainforests in the west and north-west, the coastal forests in the east, and the agrarian south, including both urban and rural areas.

The National Climate Fund was a legislative project but was approved by the executive and passed with urgency (see 6.2.5). The PT administration used the favourable public discourse (see Chapter 7) and seized the opportunity to initiate the National Climate Policy (PNMC) and the National Climate Fund. At the same time the creation of the Fund increased the power of the Ministry of Environment considerably, a power that peaked during the PT administration (Chapter 7). Once created, the government used it to shape environmental and climate policy through the portfolio of the Fund: 'the big difference that I see in contrast to the Amazon Fund is the possibility of political steering' (Interviewee D45 (DON)). For example, it has supported the development of the ABC Sectoral Plan and the ABC Programme, including outreach and communication material (Interviewee 12L (GOV)). It further financed the GHG monitoring laboratory in agriculture and forestry and the development of GHG accounting methodologies (Interviewee 12L (GOV)) (see Chapter 8).

The rationale behind establishing the Climate Fund at this moment in time was not only to create a financing mechanism for the National Climate Policy (PNMC) but also to use the royalties and special shares from oil exploitation in a sustainable way, for example on environmental issues or education. However, the revenues from oil and gas discoveries, especially the large offshore hydrocarbon reserves known as the 'pre-salt reserves' off Brazil's coast, have been much smaller than originally anticipated. Secondly, the US, the biggest potential market for pre-salt oil, has meanwhile started to exploit domestic shale gas and its demand for pre-salt oil is therefore uncertain. Thirdly, there has been increasing discussion and dispute about the distribution of the royalties between national and sub-national governments. There is strong pressure to increase public spending on health and education to meet the growing demands of the population, which has repeatedly protested against the current state of these sectors (Interviewee D45 (DON)). Additionally, the expected international donations have not been forthcoming. Therefore, the Climate Fund is in a financially precarious situation.

6.4.3 The ABC Programme

With the adoption of its National Policy on Climate Change Brazil commissioned the development of a set of sectoral plans to reduce or avoid GHG emissions. The Sector Plan for Agriculture (*Plano Agricultura Baixo Carbono* or ABC Plan) was one of them,

launched in 2010. At the core of the ABC Plan is a new line of low-interest rural credit, intended to fund the implementation of low carbon agricultural practices (Newton et al. 2017). The credit line – the ABC Programme – involves a new agricultural model focused on GHG emissions mitigation, together with the recovery of degraded lands and activities to reduce deforestation and increase the land area of cultivated forests (Magalhães et al. 2014). The ABC Plan was drafted by a working group under the lead of the Ministry of Agriculture, Livestock and Food Supply (MAPA). It was launched in December 2010 and published in 2011. Civil society contributions were incorporated later. The ABC Plan was thus an initiative of the executive (not the president but the ministry in charge).

The ABC Programme is entirely financed by domestic resources. Low-carbon agriculture is part of a long-term strategy for positioning Brazilian agriculture in the international market (Magalhães et al. 2014). The Brazilian government allocated 197 billion Real to the ABC Plan between 2011 and 2020, part of which was made immediately available in 2010 (ibid). The president controls the money allocated, leaving the executive leeway to realize projects that include large public spending like the ABC Programme (Samuels 2003). The ABC Programme is discussed in more detail in Chapter 8.

6.4.4 Comparing the Three Funds

The Amazon Fund is the product of President Lula's climate foreign policy and shows the president's room for maneuver and concretely the possibilities to enter into negotiations with other heads of governments during his travels, as happened in the case of Norway at the climate conference in Bali in 2007. The Amazon Fund was consequently realized as a presidential decree once Norway had agreed to a large donation. The Brazilian government hoped that other donors would follow, but only the German government did so, providing a much smaller amount. Lately, the Amazon Fund has also experienced pressure from the Brazilian government to fund executive projects outside its mandate (Pelicice and Castello 2020). The National Climate Fund, as shown above, was a legislative project of the PT government, but like its broader framework, the climate Law, it was able to rely on broad support in Congress, which can be explained by the politicized climate debate in Brazil due to the candidacy of the charismatic former environment minister Marina Silva for the presidency and the campaign for the presidential election, which was already in full swing in late 2009. The National Climate Fund also was expected to attract international donations, but this has also

not been successful, and its capacities remain limited. The ABC, in turn, shows the possibilities of the powerful ministries such as MAPA as well as the business association CNA to mobilize the entire sector for the purpose of formulation and financing of a low carbon development strategy if necessary and desired and to organize a comprehensive consultation process in all states (14L). The ABC Programme is entirely funded by domestic sources which perhaps allowed it to become operational more rapidly, but implementation is a challenge for the ABC: it still has problems reaching farmers in the Legal Amazon where the deforestation frontier is located (see Chapters 7 and 8 for further detail on the set up and implementation of the funds).

The way the three funds have been set up institutionally does not seem to impact differently on their effectiveness. All three climate funds had obstacles to overcome in the first years. The National Climate Fund needed the longest time to become operational (2010 - 2014) but the Amazon Fund also required several years to establish an operative structure and define the focus of its funding before the first resources were spent. The ABC Programme became operational relatively rapidly, however, only a part of its funding could be allocated and spent. After initial delays and difficulties all are working towards their objectives. The new challenges lie in the political framework conditions of the Bolsonaro government and opposite priority setting.

6.5 Preliminary Conclusion

The climate funds under discussion were established during the second term of the PT administration, under President Lula da Silva, with the same distribution of seats in Congress. My analysis showed that the executive got its bills approved quickly; the PT was able to realize a progressive climate policy including a climate law and the establishment of three national climate funds.

Given the governance structures discussed in section 6.2, there was thus more cooperation than could have been expected. The PT used participatory tools to spread dominant discourses and create legitimacy for executive proposals. The discourses promoted by the PT government (for example the social-environmental (*socio-ambientalismo*) and global responsibility discourses introduced in the subsequent Chapters) were thus able to develop and spread and this facilitated the implementation of government projects, including the creation of a national climate policy and three national climate funds.

Brazil has a coalition-based presidential system which requires the government, the presidency and the governors to form coalitions to ensure the country's governability. Brazil therefore represents a less common case of a coalition-based presidential system with strong presidential powers in the context of multiple parties in a developing country where a divided government can act decisively, and pork-barrel politics do not necessarily have significant negative consequences (Alston and Mueller 2006).[26]

An electoral system based on open-list proportional representation with a relatively large number of elected members keeps the entry barriers low and allows space for new forces such as parties advocating popular interests and inclusionary practices. This was particularly true for the PT, which was able to integrate activists and make steady electoral headway throughout the 1980s and '90s (Hunter 2003). Drawing on Samuels and Zucco (2018, although published before the 2018 Presidential election), the same can be argued to be true for the unexpected victory of Bolsonaro in the 2018 presidential elections. Ongoing reliance on patronage networks, especially in poor rural and urban areas, acts like an anchor, steadying but also limiting democracy (Amaral and Meneguello 2017, Hunter 2003). Not only pork-barrel politics explain the fact that the executive seems very able to get its agenda enacted; this is also due to a set of additional instruments available to the executive: provisional measures (*medidas provisorias*), decrees (*decretos*), decree laws or ordinances (*portarias*) and urgent measures.

The National Climate Fund was created through a legislative process, the Amazon Fund and the ABC Programme through executive instruments. However, in the passage of the climate law and the National Climate Fund, the government used its executive instrument to place the proposal high on the agenda and to pass it as 'urgent' to avoid pork-barrelling (Interviewee 76F (AC)). I argue that these different modalities reflected choices of opportunity, rather than a sign of the government's limitations to realize a project. I have shown that the executive relied on a variety of strategies, for instance a presidential decree. The combination of the internal rules and the executive instruments provided by the constitution enabled the executive during the first terms of President Lula to govern successfully and realize an ambitious climate policy agenda

[26] although this view can be at least be disputed based on the revelations around the recent and Lava Jato scandal and the misappropriation of public funds to mobilize support in the House of Representatives: Washington Post, 02.08.2017: https://www.washingtonpost.com/world/the_americas/brazilian-congress-to-vote-on-removing-the-second-president-in-a-year/2017/08/02/d384f720-76e9-11e7-8c17-533c52b2f014_story.html, last accessed 1.10.2018.

(Interviewee 76F (AC)). However, there are veto players which were alienated through this practice as can be seen in the Forest Code reform that happened under subsequent Presidency of Dilma Rousseff. To answer RQ1 and the chapter title, governing of climate policy and finance in the period under study was carried out in a rather top-level way, drawing heavily on executive instruments.

In the following chapters, I will concentrate on the two instruments that have the highest practical relevance in terms of financial volume and projects as well as impact, the Amazon Fund and the ABC Programme for Low Carbon Agriculture.

Chapter 7

The Amazon Fund

7.1 Introduction

Chapter 6 has analysed the governance structures that enabled the creation of the national climate funds from a procedural side. Chapter 7 and 8 now analyse the actor constellations, processes and discursive foundations that enabled their inception. Both Chapters reveal the use of both cognitive and normative arguments (Schmidt 2016, see conceptual framework in Chapter 4) in the application of discursive frames by different actors. One of the key actor constellations in the climate actor network comprised of Ministry of Environment and civil society which were increasingly successful in setting the climate policy agenda. Why some ideas get enacted into policy while others do not, depends on actors applying their power resources but also on the framing, on how issues are being portrayed (Mehta 2011). The framing is further influenced by the context in which issues that can be favourable in one context and less so in another. Whether a policy solution is available for a given defined problem is also essential and so is the fit between the problem definition and the broader environment (ibid). This Chapter analyses actor constellations and discourses using interview data, policy documents, studies and reports as well as literature. It shows for example, how deforestation is interpreted in different categories: the involvement of international actors in forest protection activities and the combat of deforestation can be seen as a welcome assistance or as an 'invasion' by foreign actors. The Chapter examines the ways in which these and other discourses and discursive frames influenced Brazil's position in the international climate negotiations, how the Fund is modelled on the Brazilian idea of a global fund for REDD+, and how the Fund itself influenced Brazil's position in international climate negotiations until 2015 (7.4.4), thus answering the overarching research question, how actors employ ideas to influence political

processes and the design of climate funds in Brazil.

The Amazon Fund (AF) is the most important element of Brazil's climate finance landscape and the most successful REDD+ fund globally, both in terms of the mobilized donations, the funding disbursed of and the number of implemented projects area of protected forest.[1] The objective of the AF, managed by the Brazilian Development Bank (BNDES), is to provide incentives for Brazil and other tropical-forest countries to continue and increase their voluntary reductions of greenhouse gas emissions from deforestation and forest degradation, as proposed by the Brazilian delegation in the UNFCCC negotiations (at COP12 in Nairobi 2006) (AF 2008). Brazil had rejected market approaches at international climate negotiations until 2015; instead, it favoured 'compensated reduction' or a direct funding system to incentivize developing countries to reduce their deforestation emissions (Santilli et al. 2005, Zellhuber 2012). The Amazon Fund is a pilot of such a system; it uses a system of ex-post and untradeable certificates (AF 2008), which means off-setting of emissions by industrialized countries or private entities is not possible. The AF aims to support the preservation and sustainable use of the Amazon biome. It is based on the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (*Plano de Ação para Proteção e Controle do Desmatamento na Amazônia*, PPCDAm 2004) and the Sustainable Amazon Plan (*Plano Amazônia Sustentável*, PAS 2008) (AF 2008). This includes activities such as the management of public forests and protected areas; monitoring and surveillance; sustainable forest management; and zoning and reforestation. The PPCDAm is the legal and political centrepiece of Brazil's fight against deforestation.

7.2 Actor Constellations and Dynamics

This section analyzes actor constellations and dynamics (figure 7.1), focusing on the changing role of the Ministry of Environment (MMA) and the emerging climate actor network between the Ministry and civil society, on which MMA could draw to fulfil its mandate. The section then presents a case of centre-periphery relations by discussing the states of the legal Amazon and their interaction with the central government in forestry issues, showing the impacts of federalism on Brazilian policy-making. As part of this, it introduces an institution that has been widely overlooked in analyses of Brazil's climate policy-making, the Special Secretariat for Strategic Affairs (SEA). It ends by examining the role of Norway as a key donor for the Amazon Fund.

[1] https://www.giz.de/en/worldwide/12550.html, last accessed 16.8.2021.

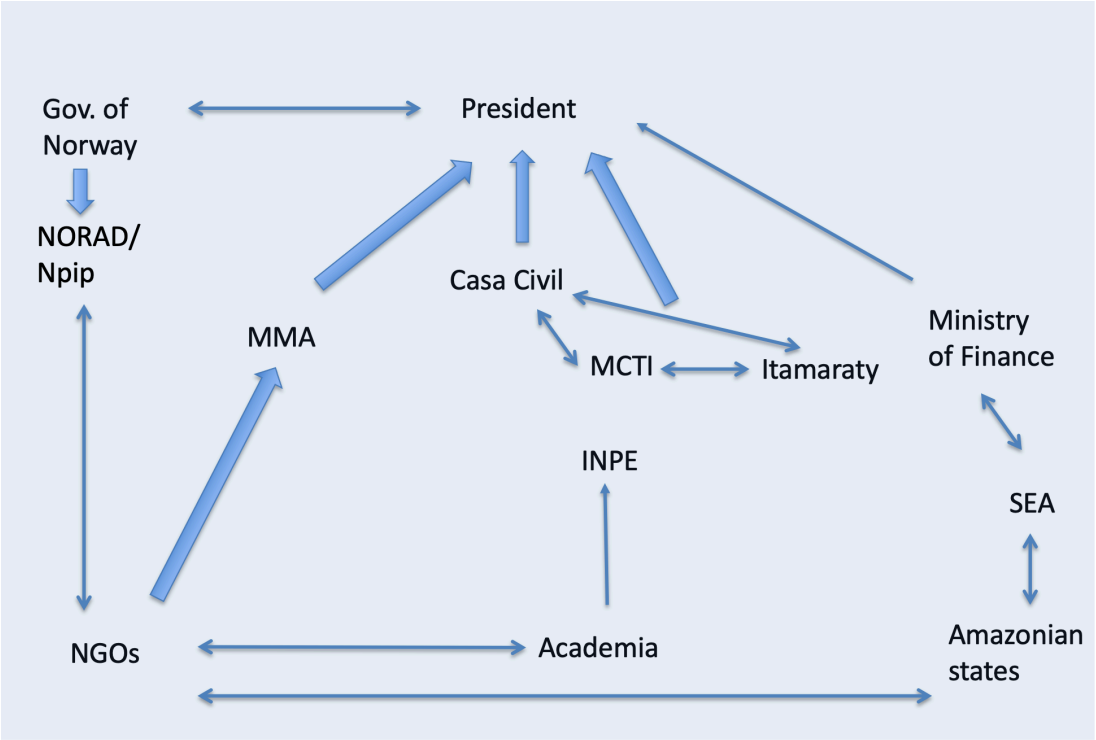

Figure 7.1: Actors involved in discursive formations promoting the AF
Source: own diagram based on data analysis. Arrows signify influence and cooperation.

7.2.1 The Ministry of Environment in an Emerging Climate Actor Network

Environmental activists and environmentally motivated politicians have pervaded the MMA since its beginning in the early 1990s. It was therefore well-suited to change Brazil's environmental and Amazonian policy towards the ideas of the environmental movement. Carvalho (2012), Viola (2013) and Hochstetler and Viola (2012) argue that the MMA's emergence initiated a shift in Brazil's policy on the Amazon and climate policy as a whole, because MMA became an important domestic agenda-setter alongside the Ministry of Science and Technology during the administration of the Workers' Party (PT) (2003 – 2016). This section builds on this argument by analysing the actor constellations that enabled this emergence, the foundations for which had been laid earlier than Marina Silva's term (2003 – 2008), in the 1990s (see following sections).

The Ministry of Environment as a Hub of Progressive Spirits

Influenced by the first UN Environmental Conference, Brazil created a Special Secretariat for the Environment (*Secretaria do Meio Ambiente*, SEMA) under the Ministry

of the Interior (Zellhuber 2016). It was headed by lawyer and biologist Paulo Nogueiro Neto for the first twelve years (1974 – 1986), had almost no budget and relied heavily on the informal strategies, networking (for example with Maria Tereza Jorge Pádua from the Brazilian Institute for Forest Development (IBDF)) and 'guerilla tactics' of its first secretary (Hochstetler and Keck 2007). Because forest protection was outside of SEMA's mandate, Nogueiro Neto created 'stations' as the term *estação* evoked experimentation or research rather than conservation (ibid). In 1985, during the transition from military to civilian rule, the Ministry of Urban Development and Environment (MDU) was created by Decree no. 91.145, transferring the National Environment Council (*Conselho Nacional do Meio Ambiente*, CONAMA) and SEMA to the new Ministry. Based on the text of a Consultative Council representing different ministries and technical institutes the National System for the Environment (SISNAMA) had already been in the making since 1975 but had been held up for years. It established the first institutional framework for environmental protection (Hochstetler and Keck 2007). By the early 1980s environmental activism had become widespread when the repression of social movements eased at the end of the military dictatorship (ibid).

In 1989, after the end of the military rule and pressured by foreign environmentalists and their governments to slow Amazon deforestation rates, the government reorganized the departments tasked with environmental issues and SEMA and three other agencies[2] were merged to form the Environmental Protection Agency IBAMA (*Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis* or Institute for the Environment and Renewable Natural Resources). IBAMA was created for the enforcement of environmental legislation, through Law no. 7.735, and linked to the Ministry of the Interior as an independent body, but it had limited success: the restructuring led to inefficiencies and high staff turnover (Kolk 1996, Hochstetler and Keck 2007); the deforestation rate in the legal Amazon between 1977-1988 remained high, on average 21.050 km2 per year (FAO 2009) which corresponds to about 8.6% of the UK's area and which was part of Sarney's '*Nossa Natureza*' programme. Many controversial breaches of environmental law and conflicts over large projects became public as a result of IBAMA's enforcement (Kolk 1996).

A big change in environmental policy occurred from the end of the '80s under Pres-

[2]The Superintendency for Rubber (*Superintendência da Borracha*, SUDHEVEA), Superintendency for Fisheries (*Superintendência da Pesca*, SUDEPE) and the Brazilian Institute of Forestry Development (*Instituto Brasileiro de Desenvolvimento Florestal*, IBDF), https://web.archive.org/web/20121129153823/http://www.ibama.gov.br/acesso-a-informacao/historico, last accessed 22.05.2018.

ident Fernando Collor de Mello when he appointed José Lutzenberger as the head of SEMA:[3] '*And José Lutzenberger, the Minister, was an environmentalist*' (Interviewee 20T (AC)). Lutzenberger had held leading positions at BASF in Germany, Cuba, Venezuela and Mexico in the 1950s and '60s. When he realized the devastating effects of DDT on ecosystems he returned to Brazil and founded an environmental NGO in 1971. He became a leading figure in Brazil's environmental movement in the 1980s. His appointment gave SEMA more visibility, however, he disappointed those who had hoped for more participation of environmentalism in national policy making (Hochstetler and Keck 2007).

In 1990, the provisional measure no. 150 of March 15 1990 (later Law no. 8,028) established the Secretariat of the Environment of the Presidency of the Republic (SEMAM/PR) as an organ providing direct and immediate assistance to the president, indicating an increased relevance of the issue within government. Soon after Lutzenberger's appointment, President Collor launched the 'Operation Amazonia', through which IBAMA attempted to curb illegal Amazonian deforestation by 30%, with the help of inspectors, helicopters and satellite imagery (Hall 1991). Lutzenberger, however, was dismissed in 1992 after accusing IBAMA of being '*just another branch of the logging industry*'[4]. Despite the briefness of his term, the appointment of a leading figure of the environmental movement to the position of Environmental Secretary showed the MMA's proximity to the environmental movement. With some exceptions this has remained the case until very recently.

Today's Ministry was created in 1992 through law no. 8.490 Art. 21, which transformed SEMAM/PR into the Ministry of the Environment (MMA). In 1994, at the beginning of the Cardoso administration, it was renamed the Ministry for the Environment and Hydrological Resources. According to one interviewee, this was a move intended to 'please' the Liberal Front Party (PFL) and the first Minister, Gustavo Kruse (Interviewee 66M (AC), see Chapter 6). Irrigation policy, previously in the domain of the Ministry of the Interior, was added to MMA's portfolio and consequently made up 99% of the portfolio; the resources linked to irrigation gave MMA more political

[3]Collor was the first democratically elected president of Brazil and a member of the *Partido do Movimento Democrático Brasileiro* (PMDB), since 2017 renamed as *Movimento Democrático Brasileiro* (MDB).

[4]The Economist, Volume 322, pp. 7749-7752, 1992, digitalized at the University of California in October 2008, https://books.google.ch/books?id=9n7SAAAAIAAJ&q=Lutzenberger+IBAMA+100+per+cent+daughter+of+the+timber+industry&dq=Lutzenberger+IBAMA+100+per+cent+daughter+of+the+timber+industry&hl=de&sa=X&ved=0ahUKEwidjMuG_ubcAhUSxKYKHWdaCREQ6AEILjAB, last accessed 12.08.2018.

weight within the government (ibid).

The second Minister was José Sarney Filho (1999–2002), the son of former President Sarney. His appointment was again a political favour according to interviewee 66M (AC), to 'please' the influential Sarney family.[5] However, Sarney Filho ('Sarney the son') – already part of the environmental coalition during the 1980s (Hochstetler and Keck 2007) was an environmentalist (Interviewee 66M (AC)). While Ministers Lutzenberg and Sarney Filho attracted likeminded staff, there was also a lot of fluctuation and frustration about the actual impact of their work among MMA (and IBAMA) staff (Kolk 1996). During the Sarney administration for example, environmentalists complained about a proliferation of councils to attend as formal representation and participation through CONAMA and the National Environmental Fund did not translate into real political influence (Hochstetler and Keck 2007).

Marina Silva as Minister of the Environment

Marina Silva was Lula's Minister of the Environment from 2003–2008. In the 1980s Silva had helped create the rubber tappers' movement and founded the Workers' Party (PT) in Acre, leading PT in the Senate from 1995 to 2011. This combination of affiliations is referred to by interviewee 66M (AC) as a '*dual citizenship*', meaning Silva was committed to both civil society and her political role. When Silva became Minister, even more NGO staff moved to MMA and NGOs played a key role in conservation activities; there was strong collaboration and a '*courteous*' relationship between civil society and the MMA, where '*NGOs walked in there all the time*' (Interviewee 66M (AC), see also Abers and de Oliveira 2015). This was an interesting development in the light of my political economy conceptual framework (drawing on Steves and Teytelboym 2013, see Chapter 3) which sees a strong civil society as an indication of a progressive climate policy. Marina Silva was a politician of the Workers' Party, the President's party, and the expectation was that environmental issues would become more central because of the strong party connection: '*It was kind of a natural thing for her to be Minister of the Environment; however, it was different to previous ap-*

[5]Sarney Filho was Secretary of MMA again under President Temer. In 2005 he moved to *Partido Verde*, the Green Party, where he still is. He resigned to prepare to run as a candidate for the Chamber of Deputies in the 2018 elections, which is a recurring ritual for politicians in election years. During his second term as Secretary of MMA José Sarney Filho prevented an environmental role back during the Temer administration when he mainly continued the environmental and climate policy of the PT era. The definitive break followed with the inauguration of the Bolsonaro government in early 2019. https://www.correiobraziliense.com.br/app/noticia/politica/2018/03/27/interna_politica,668961/comeca-a-troca-de-ministros-para-eleicoes-veja-quem-deixara-o-governo.shtml, last accessed 18.05.2018.

pointments to the post, which until then had always been given to people from other parties as a way to play game' (Interviewee 66M (AC)), in other words a tactical move in cabinet appointments (see Chapter 6), even though the MMA was much less linked to pork barrel politics due to its lack of resources (Hochstetler 2017a).

Silva was a symbolic figure of the social-environmentalist movement: a leading figure of the rubber tapper movement in Acre before she went into state politics. In the 1980s, together with Francisco (Chico) Mendes, she founded the Acre chapter of the trade union congress and they developed the concept of '*desenvolvimento com a floresta em pé*' or '*development with standing forest*'. Silva's most important achievements as minister of environment were the creation of protected areas and the introduction of a budget for the Amazon. Silva also negotiated Norway's donation to the Amazon Fund which enabled the fund's swift take off (Interviewee 66M (AC)).

Despite this background and high expectations from civil society, Silva was unable to 'inject' the Ministry with the ideas of the environmental movement (Interviewee 66M (AC)). The expectations of the PT government towards the new Minister were that she would, instead, discipline it: '*you have to keep your people under control*'; Tension and frustration built up among NGOs and the MMA staff as her style was described as '*a bit top-down*' (ibid). MMA was both influenced and helped by civil society. However, this close relationship and the open-door policy peaked during Marina Silva's term. When she resigned as a minister, she also left the party and took a large number of activists with her when she ran for President for the 2010 elections on the ticket of another party (Abers and de Oliveira 2015).

Historical proximity: Civil society enters the deforestation and climate change actor network

The relationship of MMA and civil society can be characterized as a 'historical proximity'. One aspect was the hiring process for employees: under Sarney Filho (1999 - 2002) the MMA became impoverished again due to the removal of the irrigation portfolio; it barely had any permanent employees; and most people working there were seconded from international organisations under a government cooperation scheme where UNDP, UNEP etc. hired Brazilians to work in ministries (Interviewee 66M (AC)). Several other international organisations also followed this practice, employing staff for MMA and trying to get them through the public civil service recruitment system. Under the Lula administration, this practice was changed, but up to 2003 the vast ma-

jority of MMA staff worked under these international contracts and were paid competitive salaries: '*the bureaucracy was not incompetent or bad, but a small organization with some well-qualified people and connections to highly professional NGOs*' (Interviewee 66M (AC)). Actors with strong environmental concerns and principles found allies in the MMA, whose strength also provided a platform for stronger dissemination of their ideas (Hochstetler and Keck 2007, Hochstetler und Viola 2012).

Until about 2005 the main environmental issue in Brazil was deforestation rather than climate change and policy instruments focused on the high deforestation rate. The Brazilian state's capacity to control deforestation has increased significantly over time (Viola 2013). This is particularly relevant for the monitoring of deforestation. It focused on understanding where deforestation was happening, which is crucial for operations of the police, the military, or the inspectors of IBAMA. In order to sanction illegal deforestation, however, it is equally important to train staff to analyze the monitoring data and use it as evidence in court, rendering manpower and technical capacities a key factor for MMA to fulfil its mandate to address deforestation.

Monitoring and surveillance is one of 3 pillars of the PPCDAm, the centrepiece of environmental policy and law (see 7.4.1), and monitoring capacity was a key to its success (Carvalho 2012; CEPAL/IPEA/GIZ 2011). This capacity lay largely, initially, with civil society - the Ministry itself had very little - but NGOs like IMAZON and ISA developed GIS mapping and worked with satellite images in the 1990s. MMA tapped into this resource by using their technical capacity (Interviewee 66M (AC)).[6] The success of Brazil's policy against deforestation during this period was thus partially founded in the capacities of organized civil society (NGOs).[7] The monitoring capacities ultimately developed by the state also made Brazil a special case in comparison to other countries in the region (Interviewees 20T (AC), 88R (GOV)), being the only one with a satellite and the structure and capabilities of the National Institute of Space Research (*Instituto Nacional de Pesquisas Espaciais*, INPE) (Interviewee 20T (AC)).[8]

[6]The NGO IMAZON processes satellite data itself and documents trends in deforestation. The published data often challenge the official data of INPE and are not used by MMA. Despite MMA's hostilities IMAZON's work is taken very seriously by civil society as a balance to INPE's official data on deforestation. See for example: https://imazon.org.br/publicacoes/boletim-do-desmatamento-da-amazonia-legal-maio-2019-sad/

[7]The technical capacities were key in particular for the case of deforestation and deforestation monitoring. But civil society also has other relevant capacities, for example advocacy in general as well as specialized capacities such as mobilization and organization of grassroot movements and indigenous associations.

[8]INPE is in charge of satellite monitoring of deforestation. Brazil's deforestation monitoring system (*Detecção de Desmatamento em Tempo Real*, DETER) under the leadership of the Ministry of Science,

7.2.2 The Legacy of the International Environmental Movement in Brazil and the 1992 Rio Conference

MMA was able to become an important agenda-setter through the increasing acceptance and role of a growing environmental discourse in Brazil and with the active help of civil society. There were landmark events during this process, including widespread international pressure and diplomatic protest about the deforestation of the Amazon in the years following the assassination of Chico Mendes in 1988 and the Altamira gathering in 1989 (Kolk 1996), and the first meeting of the *povos da floresta*, the people of the forest.[9] 1988 was 'the year when the Amazon burned' while the US saw an unusually hot summer and drought (Hochstetler and Keck 2007: 111). This and the media coverage of the Amazon forest fires created a discussion when Sting came to Brazil the following year which created unprecedented international attention; '*and that is part of why the 1992 conference just ended up being in Brazil. Because there was all this attention at the time*' (Interviewee 66M (AC)). The preparations for the Rio 1992 conference were very important for the further strengthening of Brazil's civil society, already active in the 1980s: '*there was this established group of big NGOs, national but large and well-qualified and with the capacity to participate. And a lot of these started in the '80s in São Paulo and Rio, but they ended up having headquarters here [in Brasília]*' and strong political momentum (Interviewee 66M (AC)).

Keck and Sikkink (1998) make a similar argument: Brazilian social movements connected to social movements in Europe and the United States (boomerang effect, ibid). As a result, civil society in Europe and the United States pressured their governments, who pressured the World Bank to reconsider and halt certain projects in Brazil (Interviewee 66M (AC), Kolk 1996).[10] This '*process of organizing where national actors made connections with international actors*' (Interviewee 66M (AC)) flowed into the mobilization for Rio 1992. The largest US NGOs and think tanks were among the most active organisations, lobbying for rainforest protection, biodiversity and action to combat climate change (Kolk 1996). The 'mutual antagonism' between Brazilian NGOs and their

Technology and Innovations (*Ministério da Ciência, Tecnologia e Inovações*, MCTI) became a leading reference and INPE a global player in assessing deforestation and regional climate modelling (Viola 2013). The precise measurement of deforested area is being undertaken with PRODES (*Programa de Cálculo do Desflorestamento da Amazônia*), the annual deforestation monitoring system of INPE. Source: https://infoamazonia.org/en/datasets/sources/inpe-2/, last accessed 30.09.2018.

[9] *Povos da floresta* refers to both indigenous and traditional forest dwellers such as quilombos. See: https://ipam.org.br/glossario/povos-da-floresta/, last accessed 17.11.2020.

[10] Examples of these controversial projects are for example *Polonoreste and Grande Carajás* (Hochstetler and Keck 2007).

government did not really change during the Rio 1992 conference but their issues became much more widely covered and prominent (Kolk 1996); it '*fed the environmental consciousness of Brazil*' (Interviewee 55H (AC), see also Hochstetler and Keck 2007).

President Fernando Collor hosted the Rio Summit in 1992 and pushed hard for the UN climate negotiations to be held under the UN General Assembly, rather than the Security Council, UN Environment or other small branches, with the aim of keeping economic issues at the forefront and emphasizing developing countries' right to economic development (Edwards and Roberts 2015; Hochstetler and Viola 2012). With this move Brazil shaped the path of future climate negotiations and contributed to their lack of productivity (Edwards and Roberts 2015).

7.2.3 The Climate Actor Network Expands; Domestic and International Interactions Around the Pilot Programme for the Protection of Tropical Forests in Brazil

The Pilot Programme for the Protection of Tropical Forests in Brazil (*Programa Piloto para a Proteção das Florestas Tropicais do Brasil*, PPG-7) is an early example of climate relevant finance in Brazil and can be seen as a predecessor of the Amazon Fund. Many interviewees referred to it as a key experience and a milestone in Brazil's emerging climate finance landscape. The PPG-7 programme had positive experiences with bilateral donors and prepared the ground for pledges to the Amazon Fund and was thus instrumental for its inception. While it was not conceived of as a climate programme as deforestation has been seen as an issue only partially related to climate for a long time, it is of highest relevance for forest related emissions.

The PPG-7 was initiated in 1990 by Germany at a meeting of the Group of Seven countries (G7) in Houston (De Antoni 2010). It was implemented from 1994 to 2009 and had a volume of US$ 480 million for five themes: sustainable production, protected areas, scientific and technical research, institutional strengthening, and knowledge dissemination (MMA 2009). Germany was the largest donor; other contributions came from the European Commission, the UK, France, Japan and the Netherlands (Scholz and Schönenberg 2013). The PPG-7 was administered by the World Bank and, similar to the subsequent Amazon Fund, financed pilot conservation and sustainable development activities implemented by local communities, NGOs and municipal and state governments. The PPG-7's main objective was to contain deforestation in the Amazon

region (Scholz and Schönenberg 2013), as well as to demonstrate the viability of harmonizing environmental and economic objectives in tropical forests, preserve genetic resources, reduce GHG emissions and to provide an example of cooperation between developed and developing countries in global environmental affairs (De Antoni 2010). It supported producer associations and the participatory management and establishment of 2.1 million hectares of extractivist reserves; other innovations included ecological corridors (55 million ha in the Amazon) and support for indigenous land monitoring and demarcation of indigenous lands (40 million hectares) (MMA 2009). These priorities already point to an important discourse - social-environmentalism or *socio-ambientalismo* - which is discussed in section 7.3.

The PPG-7 has ben criticized as a hegemonic programme, through which the World Bank and industrialized countries imposed their economic and value systems on a country that was not prepared for this type of intervention (De Antoni 2010).[11] However, the PPG-7 was less of a donor driven activity than its inception might imply, or the political economy literature suggest, because it included a wide range of actors with responsibilities for parts of the implementation and budget execution. It introduced participatory methods for project planning and consultation involving a multitude of stakeholders (Scholz and Schönenberg 2013). The MMA welcomed the initiative, but civil society was divided due to the strong involvement of donors (Kolk 1996).

NGOs were not mere 'reproducers' and 'effects' of hegemonic discourses (Garcia 2008) but instead, the PPG-7 created new spaces for civil society participation. NGOs were even included in the elaboration of public policies (Scholz and Schönenberg 2013). Thirteen PPG-7 sub-programmes were implemented over the years, mostly under the leadership of the MMA and some under the Indigenous Administration (*Fundação Nacional do Índio*, FUNAI) and the MCTI. All had contracts with civil society organisations and did project management with them. One interviewee called it '*the most participatory place in the government at the time*' (Interviewee 66M (AC)). The PPG-7 was also another manifestation of the close relationship between NGOs and the government.

The PPG-7 implemented a *socio-ambientalismo* agenda (see 7.3.1). It aimed at introducing a new logic of natural resources management as well as positive changes to social inclusion and local communities' wellbeing, and served as a reference for

[11] For example the Houston declaration stated among others that '*we recognize that strong, growing, market-oriented economies provide the best means for successful environmental protection*' (G7 Summit 1990, § 62, in De Antonio 2010: 304).

implementing similar initiatives among civil society organizations (MMA 2009). The PPG-7 programme shaped the discourse on Amazônia and forests in a way that novel approaches were tested and piloted, making it a type of playground for the collaboration between state and federal levels in the area of conservation.

PPG-7 was designed as a multi-level programme from the beginning, including the federal, state and municipal levels (Interviewees 13M (DON), 19S (GOV); Scholz and Schönenberg 2013; see also 7.2.4 and 7.2.5). It cooperated with environmental ministries at state and municipal levels, with the judiciary and with a broad range of agencies and other organizations as well as NGOs and social movements; some were even created for the PPG-7; and the PPG-7 financed many civil society organizations including indigenous organizations. Interviewee 19S (GOV) speaks about a '*movement*' in 2002/2003, when the governor of Amazonas, Eduardo Braga, embraced the PPG-7 (Interviewee 19S). On the Brazilian side, the number of participating organizations goes into the hundreds (Scholz and Schönenberg 2013), including smallholder associations and NGOs. At a time when government and civil society were bound by the mobilization for the new 1988 constitution (Kolk 1996), the PPG-7 filled a vacuum through the creation of a system of rural extension that was later taken over by the government (MMA 2009).

The PPG-7's vision was similar to the objectives of the Amazon Fund. The PPG-7 portfolio included forest management, wetland management, indigenous lands, and environmental institution building, all reflected in the portfolio of the Amazon Fund a decade later. The rationale of the PPG-7, to develop and pilot alternative development paths for the Amazon, experimenting with alternative, environmentally friendly production systems, are well aligned with the ideas of *socio-ambientalismo* (see 7.3.1). Through this it sought to change the economic model for Amazônia and thus change the prevailing political economy view that deforestation is an economic necessity (see also 7.2.4 and Chapter 8). The PPG-7 thus influenced the discourse that later influenced the establishment of the Amazon Fund: in 2003, an inter-ministerial committee published a document with emergency measures against illegal deforestation, reacting to increased deforestation rates. In 2004, the Plan for a Sustainable Amazon (PAS) was launched (and relaunched in 2008) which shows a similar problem analysis and similar focus areas as the negotiation process for the second phase of the PPG-7 from 2002. The PPG-7 experiences and policy proposals were thus transformed into official policy documents and public policies (Scholz and Schönenberg 2013).

Scholz and Schönenberg (2013) argued that the PPG-7 was not able to increase the power of MMA vis-á-vis other ministries (such as energy, transport or agriculture), which are central to economic development of Amazônia, and, as a result, the PPG-7 did not reach its ultimate objective - the reduction of deforestation in the Brazilian Amazon.[12] However, the PPG-7 shifted the balance of power within the government in favour of the MMA. Beyond the water portfolio, the PPG-7 was the MMA's biggest activity during the initial years of its existence (Interviewee 66M (AC)). Some of the NGO staff entering the MMA (as well as IBAMA) were involved in the implementation of PPG-7 sub-programmes (Interviewee 66M (AC); Scholz and Schönenberg 2013), shifting the power constellation within both the government and the climate actor network. It increased the focus on Amazon deforestation and strengthened the soft powers of the MMA, which can be seen both domestically in its emergence as an agenda setter in climate policy as well as internationally in the international climate negotiations.

The PPG-7 also increased international visibility and strengthened relationships with donors, such as the German International Cooperation (GIZ) and the German Development Bank (KfW), enabling a continuity of support for the Amazon Fund created in 2008. When the PPG-7 ended, the two governments agreed that the German government would accompany the implementation of the Amazon Fund with the BNDES (Interviewee 13M (DON)). PPG-7 also generated an active role for international actors in the experiences of Brazilian state and civil society actors with forest conservation programmes (e.g. Acre and California).

The experience of PPG-7 was relevant in that it helped state governments gain confidence and agency and laid the foundations for future cooperation. A multi-level interaction on Amazon forest protection was thus institutionalized by the PPG-7; the Amazon Fund tapped into this network.

7.2.4 Conservation Initiatives in Amazonian States

The PPG-7 was not the only case where the subnational level took initiative in forest protection. An insightful example for state led initiatives is the state of Mato Grosso, where Blairo Maggi as governor was embarking on a new climate policy. A large-scale

[12] Scholz and Schönenberg (2013) argued that the PPG-7 influenced public policies positively where project activities involved the majority of relevant stakeholders but that it lacked horizontal integration, thus did not attempt to include actors of other sectors such as agriculture or infrastructure.

soy producer himself, he proposed to soy farmers in his state that there was no reason for further deforestation as there was enough unused land available (Interviewees 19S (GOV), 66M (AC)). This new discourse argued that deforesting is '*really not that economically useful, whereas in the past there was this idea that the economic pressure on the forest was so great that you could not ignore it for the sake of political correctness*' (Interviewee 66M (AC)). This had practical implications, and during his administration, deforestation in Mato Grosso decreased considerably. Deforestation was not seen as an economic necessity as previously (Interviewees 55H, 66M (AC), 19S (GOV); AF 2008).

A similar phenomenon occurred in the state of Amazonas with another influential personality, Eduardo Braga. During his time as governor he introduced a new paradigm and pushed for a conservation economy rather than incentivizing forest conversion through unsustainable agricultural practices: '*I want to move from the distribution of chainsaws to a conservation economy*', he announced, according to interviewee 19S. Distributing chainsaws had been common practice in the Amazonian states, to reward political and electoral support and connect to the local constituency, and Braga sought to change this practice. A new paradigm was introduced at the state level with a formal environmental programme to break with the existing political economy and create a 'conservation economy' (Interviewee 19S (GOV)).

The *Secretariat of Sustainable Development* (SEMA) was created as the State Environment Department, complementing the state environmental enforcement agency, which was dominated by the '*mentality of command and control*' (Interviewee 19S (GOV)). The high vulnerability of the Amazon region was one concern of Governor Braga, another was the '*view that you have to value the standing forest and seek means of enabling conservation economics rather than preservation*' (Interviewee 19S (GOV), see 7.3). This showed strong links with the ideas of socio-ambientalismo at state political level and how a changing discourse enabled new avenues for political action and social change.

The state of Amazonas passed a climate change law in 2007, several years before the federal government (Interviewee 19S (GOV)). The state climate policy defines a series of processes, policies, programmes and interactions, such as the 'Amazonian Forum on Climate Change, Biodiversity, Environmental Services and Energy' (*Fórum Amazonense de Mudanças Climáticas*), a dedicated space in which civil society interacts with

the government to build a joint work agenda.[13] Moreover close cooperation with international NGOs and international partners such as development cooperation partners showed strong international influences on this process (Interviewee 18R (GOV)).

Through this Forum, the Amazonas state prevention plan to control Amazon deforestation was launched, including a deforestation reduction goal. According to interviewee 18R (GOV), '*it was the right moment due to the launch of the Amazon Fund. Amazonas was the first state to submit its plan [for the prevention and combating of deforestation in the Amazon]*'. It was a precondition for eligibility for funding from the Amazon Fund to have a state level Action Plan against Deforestation. Through its early action, Amazonas aligned itself with the federal level and the PPCDAm and positioned itself very well to benefit from the Amazon Fund. On the one hand, the example of the state of Amazonas shows regional priorities and a certain disconnect from the national level. On the other hand, there were multiple interactions between the states and the international level. The high permeability between government and civil society spheres in the state of Amazonas mirrored the situation at the Ministry of Environment during Marina Silva's term and the courteous relationship between civil society and the ministry.

The state of Amazonas was an early mover in sub-national climate legislation and anticipated several developments at the federal level. Civil society and expert knowledge were actively invited to participate in this process. Governor Braga also played a decisive role in the creation of state environmental secretariats beyond Amazonas in other states (Interviewee 19S (GOV)). This example showed the role that motivated individuals can play in a process of new meaning-making, and the role of new institutions in agenda setting and the development of ideas, such as state level environmental ministries, large social-environmental programmes, and implementing agencies. All stages in this process provided ample space for civil society to contribute their ideas through workshops and develop close relations and exchanges with the state government. Even more, they were actively invited to participate in policy formulation and institution building at the state level and their expertise was valued. Civil society's expertise was again '*lent*' to gain legitimacy through their involvement.

[13] law nr. 3135 05.06.07, http://online.sefaz.am.gov.br/silt/Normas/Legisla%E7%E3o%20Estadual/Lei%20Estadual/Ano%202007/Arquivo/LE%203135%2007.htm, last accessed 29.06.2018.

7.2.5 More National – Sub-National Level Interactions: the Special Secretariat for Strategic Affairs and its Cooperation with the Amazonian States

The Special Secretariat for Strategic Affairs (*Secretário Especial de Assuntos Estratégicos*, SEA) is a widely overlooked in the study of institution in Brazilian politics. It is a mostly conservative institution (Kolk 1996), operating as an advisory body to the president with the status of a ministry. However, on the issues of climate and forests it showed a different position supporting the Amazonian governors under its Minister Mangabeira Unger.[14] Getting deforestation in the Amazonian states under control was a prerequisite for the Amazon Fund, and so national level support from the SEA was very important for this undertaking due to its good relations to the state level. SEA further sought to influence the Brazilian position in the international climate negotiations and actively lobbied for Brazil to embrace the REDD+ discourse.

During Lula's second presidential term, SEA worked with state governments on environmental policies and the reduction of deforestation (Interviewee 19S (GOV)), for instance through the legalization of properties, which, according to interviewee 66M, was very controversial (the majority of properties in Brazil do not have a legal title; see Chapters 5, 8). Towards the end of the second Lula Government, SEA staff engaged in frequent negotiations with Amazonian state governors (Interviewee 66M (AC)). Unger had good relationships with the governors and had helped organize the Forum of the Governors of the Amazon according to one interviewee (88R (GOV)). In 2009, the year of COP 15 in Copenhagen, SEA started working with the Amazonian governors, for example with Blairo Maggi and Eduardo Braga: '*they had the very aggressive proposal that Brazil should change its position at COP 15*' (Interviewee 88R (GOV)). With the help of the governors of Amazonas and Mato Grosso SEA sought to influence Brazil's international position and as recollected by interviewee 88R (GOV), to adopt a more generous position on REDD+: '*We conspired, […] we were against the position of Itamaraty [Ministry of External Relations], and the MCTI […] On our side, very discretely, was the mighty Ministry of Finance*' (ibid). A coalition between federal level actors and sub-national actors emerged, bypassing the ministries in charge of developing Brazil's international position and omitting the MMA which was also sceptical towards market mechanisms. This is an interesting case of individuals leading institutions and setting the public discourse. This became manifest in this actor coalition, producing insiders

[14] Mangabeira Unger was Brazil's Minister of Strategic Affairs in 2007–2009 under Lula and again in 2015 during the second term of Dilma Rousseff.

and outsiders; here the outsider was even the minister.

According to interviewee 88R (GOV), SEA was neither convinced of the donation-based scheme of the Amazon Fund nor the voluntary carbon market, and was 'betting' on another alternative, a US law that was in the legislative process at the time ('Waxman-Markey' bill), arguing that even if Brazil changed its position, the European Union would not accept compensatory financing for avoided deforestation (for the discursive frame applied by SEA see also the sovereignty discourse section 7.3.4 in this Chapter as well as the green discourses section 8.3.3 in the following chapter). SEA proposed a benefit-sharing mechanism[15] and a strategy to find funders, focusing on future compensation payments from the United States. A law under discussion would have allowed US companies to buy carbon credits from avoided deforestation of tropical rainforest to offset their emissions and reach their domestic emissions reduction targets. According to interviewee 88R (GOV), '*this law had an article that was written for Brazil. […] It was exactly what we wanted for the Amazon*'. Civil society representatives in the United States were involved in the drafting and lobbying of this bill in the United States (in particular Stephan Schwartzman, an environmental activist and writer, at the Environmental Defence Fund) (Interviewee 88R (GOV)). This is an example of Keck and Sickink's (1998) boomerang effect. The actor network lobbying for market solutions for REDD+ expanded beyond Brazil and connected to NGOs in the US. They also won the political support of two Democratic senators (Barbara Boxer and John Kerry).

The 'Waxman-Markey' bill had already been voted on in the House of Representatives, but soon after COP15 the 2010 mid-term elections were held, where the US Democrats lost seats in both houses of Congress and their majority in the House of Representatives. With the recession and crisis of 2008, '*the American law has disappeared*' and interviewee 88R (GOV) concludes: '*that was our experience with the REDD market*'. The market proponents represented here by the Ministry of Finance and SEA did not succeed in what interviewee 88R (GOV) describes as a 'missed window of opportunity' due to US domestic politics. In the power play within the government, key individuals and states were against the official position of Brazil, which rejected any kind of carbon market for REDD+, a position that was at least in parts realized also internationally (Interviewee 38T (PB)).

[15] SEA instead hired IPAM to assess the amount of carbon in the Amazon forest and the ownership of the carbon.

7.2.6 MMA in the international climate negotiations

Traditionally Brazil was represented in international environmental negotiations by its Ministry of Foreign Affairs (*Ministério das Relacoes Exteriores*, or Itamaraty) and the MCTI which have both been described as conservative (Viola and Franchini 2012, Carvalho 2012, Palmer and Engel 2009). Itamaraty assists the president in international negotiations and international policymaking, while MCTI presides as vice-chair of Brazil's Interministerial Commission on Global Climate Change. The latter defines governmental action on climate change, making the MCTI the key actor in Brazil's international climate negotiations (Carvalho 2012). The MMA has participated in UNFCCC negotiations from the start in 1995, but not with high-level representatives until 2003 (Carvalho 2012). Brazil's Executive Secretary for Environmental Quality[16] attended COP9, accompanied by the Minister of the Environment Marina Silva at COPs 10-13 (2004-2007). The role of MMA's Secretariat for Environmental Quality expanded when it became the Secretariat for Environmental Quality and Climate Change in 2007 that included a Climate Change Department with a mandate to participate in and advise the MMA at international climate negotiations (Carvalho 2012). The first Secretary of the new Secretariat was Thelma Krug, lead forest negotiator for Brazil since 2000 and, until that date, a member of the Ministry of Science and Technology. This strengthened MMA's position through additional capacities in the knowledge-based discourse at the UNFCCC and MMA gained power and competency (Viola and Franchini 2018, Carvalho 2012).

From 1997 to 2012 Itamaraty, MCTI and MMA together developed Brazil's position in the international climate change negotiations and MMA's participation in the formulation of Brazil's position led to tensions with Itamaraty and MCTI, often moderated by the Civil House of the Presidency (Chief of Staff, or *Casa Civil*), for instance during the development of the Brazilian proposal for positive incentives for the reduction of deforestation in 2006 (Carvalho 2012) (see 7.4.4). One such dispute arose around the issue of market mechanisms for REDD+, with MCT and Itamaraty holding conservative positions, emphasizing the inherent uncertainties of market mechanisms such as the difficulties around MRV (Monitoring, Reporting, Verification) and the danger of fraud and corruption (Carvalho 2012). The MMA, on the other hand, while sharing the challenges of setting up a market mechanism for REDD+, maintained its view that Brazil should participate in the REDD+ negotiations and in principle was open to the possibility of an international mechanism covering both deforestation and carbon stocks (Car-

[16] This unit is also responsible for the National Climate Fund.

valho 2012). The Ministry of Finance had been involved since 2009, and the Ministry for Agriculture since 2010 (after Copenhagen) (Interviewee 38T (PB)). The engagement of additional ministries changed Brazil's position in the climate negotiations; the broadening of the base of involved actors strengthened MMA's position, which negotiated its space within the group of three agenda setting actors (MMA, Itamaraty and MCTI).

7.2.7 Attracting an Important Donor: Norway

Marina Silva left the government in May 2008 but had completed the main negotiations on Norway's donation to the Amazon Fund before stepping down (Interviewee 13M (DON)). The Norwegian government decided in 2007 to invest up to three billion NOK (about US$ 500 million)[17] annually to contribute to the reduction of deforestation and forest degradation. To this end, a REDD+ regime was to be supported through international cooperation. Because Brazil and Indonesia are responsible for half the global emissions from deforestation and forest degradation, these countries were chosen as partners. This deal was linked to Norway's own 2008 target to reduce its greenhouse gas emissions by 30% by 2020 (Marcovitch and Cuzziol Pinsky 2014).

The Norwegian engagement for the protection of Brazilian forests stems from a concern about climate change and '*global responsibility*' (see 7.3.2) that is widespread among Norwegian society. Following a wide discussion, the Stoltenberg government bought into the idea of supporting Brazil on this issue (Interviewee 22N (DON)). Norway had already been supporting civil society activities in Brazil, for example Norway's International Climate and Forest Initiative's (NICFI) support scheme for civil society within the Norwegian Agency for Development Cooperation (NORAD) had supported many innovative REDD+ projects (Interviewee 22N (DON)).

Consciousness about Indigenous Peoples' (IPs) rights is also high in Norway, for the country's own IPs and worldwide as can be seen in the Norwegian Program for Indigenous Peoples (Npip) of the Norwegian Agency for Development Cooperation (NORAD). The initiative started already in the 1980s within Norad and in different form, at the Ministry of Foreign Affairs from 1980. Since 1991, the program has been administered by the Institute for Applied Social Sciences (Fafo) offering financial support to indigenous and pro-indigenous organizations in Latin American countries, with a mandate to

[17] On July 1st, 2007, 3bn NOK were the equivalent of US$ 508.215.000 (https://www1.oanda.com/lang/de/currency/converter/, last accessed 17.11.2020.)

strengthen the capacity and ability of IPs to shape and control their own development (The North-South Institute 1998). Norway was an active supporter of important institutions like for example ISA and in some cases Npip was crucial for the advancement of indigenous peoples' agendas in the region (Intervieweew 22N (DON), The North-South Institute 1998). It was brought back into NORAD in 2000 and transferred to the Norwegian Embassy in Brasília in the early 2000s, where it is still located (Interviewee 22N (DON)). Despite being extensive and long term, Npip represents only a relatively small part of the Norwegian support for IPs which is being disbursed through NGO initiatives (The North-South Institute 1998). The 40 years of Npip point to a long-standing Norwegian tradition of supporting Brazilian NGOs in the field of indigenous peoples and tropical forests; these extensive experiences in Brazil, and this coincided with strong support for NGOs through NORAD beyond the Npip, all paving the way for support for the Amazon Fund.

In Brazil, the existence of a strong civil society helped enable the establishment of the Amazon Fund because it created trust in the main donor. Rio 1992 had inspired the establishment of many NGOs, and Brazil's civil society developed its own character and variety, often representing diverging positions from Northern NGOs and governments (Kolk 1996). Table 7.1 lists relevant primary and secondary factors contributing to the decision to establish the Amazon Fund both in Norway and Brazil.

Factors within Brazil		Factors within Norway	
Primary	Secondary	Primary	Secondary
Political will to tackle high deforestation rates	Civil society as watchdog and participant	Interest and consciousness about forests at home and abroad	Promoting the prevention of deforestation abroad
	DETER and PRODES (satellite-based monitoring systems)		Lively NGO scene and longstanding relations with Brazilian NGOs
Capacities to control and monitor deforestation	BNDES as a capable institution and alternative to award the government directly	Interest and consciousness about Indigenous Peoples (IPs) at home and abroad	Available ODA resources
	Mainstream environmental considerations in BNDES		

Table 7.1: Factors within Brazil and Norway conducive for the establishment of the Amazon Fund

Source: own elaboration, based on interview findings

Norway committed 1 billion dollars to the Amazon Fund in September 2008 to be disbursed over a period of ten years. The Norwegian annual payment for results in reducing emissions from deforestation in the Amazon was put on a special account in Norway, to be drawn upon when the Amazon Fund needed funds for approved projects (Interviewee 22N (DON)). By December 2017, Norway had disbursed US$ 880 million into the Amazon Fund and Germany had contributed US$ 48.5 million.[18] Both the Norwegian and German commitments have increased over the years, however Norway is currently holding back its disbursements due to several contentious questions about Amazon Fund governance and the use of funds.[19] The state-owned petroleum enterprise Petrobras is the only provider of domestic resources to the Amazon Fund.[20]

[18]https://www.bndes.gov.br/SiteBNDES/bndes/bndes_en/Institucional/Press/Noticias/2017/20171220_the_amazon_fund.htm, last accessed 06.01.2018, currency conversion rates of 20.12.2017 according to OANDA currency converter, https://www.oanda.com/lang/de/currency/converter/, last accessed 04.07.2018.

[19]See O Globo, 17/07/2019 21h26, https://g1.globo.com/jornal-nacional/noticia/2019/07/17/falta-de, last accessed 18.07.2019.

[20]Petrobras contributed R$ 16.045 million or 0,5% of the total amount. https://www.bndes.gov.br/SiteBNDES/bndes/bndes_en/Institucional/Press/Noticias/2017/20171220_the_amazon_fund.htm, last accessed 06.01.2018.

My conceptual framework highlights the role of actors and their rationalities and the processes leading to the Amazon Fund illustrate well the role of individuals (champions) at the top of government who had real influence and managed to push an agenda and a discourse. Neither political economy nor rational choice approaches can account for individual behaviours that are *not* strategic and self-interested. Discursive institutionalism on the other hand acknowledges the power of ideas, which Schmidt (2016) sees as the substantive content of discourse. Why some ideas get enacted while others do not is explained with the establishment of ownership and the application of power resources for a certain idea. Why individuals exercise ownership or seek to establish ownership over a certain idea, however, is not explained by discursive institutionalism, pointing to a gap in the theory. The next section examines the discourses on which the above-mentioned actors have drawn, and how they became relevant for the establishment of the Amazon Fund.

7.3 Discourses

According to discourse theory, knowledge is power, and institutions gain power through the integration of knowledgeable individuals into political processes (Hannigan 2006[2]). These experts legitimize their action through scientific and technical forms of discourse (ibid). Van Dijk (2003) argues that what we call epistemic communities are not merely social groups or institutions, but that they are in fact communities of practice, thought and discourse. In this sense knowledge is both important for the shift from the deforestation to the climate discourse as well as for the global responsibility discourse. New knowledge was introduced into the epistemic communities of academia and civil society, discussed with government – both national and state governments. The following sections analyze the salient themes which emerged from the interview coding. Criteria for salience were a) mentioned by more than one interviewee or b) more than once within one interview. The following sections further show how these main discourses and discursive frames (see figure 7.2) have had an impact in the social world, in the sense of creating meaning, mobilizing action and defining alternatives around climate policy and climate finance in Brazil, which also led to the creation of the Amazon Fund.

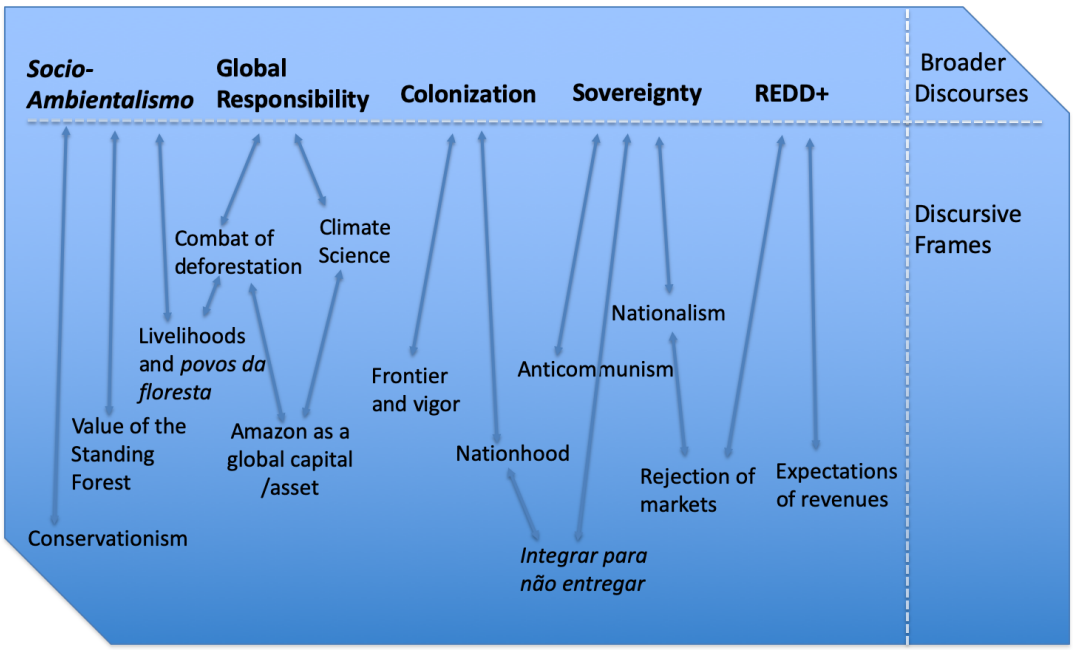

Figure 7.2: Discourses relevant for the Amazon Fund and their relationships
Source: own diagram based on data analysis

7.3.1 *Socio-ambientalismo* as a Powerful Idea

Socio-ambientalismo, or social-environmentalism, is a 'homegrown' concept based on the idea that forest-dwelling peoples' presence in and economic use of forests can enable forest ecosystem conservation. It emerged in several countries such as Brazil, India and Indonesia in parallel and promotes social equity and participation as much as environmental protection (Hochstetler and Keck 2007). In Brazil it refers mostly to indigenous or non-indigenous traditional groups living from forest resources in a way which allows the forest to regenerate. Several NGOs in Brazil carry the ideas or the terminology of *socio-ambientalismo* in their name, such as ISA (*Instituto Socioambiental*) or FAS (*Fundação Amazonas Sustentável*), which adds '*making forests worth more standing than cut*' to its logo.[21] *Socio-ambientalismo* is a distinct Brazilian way of uniting environmental and social concerns; nevertheless origins can be traced to early Northern environmental thinking, mostly in North America, where two branches of environmentalism emerged, the *conservationist* and the *preservationist* movements. I found that this distinction still has relevance for the environmental and climate discourse in Brazil today, shown in the remainder of this section.

[21] http://fas-amazonas.org/edital/, last accessed 11.08.2018.

The movement for the protection of nature that developed in the United States at the end of the 19th century emerged from social reform movements and as a reaction to urbanisation, industrialisation, immigration and social change. While the romantic thinkers were able to see both the mystical and the productive sides of nature, at the end of the 19th century two ideologically opposed environmental movements had emerged which Stoll calls the '*builders*' and the '*contemplators*' (Stoll 1997: 81). Industrialization, the construction of the railway and the gold rush led to deforestation, erosion and pollution and devastated significant parts of California and other areas of the United States (Isenberg 2007). Environmental degradation caused by the dissemination of unsuitable agricultural techniques enabled by the transport revolution for example triggered the dust bowl of the 1930s.

The schism of the environmental movement took place due to a controversy around a hydropower project (Hetch Hetchy Valley, in Stoll 1997). In a protestant religious climate the environmental movement split into '*nature preservationism*' and '*conservationism*'.[22] Gifford Pinchot and the conservationists demanded an effective use of natural resources. In contrast John Muir and the preservationists argued for the protection of the wilderness for its intrinsic value sake. John Muir founded the Sierra Club in 1892 and fought successfully for the return of the Yosemite Valley to the state of California and its status as a national park. However, his concept of protected areas was that of a nature free of people. The Native Americans were seen as a danger to the wilderness and were expelled from several national parks (Spence 1999). During the progressive era and the administration of Roosevelt, the conservationists dominated environmental policy in the United States (Andrews 2006).[23] An array of environmental NGOs were founded, mostly devoted to the protection of a particular species (Dorsey 2007). The post-war era has seen a reiteration of the old conflicts around national parks, forest management or hydropower, but with much broader public attention and participation. The new middle class with its resource-intensive lifestyle created pressure on natural resources and at the same time demanded the

[22] Stoll (1997) identifies both a utilitarian approach to nature as well as a tendency to nature mystification in the United States, and sees Protestantism with its values as the source of both. Protestantism dominated both the capitalist system as well as the early environmental movement ('Protestantism's double legacy'), which sees nature both as a place of worship as well as a resource, encouraging both exploitation as well as a militant sympathy. The yeoman farmers' lifestyle in Jefferson's republican tradition and the ideology of a manifest destiny were the ideological footprints for the marginalization of the hunter-gatherer and horticulturist cultures of the Native Americans. As wilderness appeared unprofitable, its subjugation seemed justified (the supremacy of the discoverer was followed by the supremacy of the more efficient land use (ibid)).

[23] Gifford Pinchot became the first head of the US Forest Service in 1905.

consumption of pristine nature and triggered a revival of the preservationist movement while environmental problems increased (Andrews 2006).

The conflict between preservationists and conservationists was replicated in Brazil, especially in the discussion around the creation of protected areas, which became a field of conflict with NGOs from abroad (Interviewee 66M (AC)). This constitutes another example of the boomerang effect (Keck and Sickink 1998 and 7.2.2). While parts of civil society, especially international NGOs in Brazil, lobbied for a preservationist approach to create protected areas with no human presence, Brazilian NGOs and governors of states in the Amazon biome supported an approach that would allow sustainable human activity and provide livelihoods for local people (Interviewee 66M (AC)). In the 1990s, many international NGOs, such as the WWF, went to Brazil to create protected areas without a human presence. This created major conflict within civil society in Brazil. NGOs in Brazil wanted to designate 10% of Brazil as protected areas for sustainable forest use (at that time called direct use). However, this is possible if indigenous land and areas of direct use are included, but not if the land must be '*empty of people*' (Interviewee 66M (AC)).

In the late 1980s, the rubber tappers' movement had embraced a socio-ambientalismo discourse, which grew to question this northern NGO perspective. *Socio-ambientalismo* adds another variety to Western environmental discourse and the environmental movement. It does not propagate the preservation of nature for its own sake; *socio-ambientalismo* promotes conservation as the foundation of livelihoods and for social and environmental diversity. The non-indigenous inhabitants of the Amazon, today called 'traditional groups', moved to the region for the purpose of using various natural resources (the rubber tappers but also those who came during the military dictatorship - see also Chapter 5, 7.3.3 and 8.3.2).

The rubber tapper movement was not an environmental movement, and particularly its founder Chico Mendes was a labourer and community organizer rather than an environmentalist (Nordhaus and Shellenberger 2007). However, environmentalism and forest protection overlapped with Mendes' own agenda, which was protecting the communities that lived in the forest and the battle for land reform. Since the 1990s, peasant unions connected the land rights issue with political demands for the demarcation of protected areas, in order to create obstacles for the advancement of large farms and deforestation (Scholz and Schönenberg 2013, Interviewee 1A (CS)). In Brazil, the link between environmental degradation and social justice was a powerful framing

applied by environmentalists and taken up by the political left and most environmentalists had no issues with linking environmental protection with livelihood struggles in Amazônia (Hochstler and Keck 2007). The Workers' Party became a political home for large parts of the environmental movement because of its '*radical democracy, direct participation, and grassroots organization*' (ibid: 110).

And for the proponents of *socio-ambientalismo* the people living in the forest were not seen as the problem but rather as a key to the solution of the deforestation issue, and their presence and conservation activities should be rewarded with the benefits of climate finance. This was an idea very prominently promoted by civil society groups in Brazil and can also be seen in the related NGO discourse around the Clean Development Mechanism (CDM). Many Brazilian NGOs were convinced that under the CDM, those who are largely responsible for maintaining the forest – indigenous peoples and traditional communities – have no prospect of receiving adequate support for their efforts. According to interviewee 1A:

> *Recognising this, it became clear that Brazil must first acknowledge its responsibility and take action, and according to the fact that the global climate regime itself recognized the role of these communities*[24]

Because the CDM is not well placed to provide this support to forest communities, in their view, the government of Brazil needs to take this responsibility and step in, for instance through including the protection of forests in the CDM, which Brazil opposed (see also 7.2.5). Seeing people in the forest as a key to the solution of the deforestation problem rather than its cause also led to a different position of Brazil's civil society towards REDD+. While REDD+ has been and still is being seen critically by many NGOs in Europe and North America, it was more readily embraced by NGOs in Brazil.[25] Interviewee 1A (CS) recalls: '*when [REDD+] is accused of being a mechanism opposing indigenous rights, it has always been very painful for us to hear this*'.[26]

[24]While the negotiations under the UNFCCC recognized Indigenous Peoples early on, the CDM has been criticized for human rights violations, especially in LULUCF (Land Use, Land Cover Change and Forestry) projects. Addressing this criticism, LULUCF guidance for project design under the CDM must now include information on indigenous peoples. See for instance: https://www.ciel.org/human-rights-in-the-cdm/, last accessed 29.09.2018.

[25]There is, however, also a group of Brazilian civil society actors around the 'Carta de Belém' that strongly opposes REDD+. These actors are often smaller NGOs which do not benefit from Amazon Fund financing, are without political access to MMA or the state level, and which are generally skeptical about government (unlike actors like ISA or IPAM who are in close contact with some Amazonian state governments as well as MMA, and have sometimes had direct influence on policy design and implementation). Today, the group receives financing via the Boell Foundation in Brazil and created a number of very well-informed REDD+ opponents holding anti-REDD+ workshops in the Amazon region, among other activities.

[26]The REDD+ regime under the UNFCCC acknowledges the contributions

7.3.2 From the Deforestation to the Climate Discourse and the 'Global Responsibility' to Protect the Amazon and the Climate

The relevance of knowledge for discursive change has been emphasized by van Dijk (2003). In Brazil between 2000-2005, scientific knowledge was instrumental for discursive change. At the international level the Stern review of 2007 revealed to the world the economic impacts of GHG emissions from deforestation (Moutinho et al. 2009). At the same time, Working Group II of the 4th IPCC Assessment Report highlighted the already occurring and expected impacts of climate change for Brazil (IPCC WGII AR4, 2007). Brazil's academia played an important part in the shift in the discourse, highlighting Brazil's role in global emissions stemming mainly from deforestation (Interviewee 38T (PB)).[27]

The scientific discourse and the NGO discourse together entered the political discourse, shifting the focus from deforestation to climate change (Interviewee 38T (PB)). NGOs which had campaigned against destruction of the Amazon forest now lobbied for a more progressive position by Brazil in the international climate negotiations. The expansion of the deforestation discourse to the climate protection discourse has been strongly influenced by NGOs such as Imazon, who work at the interface with science and contributed knowledge on monitoring and remote sensing data. Imazon and TNC (The Nature Conservancy) or São Paulo-based Vitae Civilis are particularly active in piloting REDD+ and Payment for Environmental Services (PES) projects. They developed showcases for their political lobby work and shaped the climate debate for a long time. Together with IPAM and ISA they, in one interviewee's view, '*succeeded to bring the discourse to bridge the gap between climate discussions and the issue of deforestation*' (Interviewee 38T (PB)). Thus, discursive changes led to social change: the discourse emerged from an expert issue to a question widely discussed in society and with strong civil society lobby activity until it moved to the center of policy-making.

My research participants argued that in Brazil, the majority supported the country taking responsibility for protecting the Amazon. Both civil society and government representatives as well as one main donor representative brought up this theme. Moreover

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and rights of Indigenous Peoples and seeks to safeguard against their exploitation through the process of Free Prior Informed Consent (FPIC), see https://redd.unfccc.int/uploads/2_74_redd_20130710_recoftc_free_2C_prior_2C_and_informed_consent_in_reddplus.pdf, last accessed 29.09.2018.

[27] For example COPPE in Rio de Janeiro, an influential group of academics, as well as individual scientists such as Carlos Nobre, Mercedes Bustamante or José Maré (Brazilian IPCC author).

a 2010 Pew Center study found that 95% of Brazil's population at the time was concerned about climate change, which is far more than for example in Germany (52%) or the UK (40%).[28] While there was probably an urban and middle class bias with the survey sample, the results still show awareness in large parts of Brazil's population (Viola and Franchini 2012), or as interviewee 20T (AC) phrased it, '*if you have a more educated middle-class society and good governance capacity, you can protect the rainforest as Brazil is now doing*'. According to interviewee 55H (AC), a consensus had emerged among the population: '*there was a spirit or social consensus to protect the Amazon and when it was done the public accepted it*'. The same respondent also describes a 'consensus' within the Ministry of Environment, as well as the majority of the government, that '*we have to protect some kind of capital of Brazil, which is also a global capital, a global asset*' (Interviewee 55H (AC)).

The deforestation discourse tied even more seamlessly into the climate change discourse when the question arose about whether Brazil should adopt national emissions reduction (mitigation) targets from 2007/2008 onwards. This made the deforestation - climate change discourse more politically relevant; and the political relevance of discourses can lead to actions that trigger social and political change at '*a favourable moment in the government, in which it opens up for the discussion of this policy, including legislation*' (Interviewee 38T (PB)). It must not be forgotten, however, that the government's adoption of the deforestation - climate change discourse could also be used as a strategy to play down the role of other sector emissions (Interviewee 11K (CS)). Indeed, Brazil is the only major economy that has experienced an increase in overall carbon intensity between 1994 and 2007, excluding deforestation (Viola and Franchini 2012).

When the discourse moved from 'deforestation only' to 'emissions from deforestation and concerns about the global climate', the federal government subsequently owned and adopted the new discourse, for example in a 2009 public speech by President Lula in Copenhagen. The government felt enabled to commit to national emissions reduction targets at the international level in 2009 and cast it in legal form through the Climate bill. This highlights the interaction among different discursive levels and the mutually reinforcing effects of knowledge, discursive and policy changes. New actors contributed new information allowing a political breakthrough in late 2009, according to interviewee 38T (PB). Public campaigns by civil society groups such as Greenpeace,

[28] https://www.pewresearch.org/global/2010/09/22/chapter-5-environmental-issues/, last accessed 12.12.2020.

as well as consumer groups, led to the soy and beef moratoria and political action against illegal deforestation in Brazil (Interviewee 20T (AC)).

The government had adopted the discourse promoted by civil society. The impact of the global responsibility discourse on the Amazon Fund can for example be seen in the slogan of the Amazon Fund: '*O Brasil cuida. O mundo apoia. Todos ganham*' or '*Brazil protects it. The world supports it. Everybody wins*'.[29] The efforts against illegal deforestation in the 2000s were organized and understood as a joint effort across state, civil society and private sectors (Interviewee 1A (CS)). This feeling of unity and belonging to a larger movement was able to mobilize different parts of society and ultimately align them behind a government programme, while also allowing for wide ownership.

Van Dijk (2003) shows that knowledge is social as well as cognitive: '*knowledge is acquired, shared and used by people in interaction, as well as by groups, institutions and organizations*' (ibid: 86). In this sense, knowledge plays a role for the shift from the deforestation to the climate discourse as well as for the global responsibility discourse. First new knowledge was introduced into the epistemic communities of academia and civil society, then promoted at the interface with both national and state governments. Meaning making took place and actors started to see Brazil's role in the global emissions and the global policy cycle differently, which led to a new discourse, the global responsibility discourse (7.3.2). This discourse left its imprint on the subsequently created Amazon Fund.

7.3.3 Colonization of the Interior

The next two sub-sections analyze two discourses very different to the above and prevalent in Brazil's politics for several decades. The discourses on colonization of the interior and sovereignty appeared in several interviews and have also shaped Brazil's climate policy, and through this, decisions about the national climate finance landscape.

According to Nordhaus and Shellenberger (2007), since Portuguese rule Brazil has hoped to colonize its vast interior. The construction of a new capital in the interior

[29] http://www.amazonfund.gov.br/en/home/, last accessed 22.07.2018. The Bolsonaro administration has a different view on the capital of Amazônia and seeks to build ties with companies internationally as well as domestically. Mining companies and the agribusiness sector have supported Bolsonaro's electoral campaign.

to replace Rio de Janeiro, as stipulated in the 1891 constitution, was meant to be a '*launching pad*' for the development of the Amazonian rainforest. Lacking the financial means to construct the new capital, the Kubitschek Government made more currency available, triggering hyper- inflation, which rose from 9% in 1950 to 1783% in 1989. The military regime that followed was faced with the same inflationary problems and crushing debt, and placed their faith in what seemed an inexhaustible resource: the Amazon forest. Nordhaus and Shellenberger (2007) further argue that from a strictly economic point of view it would have been better for Brazilian governments to have left the Amazon alone and not attempting to 'develop' it, however opening it up appeared to be a possible way to avoid land reform. It was supported by tax breaks for investors in development projects (hydropower or paving the Belem-Brasília highway) and a 'homestead act' to encourage colonization by settlers (ibid).

Deforestation of the Amazon biome until the 1980s was therefore largely the result of public interventions. Since the 1990s, once the basic infrastructure was in place and agriculture turned profitable, deforestation was based on the economic logics for poor Brazilian migrants to head to the Amazon for farming, particularly from the impoverished North-Eastern states (see Chapters 5 and 8).

Discursive frames of frontier and vigour were used to consolidate the basis of the nation (Hoshino and Hansen 2017). Vargas' mission was the (re)foundation of a true nation state, appealing to moral and cultural values. This was completed by legal thinking and legal technique based on patriotic spirit and theoretical attitude called 'objectivism' (see 8.3.2 and 8.3.4). Vargas' regime depended on the power of knowledge; in the creation of institutions like the museum, the census, maps, or the renaming of the Service for National Historical and Artistic Patrimony into the Brazilian Institute for Geography and Statistics (IBGE), which still bears that name today: '*the scrutiny of the past, the survey of the present and the routes for the future*' became apparent, embracing the notions of objectivism, knowledge and progress (ibid: 43).
The March West, the '*conquest of Brazil by the Brazilian*' (Vargas in Hoshino and Hansen 2017: 52), was also a Brazilian government campaign to centralize the state and integrate the regions of the vast country, a story of internal colonialism and dominance over indigenous groups, which involved taking and parcelling their land, as well as their cultural assimilation (Fischer-Tahir and Wagenhofer 2017). The finding of the interior and its pseudo-emptiness (see 'preservationism' in 7.3.1), however, encouraged occupation and colonization.

7.3.4 Sovereignty Fears

The military's fear of foreign invasion via the Amazon was a second discourse related to colonization. A long tradition of distrust against other nations and their alleged plans to occupy the Amazon for its resources led to the slogan '*integrar para não entregar*', or 'integrate the region into the nation, not to lose the territory'. In order to protect Brazilian territorial integrity, the military dictatorship in the 1970s planned to develop Amazônia for example through the Trans-Amazonian Highway (*Rodovia Transamazônica*) from East to West and the settlement of people from the north-east (Souza 2020).

As a result of sovereignty fears for a long time Brazil rejected any kind of oversight or expansion of the international climate regime to tropical forests at international climate negotiations and interviewee 88R (GOV) elaborates: '*in some sectors here in Brazil there is an old paranoia about losing the Amazon to some kind of internationalization*'. Especially the military and the more nationalist sectors were afraid that controls of deforestation and carbon emissions would mean a loss of sovereignty (Interviewee 88R (GOV)). The sovereignty discourse was used and abused by the government, in interviewee 38T's (PB) view, to deny external influence with slogans like '*the forest is ours, we still have to develop*' (Interviewee 38T (PB)).

Sovereignty fears had implications for Brazil's position on REDD+ and led to the refusal of carbon payments, which interviewee 88R (GOV) found 'explicable, but irrational', acknowledging the position's historical roots. This discourse was in particular used when it suited vested economic interests, according to interviewee 38T (PB):

> *when there are big industries, big investments, nobody questions them. If you have a port that was built without an environmental license in Pará, that was not a big problem for the government. For the government it's more of a problem if it's a Greenpeace thing. It's a dubious thing, this Amazonian [sovereignty] thing.*

Fears of a possible foreign invasion were linked with Che Guevara's activities in Bolivia in 1968, as well possible internationalization of the Brazilian Amazon through conservation efforts and 'eco-invaders', following Rio 92 (Kolk 1996; Nordhaus and Shellenberger 2007). Amazon internationalization ideas were most explicitly and influentially stated by the conservation biologist John Terborgh. In his book 'Requiem for Nature' he argued that the Amazon is a global common and should be controlled and patrolled by the UN because in his view the '*internationalization of nature protection*' was the

only hope for biodiversity in tropical forests, '*to ensure the compliance of individual countries with international standards and agreements*' (ibid: 198). He proposed internationally financed elite forces similar to rangers in US national parks, and '*nature keeping*' instead of peacekeeping (Terborgh 1999: 199f.).

Brazilian governments disliked such positions and in 1988 Foreign Minister Abreu Sodré declared that '*Brazil does not want to transform itself into an ecological reserve for humanity. Our greatest duty is to economic development*' (in Nordhaus and Shellenberger 2008: 63). Lula was also initially sceptical towards the international community: '*The wealthy countries are very smart, approving protocols, holding speeches on the need to avoid deforestation, but they already deforested everything*'.[30] The fear that foreign powers might put the Amazon region under international control was thus a constant subject of conferences, newspaper articles and internet debates in Brazil and influenced both Brazilian Amazon politics as well as international cooperation (Scholz and Schönenberg 2013).

During the PT government, however, the sovereignty discourse declined (Interviewee 55H (AC)) . There was a strong focus on poverty reduction and stimulating domestic demand. PT representatives also tended to be critical of previous military dictatorships and the discourses favoured by them. Since 2019, sovereignty fears related to the internationalisation of the Amazon have once again arisen, illustrated by the conflict between President Bolsonaro and French President Macron and the G7 during the Amazon forest fires when international pressure once again built up.[31]

Interestingly, the international steps to enforce conservation described by Terborgh (1999) above were applied by the Brazilian government itself after 2000 with the implementation of the Action Plan against Deforestation, PPCDAm. Brazil started to tackle Amazonian deforestation and as a result also changed its international position (Interviewees 20T (AC), 38T (PB), 55H (AC), 88R (GOV)). Looking at this from a perspective of meaning-making, Brazil's government applied its agency to strengthen its control over parts of its territory; in interviewee 55H (AC)'s view, '*the Brazilian government was able to establish its authority in parts of the Amazon where it did not have it before*'. Deforestation control was basically through enforcement and the presence

[30]New York Times, 'Brazil's leader speaks out', February 7, 2007, in Nordhaus and Shellenberger (2008).

[31]New York Times, 'Who owns the Amazon?', August 27, 2019: https://www.nytimes.com/2019/08/27/opinion/macron-bolsonaro-amazon-g7-trump.html, last accessed: 17.11.2020.

of the state where it had not been before (Interviewee 55H (AC)). This made it easier for the state to abandon the sovereignty discourse (Interviewee 55H (AC)). The old nationalistic fear about losing the Amazon to internationalization, '*it never made much sense, but even less today. The Brazilian Amazon is almost all occupied [by people]*', argues interviewee 88R (GOV). Interviewee 55H (AC) sees the '*Brazilian government presence*' as a '*way to mitigate the presence of unwanted international agents*'. MMA and the 'mainstream' of the government anyway disagreed with the sovereignty fears and instead supported the protection of the Amazon as a national and global asset (Interviewee 55H (AC)). This sovereignty discourse has come back fully under Bolsonaro (Pelicice and Castello 2020).

Paradoxically the existence and the decline of the sovereignty discourse has had an influence on the Amazon Fund. First, on the one hand the Amazon Fund can be understood as a mirror of sovereignty fears as it establishes a certain degree of control over internationally funded activities and respects Brazil's sovereignty. This seems to have determined the choice of financing instruments, as the Amazon Fund is a national-level compensation scheme. The AF is a form of results-based financing; payments are made for Brazil government achievements rather than using a decentralized REDD+ approach. Brazil together with Norway chose a mechanism of ex post payments for the Amazon Fund, setting a fixed priced for reduced emissions, hence for efforts already done. Norway does not interfere in the management of the Amazon Fund, but performance and results are being discussed in annual meetings and other dialogues (Interviewee 22N (DON)). Second, on the other hand, to abandon a position of rigid sovereignty (Interviewee 55H (AC)) enabled Brazil to receive donations for the Amazon Fund. Rather than under international pressure the government took the necessary steps voluntarily and was able to realize its idea of a compensation mechanism domestically (see 7.4).

7.3.5 The Amazonian States Pushing the REDD+ Discourse

Amazonian governors were more open towards market mechanisms and pushed for REDD+, contributing to the discursive shift in Brazil. Interviewee 11K (CS) argues that '*REDD+ got off the ground in Brazil because the Amazonian governors began to pressure the federal government, because for them it made sense*'. At first, the Amazonian states did not have a unified position on REDD+ due to varied interests related to different deforestation rates: '*each state must defend its interests and its position on the national scene*' (Interviewee 88R (GOV)). States like Rondônia, Pará, Mato Grosso, To-

cantins and Maranhão had deforested a lot and could not gain much from reducing further deforestation. In contrast Amazonas, Amapá, Roraima and Acre had practically not touched their forests (Interviewee 88R (GOV)).

This division was initially brought up by the state of Mato Grosso, because it had very high historical deforestation rates. When the REDD+ discussions in Brazil began, there was little political support '*because we considered RED to be strictly about reducing emissions by avoiding deforestation*' (Interviewee 11K (CS)). This opposition changed when RED evolved to REDD and REDD+, expanding to include not only reducing emissions from deforestation and forest degradation, but also the enhancement of forest carbon stocks (the '+' in REDD+). It became attractive for other states in the legal Amazon (Interviewee 88R (GOV)). The states of the 'Legal Amazon' – the nine states in the Amazon basin - also negotiated among themselves the opportunities REDD+ and a possible benefit-sharing system would pose for the region (Interviewee 18R (GOV)). Once the concept of forest carbon stock was incorporated, REDD+ became a common agenda for the Amazonian states, because states with large stocks could participate as well.[32]

While Brazil's official international position on REDD+ has been skeptical, there has been a lively domestic discussion. Many positive positions came from civil society, which had overall great hopes for REDD+. Interviewee 38T (PB) calls it a '*a great expectation [that] was generated, and this expectation has not been reversed until today*'. NGOs pushed for REDD+ with the hope of a carbon market linked to sector-specific and national emission reduction targets for Brazil and financial revenues for Indigenous peoples and other traditional groups (Interviewee 11K (CS)).

As the REDD+ negotiations gained momentum after COP13 in Bali (2007) the Amazonian states participated actively in the national discourse around REDD+ in Brazil and demanded political influence. Interviewee 38T (PB) recalls that '*some states like Mato Grosso became interested in the REDD+ question and reached out to the federal government in a bottom-up movement saying 'We want to participate in the building of positions"*. Including carbon stocks in the REDD+ concept not only enabled the reconciliation of the positions of the Amazonian states but also allowed compromises with the federal government: '*the concept of remodelling using stock flow and the benefit-sharing criteria created another political environment among the northern*

[32]Including forest carbon stocks would privilege states like Amazonas, limiting it to reducing emissions would benefit states with high deforestation rates like Mato Grosso.

states which made it possible for Brazil to move forward on REDD' (Interviewee 11K (CS)).

In November 2008, the governors of Mato Grosso, Amazonas, Pará and Amapá travelled to the Governors' Global Climate Summit in Los Angeles (May et al. 2011), where the Governors' Climate and Forest Task Force (GCF) was created by nine governors from Brazil, Indonesia, and the US (including California), who signed MOUs on climate and forests cooperation.[33] In 2009, it formed a coalition to advise and propose recommendations regarding Brazil's position for the COP15 in Copenhagen. The Amazonian governors further agreed to define criteria for REDD+ (May et al. 2011), influenced by the NGO IDESAM.

In June 2009 the nine governors of the states of the Legal Amazon met at the Forum of Amazonian Governors in Tocantins and signed a letter to President Lula supporting zero deforestation in the Amazon and a market-based mechanism for REDD+ (May et al. 2011). They further proposed the creation of an expert committee from Amazonian states to develop recommendations for Brazil's position at COP15 in Copenhagen (May et al. 2011). President Lula responded by creating the 'Interagency Task Force on REDD and Climate Change', its recommendations included 'innovations' in the Brazilian government position by supporting REDD+ financing mechanisms through governmental financing, market mechanisms without compensation, or market mechanisms for REDD+. The Amazon governors supported the proposals during their meeting in Macapá, Amapá, on 16 October 2009 (May et al. 2011), followed by MMA which itself presented a proposal for NAMAs (Nationally Appropriate Mitigation Actions) that included REDD+ as compensation (offsets) for emission reductions from developed countries.[34,35]

Unlike in the past, the Amazonian states lobbied in an organized way for a different Brazilian position at the international negotiations. The Task Force's proposals were

[33]The GCF TF later expanded to include additional tropical states and provinces that are leading the way in building robust jurisdictional programmes to protect forests and climate while enhancing rural livelihoods. It is supported by various international actors, for example NORAD and the Rockefeller and Moore Foundations, and has a 2016–2020 grant agreement with the Government of Norway. Source: https://gcftf.org/about/, last accessed 28.06.2018.

[34]The condition was that: i) industrialized countries reduce their emissions by at least 25% until 2020 in relation to a business as usual scenario (BAU), and that ii) (other) developing countries keep their commitments to alter BAU trajectories for a 10–20% reduction by 2020 (May et al. 2011).

[35]NAMAs were introduced in 2007 to the international climate negotiations during the COP 13 in Bali Indonesia. Developing countries agreed to also reduce their GHG emissions, although on a voluntary basis and according to their national circumstances (Nationally Appropriate).

not fully accepted as they were too market-oriented in the eyes of the government – MMA and Itamaraty in particular-, but the GCF Task Force influenced Brazil's position in so far as market mechanisms would have been accepted if Annex I countries had agreed to stronger commitments (Carvalho 2012). The federal government was faced with a level of activity by states that was difficult to control as governors undertook REDD+ diplomacy even internationally, such as governor Braga from Amazonas who negotiated an agreement with the Governor of California in 2009 (Interviewee 19S (GOV)). With these different state or federal positions on the REDD+ discourse, the Amazon Fund became a very useful vehicle for reconciliation: because all levels of government are eligible for funding through the Amazon Fund.

Despite the national government's rejection of the market component of REDD+, several Amazonian states, together with NGOs and corporate actors, pioneered REDD+ in Brazil. This has softened Brazil's position towards REDD+, which has played a more constructive role since it became clear that REDD+ would be part of the new international climate agreement (Edwards and Roberts 2015). At the end of 2015, the national REDD+ strategy (ENREDD+) was launched, which was a step to both embracing the REDD+ concept while keeping a certain degree of national oversight and control over REDD+ activities.

7.3.6 Brazil's Climate Finance Landscape Takes Shape

Brazil launched its National Plan on Climate Change (*Plano Nacional Sobre Mudança Do Clima*) in 2008 at COP14 in Poznan (Carvalho 2012), including an emissions reduction target of 30 million tons of CO_2 in that year. In October 2009 the MMA proposed ideas for Brazilian NAMAs, aiming to reduce emissions by up to 40% by 2020 (May et al. 2011). The president personally announced this Brazilian voluntary emission reduction target at COP15 in Copenhagen and soon afterwards introduced them as national law (Octaviano et al. 2016). Climate change had therefore reached the top of the political agenda, and Copenhagen was seen as a window of opportunity to sharpen Brazil's international profile (Interviewee 55H (AC); Abranches 2010; Carvalho 2012; May et al. 2011).

The run-up to the 2010 presidential elections pushed the climate change agenda even more, especially after Marina Silva announced her candidacy (Interviewee 38T (PB), 55H (AC), 20T (AC)). In this '*politicised context*', the '*great leap of 2009*' took place with '*the creation of the Climate Fund, the adoption of the national [climate] policy, [and]*

the announcement of the voluntarily goals assumed by Brazil' (Interviewee 38T (PB)). This context also created a '*rare but crucial moment in which the MMA had more influence over the President*' than MCTI or Itamaraty (Carvalho 2012). This shows how the balance of power tipped in favour of the MMA who could renegotiate its position on climate change issues with the president, including Brazil's commitment to quantified emission reductions announced at COP15 in Copenhagen by President Lula. According to Abranches (2010) it was a difficult decision to take up these commitments as there was resistance from parts of the government such as the Itamaraty and the Casa Civil Minister, Dilma Rousseff. Within the MCTI some groups supported the voluntary commitments (for example INPE scientists) but others opposed them (Carvalho 2012). MAPA supported the voluntary targets as the agricultural sector had been preparing itself for this move for a long time (see Chapter 8).

The previous sections showed how actors apply power resources to ensure certain ideas get enacted and enter the policy realm (RQ2), showing how discourses can create reality. Interrelated 'story lines' interpret the world and become embedded in agendas, knowledge claims and institutions (Hannigan 2006[2]). According to Gelcich et al. (2005) these story lines serve a triple purpose:

1. creating meaning and validating action
2. mobilizing action
3. defining alternatives

The role of the MMA in this process cannot be underestimated: it acted as an agenda-setter and was able to convince the president that Brazil would be isolated in its outdated position in Copenhagen, and that it was time to show leadership (Carvalho 2012). The biofuel lobby and other industrial groups also put pressure on the government (Interviewee 20T (AC)) to adopt the new position (Interviewees 55H (AC), 88R (GOV); Abranches 2010). And the sovereignty discourse had clearly been weakened:

> *that very sovereigntist and rigid, almost paranoiac vision of Amazônia. Amazônia is part of Brazil, and any attempt to develop some kind of international regulation to govern Amazônia is an aggression against Brazil's statehood (Interviewee 55H (AC)).*

In 2006 – 2010 President Lula saw an opportunity to promote Brazil's soft power credentials and gain credit for new flexibility in the negotiations (Edwards and Roberts 2015).

The Brazilian government, however, did not change drastically the way it viewed the

distribution of responsibility within the international climate regime (industrialized countries taking the main burden and binding targets, developing countries on a voluntary basis). Hence, '*it's more a committed behaviour regarding the climate crisis but if you only look at the international standing, official submissions to the UNFCCC, you will see no change*' (Interviewee 55H (AC)); and this might be related to foreign policy considerations: a '*tendency to protect the basic allies. Brazil would not have changed that much if it would have changed its international standing. It would have been very complicated for Brazil's relations with China and India*' or in other words, Brazilian foreign policy in climate change was held '*hostage by the relations with India and China*' (Interviewee 55H (AC)).

Overall, however, there had been a change in the emissions path since 2006 and in 2009 and 2010 the development of a new '*climate normative*' inside Brazil (Interviewee 55H (AC)). The achievement of significant emission reductions through drastic anti-deforestation measures had led to '*an unusual opening for progressive climate politics in 2009-2010*' (Hochstetler and Viola 2012: 18). And it was precisely this situation which was favourable to the establishment of the national climate funds.

7.4 The Amazon Fund Reflecting the Interactions of Actor Networks and Discourses

This section analyses the steps towards the creation of the AF and its initial phase, drawing on the actor constellations and discourses discussed under 7.2 and 7.3. The *socio-ambientalismo* discourse for example has left its imprint not only on the MMA but also its climate policy and the Amazon Fund (AF). It addresses how Brazil achieved a drastic decrease in emissions from deforestation and how this new situation enabled it to reposition itself domestically and internationally. The analysis shows further how Brazil acted in the international climate negotiations under the influence of emerging and disappearing discourses and how the so called 'Brazilian proposal' embodies financial compensation for ex-post emissions reductions through reduced deforestation, without a market component. It discusses the inception and launch of the AF and its governance arrangements and gives an outlook on the Fund's portfolio.

7.4.1 The impact of Socio-Ambientalismo on the PPCDAm and the Amazon Fund

The PPCDAm (*Plano de Ação para Proteção e Controle do Desmatamento na Amazônia* or Action Plan for Deforestation Prevention and Control in the Legal Amazon), the main piece of legislation for forest protection, was developed under Marina Silva and launched in 2004. Its implementation enabled Brazil to tackle its high deforestation rates. The Action Plan against Deforestation is also the legal and political foundation of the AF. Only those states in compliance with the PPCDAm can access the Amazon Fund and they must have their own state plans. The AF finances activities relevant for the implementation of the PPCDAm as well as state plans.

The PPCDAm emphasizes the value of the standing forest beyond the timber and a clear pro-poor focus on sustainable practices, hence the ideas of *socio-ambientalismo*. It demands territorial planning with transparency and participation of society (PPCDAm 2003), showing the close relationship between civil society and Amazonian policy under the Silva administration. The PPCDAm's guiding principles show the reflection of the *socio-ambientalismo* discourse for instance in the valorization of the forest for purposes of biodiversity conservation and the provision of environmental services', or the aim of reducing social inequalities. Calling for alternative models of agrarian reform appropriate to the Amazon can be read as a legacy of the rubber tapper movement and its struggle for land rights, as do the creation and consolidation of conservation units and indigenous lands, or the adoption of sustainable practices between users of natural resources (PPCDAm 2003). These ideas have also entered the AF through civil society groups and their strong ties with the Ministry of Environment.

The AF refers to the PPCDAm and other public policies to guide its work. Furthermore, the Fund bases its rationale upon the national REDD+ strategy (ENREDD+) of 2015, the state plans for control and prevention of deforestation, and the 2008 Plan for a Sustainable Amazonia (*Plano Amazônia Sustentável*, PAS). The PAS's strategic directives can be summarized as follows: to *increase the presence of the State in the Amazon Region* through more active governance by the federal government, '*cooperation and shared management of public policies among the three spheres of government - federal, state and municipal*' as well as the provision of services by the state (PAS 2008: 52). The PAS shows a classic command and control approach to environmental policy, however it also seeks to '*value the socio-cultural and environmental diversity of the Amazon*' (ibid: 59), '*ensure the territorial rights of the traditional peo-*

ples and communities of the Amazon' and '*promote the development of the region with equity, with attention to issues of gender, generation, race and ethnicity*' (ibid; own translation). These concerns for social issues are clear references to the discourse of socio-ambientalismo. The PAS further aims to change the predominant development model for the region (PAS 2008: 58). On the procedural side the PAS seeks to promote dialogue and consensus-building among government bodies, international civil society and business sectors in the formulation and management of public policies and to strengthen and empower civil society (PAS 2008). This also hints at the close relationship between civil society and the federal government under the PT administration and practices under the PPG-7 (see 7.2.3).

The discourse of *socio-ambientalismo* articulated by PAS, linking social and environmental issues, is thus reflected in the official documents which the AF is based upon, which in turn has a strong emphasis on supporting productive uses of forest resources by traditional communities. This can be seen in the portfolio of the AF: as of June 2020, out of 103 supported projects, 28 fall under the category indigenous territories, 19 support the implementation of the CAR, 6 fire management, 16 were implemented in settlements, and 28 in Conservation Units (including the *Bolsa Floresta* Programme, see Textbox 4). Benefit sharing arising from AF projects was perceived as highly relevant (KfW 2016). The AF can thus be seen as a materialization of this specific Brazilian view of environmentalism. Addressing both social development and environmental protection was also one of the principles laid down in the bilateral agreement between Norway and Brazil (Interviewee 22N (DON)).

Textbox 4: A fund inside the fund: the *Bolsa Floresta* Programme

The Forest Allowance, or *Bolsa Floresta* Programme, is an example of a benefit sharing mechanism for REDD+, an important element of any forest finance scheme. Bolsa Floresta is an initiative of the Amazonas state and its Secretariat for Environment and Sustainable Development (SEMA) with the aim to foster sustainable development and environmental conservation, and combat both poverty and climate change (GIZ/BNDES 2019). It is enshrined in the state's Climate Change Law (Law no. 3135 of 2007) and inspired by the Lula government's *Bolsa Família*, which provided services to underprivileged families and lifted millions of Brazilians out of poverty.

Bolsa Floresta supports both mitigation and adaptation and is therefore not strictly bound to quantified emissions reductions. It was also seen as a way of addressing the high vulnerability of the Amazon region through the support of communities (Interviewee 19S (GOV)), enhancing their income from forestry and biodiversity products and empowering those communities living in Conservation Units (CUs). The *Bolsa Floresta* Programme has four components reflecting the socio-ambientalismo approach: i) *Family Bolsa Floresta* with monthly payments to women of families living in the CUs; ii) *Bolsa Floresta Association* for residents and associations of CUs to strengthen social organization and community involvement; iii) *Bolsa Floresta Income* to support sustainable production and increase revenues from forest and biodiversity products; and iv) *Bolsa Floresta Social* for collective activities aimed at improving education, health, transportation and communication. The Amazon Fund supports components ii) and iii).

Bolsa Floresta is administered by the non-profit Foundation For Amazon Sustainability (*Fundação Amazonas Sustenavel*, FAS):

> *'At a certain moment it was understood that the best way of executing it was through a private foundation so that there was more dynamic in the work with the conservation units in the interior of the state']… our strategy is to do nothing alone' (Interview 18R (GOV))*

A 2018 evaluation found avoided deforestation and a reduction of deforestation hotspots in those Conservation Units served by the *Bolsa Floresta* Programme compared to others in the state (GIZ/BNDES 2018). The *Bolsa Floresta* Programme is yet another example of the cooperation between and division of tasks among the government and civil society.

Figure 7.3: Bolsa Floresta Pilot Site in Rio Negro, Amazonas
Source: the author

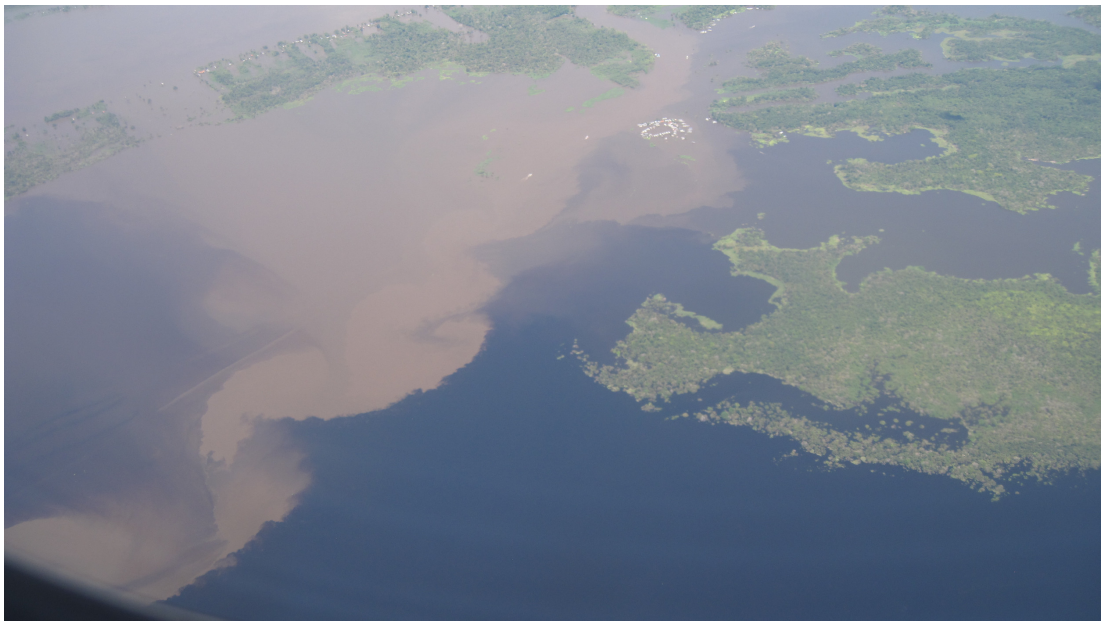

Figure 7.4: Approach to Manaus: the Rio Solimões meets the Rio Negro, which flows into the Amazon basin from the north
Source: the author

7.4.2 We Can Do it! - 2005: A Decisive Year

For years Brazil had been under international pressure due to its alarming deforestation rates, but the pressure to end illegal deforestation also arose domestically, especially with Marina Silva entering the government as the new Minister for the Environment in 2003 (Interviewee 55H (AC)). This sub-section shows how a new discourse emerged when Brazil took action and tackled deforestation, with the help of several factors: pro environmental civil society / NGO lobby work, the arrival of Marina Silva, stronger law enforcement, scientific and technical capacities, and the success of the PPCDAm (Viola 2013).

NGOs and Public Pressure

Domestic pressure increased from 2005 onwards when a consensus emerged in Brazilian society that the Amazon had to be protected. The lobby work of NGOs and wider civil society was effective according to Interviewee 55H (AC). NGOs and academia launched impactful and visible campaigns on the media, discussing studies about the irrationality of deforestation and pressured the national government for action (Interviewees 20T (AC), 55H (AC); Viola 2013). Greenpeace for example, published its famous reports '*Slaughtering the Amazon*' and '*Eating up the Amazon*' (Greenpeace 2006, see also Chapter 8). National and state institutions as well as local governments,

universities and several corporations formed a coalition against exportation and domestic consumption of soy and beef from deforested areas (Viola 2013, see 8.2.8). Interviewee 55H (AC) argues that, '*big NGOs had more agency in terms of feeding climate consciousness or environmental consciousness in the Amazon. And the kind of functions that the NGOs had are now held by the Federal government*'. The Lula government was not only close to civil society; it used its capacities and even spearheaded typical civil society missions, agendas and campaigns.

Marina Silva

The influence of Marina Silva was another key factor for the discursive and political change that enabled Brazil to tackle deforestation and create the AF (Interviewees 20T (AC), 55H (AC), 38T (PB)). Both as an individual as well as a representative of a social movement for the protection of biodiversity and sustainability in the Amazon, '*she had always been an activist for the Amazon, that is her story*' (Interviewee 20T (AC)). The discursive change had been reinforced by a new government and a *socio-ambientalismo* representative in power. But it took a combination of discursive changes and practical measures to close the enforcement gap through what another interviewee calls '*the alliance that Lula made with the environmental movements in the person of Marina Silva and he gave her the authority to enforce the law*' (Interviewee 55H (AC)).

According to Viola (2013), Lula had procrastinated on the issue for almost two years while deforestation rates were rising between 2003 and 2004,; illegal logging and forest burning went out of control, nearly half of which occurred in the state of Mato Grosso where soy for export was cultivated when more than 500 NGOs and social movements wrote a to Lula criticizing his environmental policy. The murder of the American nun Dorothy Stang brought the issue of deforestation and lawlessness into the spotlight again (Hochstetler and Keck 2007), until Marina was powerful enough to achieve attention on the issue and impose a policy shift: '*Lula was not much interested in climate change issues at first, but eventually Marina Silva told him: "Look, either I create a consistent policy or I leave [the] government*'" (Interviewee 20T (AC)). Silva's agenda was to protect the Amazon forest and its inhabitants as well as realizing a shift in Brazil's international position on these issues: '*and Marina Silva was very vocal regarding the need for Brazil to take a stand to reform the international climate system*' (Interviewee 55H (AC)). The key difference at the start of the first Lula term was greater government effort to enforce existing legislation, with the help of IBAMA,

the federal police and federal justice, '*sometimes even with the support of the army*' (Interviewee 20T (AC)). Brazil's deforestation rates fell drastically as a consequence of the Forest Code enforcement because '*so much of the deforestation in the Amazon was illegal*' (Interviewee 20T (AC)).

Law Enforcement and Coordination

Brazilian law had been progressive in terms of both environmental protection and human rights, and trading in hard timber was illegal; but the rule of law had not been enforced in parts of the Amazon, encouraging land grabs and environmental crime (Zellhuber 2016, Nordhaus and Shellenberger 2007, see 8.3.4 as well as Chapter 5). A traditional system of impunity and disregard for the rule of law characterized especially rural areas, leading to the murder of hundreds of peasant union members and environmental activists in the Amazon from the 1960s (Scholz and Schönenberg 2013).

Law enforcement by the federal government used the 1996 Forest Code (Viola and Franchini 2018) which established that 80% of the Amazon could not be deforested and limited legal deforestation on private properties to a maximum of 20% (Interviewee 20T (AC)).[36] This radically restricted private property rights. In interviewee 20T (AC)'s view '*this was a very strong, historic decree. […]. [However,] this decree could not be enforced […] the government did not have the capacity or the political will to enforce it, and this would not change until 2005*'.

Closing the enforcement gap after 2005 was thus a paradigm shift and required a concerted effort of various parts of the government. The presidency had ordered the Federal Police and other federal agencies to increase their cooperation with the Ministry of Environment to halt illegal deforestation (Viola 2013, Assunção et al. 2013). Effective deforestation control was (1) made a top priority and (2) enabled by concerted action in new coalitions of actors that had not systematically cooperated before (MMA, IBAMA, the federal police, the military, the judicative), resulting in the arrest of more than 700 individuals (AF 2008); '*all the political forces were focused on compliance with the law. […] It resulted in arrests and the confiscation of chainsaws. […] And since 2005, we have had this great reduction of deforestation in the Amazon*' (Interviewee 20T (AC)). Closing the decade-long enforcement gap gave the federal government confidence (Brazil '*has reduced deforestation greatly without foreign money*', Interviewee 20T (AC)) to change its position both domestically and internationally.

[36]This provision has been changed through Forest Code reform (see Chapters 6 and 8).

The Success of the PPCDAm and Drop in Deforestation Changes the Consciousness

The basis of increased enforcement and decreased deforestation was the Action Plan against Deforestation (PPDCDAm). The presidency and a working group consisting of 14 government ministries developed the PPCDAm and this broad involvement of government and other bodies of the executive shows that it was a concerted effort by Brazil's government to finally tackle illegal deforestation in the Amazon, and not just a narrow environmental question. The Ministry of Environment was able to transform its agenda into a national agenda. Earlier the issue had been '*treated as if an increased deforestation rate was their [MMA's] problem. It's not like that [anymore]*', argues interviewee 38T (PB). By introducing the PPCDAm, Brazil successfully prosecuted and curbed large-scale illegal logging and MMA was able to broaden the basis of support for its agenda.

Once deforestation rates dropped, it became clear that deforestation was not an important driver of economic growth as had always been claimed in the past, and ultimately neither large constituencies nor major lobby groups put up strong opposition to the government's efforts to combat illegal deforestation (Interviewee 55H (AC)). The discursive frames changed: deforestation was no longer seen as economically necessary but rather as irrational, according to interviewees 66M (AC), 55H (AC) and 20T (AC), and this changed the public discourse drastically. This new view changed actors' perception about their own stakes in the political economy; rationality is therefore also changeable and constructed. Instead of continuing to follow the argument that Brazil cannot afford to reduce deforestation, public consensus developed on the need to protect the Amazon as a global common. Interviewee 55H (AC) also argues that once that had become clear, the political economy was not challenged and '*it was easy to say to reduce deforestation rates with no big economic impacts*'. In other sectors where economic interests were at stake, '*Brazil did not improve*', argues interviewee 55H (AC). Since 2019 this discursive shift has started to be reversed.

Nevertheless, Brazil found itself in a different situation internationally from the target of international criticism to a progressive force. The importance of the discursive element for this development is that Brazil consequently changed its own position in the international climate regime (Interviewee 55H (AC)). The Brazilian government reacted quickly with its commitment to reduce deforestation rates by 80%; interviewee 55H (AC) recalls how '*Lula assimilated the climate narrative, the need to protect the climate system. And Brazil was or became, not a climate villain but a climate good guy*

with regard to deforestation'. Closing the enforcement gap further meant that the presence of the federal state was extended to parts of the Amazon where it had no authority before (Interviewees 55H (AC), 38T (PB), 20T (AC)), or how one interviewee expresses it: '*Brazil reduced its emissions because it controlled a very ancient problem*', the control of parts of its territory (Interviewee 55H (AC)). Having successfully addressed deforestation was the precondition for Brazil to propose and create the AF.

Between 2005 and 2009 Brazil reduced its emissions by about 25%, according to Viola (2013), the largest reduction ever recorded (from almost 21,000 km^2 per year in the 2000 – 2004 period to 6200 km^2 in the 2009 – 2011 period (Viola 2013). The drastic shift in climate policy enabled by discursive changes promoted by a coalition of government and civil society actors opened a window for political change. Thanks to this process of sense- and meaning-making Brazil had the leeway to reposition itself in the international climate negotiations and adopt a new position. At the same time, donors offered an 'alternative' pathway with the resources provided under the PPG-7 Programme (see 7.2.4).

The case of Brazil since 2005 shows that it was possible to get large scale illegal deforestation under control with the help of remote sensing and law enforcement through the federal police and the IBAMA field structure (Interviewee 20T (AC)). This may have also helped pave the way for the AF, which is directly coupled to an effective remote sensing-based monitoring system. According to interviewee 88R (GOV) '*we were the best candidates for that [Norwegian] money*'. There was explicit interest by the main donor Norway in these capacities, and the accurate and long-term deforestation monitoring system was one of the factors that convinced Norway to donate a large sum to the Amazon Fund (Interviewee 1A (CS)).

7.4.3 The Inception of the Amazon Fund as a Mirror of the 'Brazilian Proposal' of a Forest Fund

The Amazon Fund was formally established in August 2008 by Presidential Decree 6.527. The Fund reflected earlier proposals from both the Brazilian government and NGOs which were seeking to establish a fund to incentivize the prevention of deforestation. Before and during the Kyoto negotiations Brazil was one of the strongest proponents of the UNFCCC principle of '*common but differentiated responsibilities and*

respective capabilities' (CBDR+RC)[37] , and insisted that industrialized countries should compensate developing countries for having caused anthropogenic climate change and support developing countries in their mitigation and adaptation efforts. Here for the first time Brazil proposed a global fund to support sustainable development efforts in developing countries as part of the Kyoto Protocol. As a result of negotiations with the US, this developed into the Clean Development Mechanism (CDM) (see Chapters 5 and 8) (Edwards and Roberts 2015).[38] The participation of industrialized countries in the CDM, however, remained limited, and the EU only decided to buy credits from least developed countries (LDCs) in 2012.

There has been disappointment about the CDM in Brazil among some actors within civil society, applied research and the private sector. In their view, the CDM could not unlock its full potential because forestry projects were excluded from the eligible activities – ironically as a result of Brazilian pressure in the Kyoto negotiations (Interviewee 88R (GOV)): '*because we did not have coal fired power plants to replace and generate revenues through that. What we had was avoided deforestation and this [Miguez]*[39] *did not want to put [on the table] in line with the other nationalist sectors*'. Under the CDM and the European Emissions Trading Scheme, only reforestation could be incentivized, not the protection of existing forests (Oliveira et al. 2019, Moutinho et al. 2009).

Brazil had always been conservative about including forests in the international climate regime, sometimes referring to technical arguments but also because of political arguments about sovereignty or the 'right to development' (Moutinho et al. 2009). And while Brazil opposed RED, Peru, Ecuador and especially Costa Rica embraced the concept (and later REDD+) (Davenport 2012). Although Brazil increasingly moved towards REDD, according to interviewee 20T (AC), in the early 2000s, '*speaking about an international regime to prevent deforestation was impossible. It was a dirty word*'. Brazil's high deforestation rates, and different position on RED, led to confrontations with other Latin American forest countries, as their '*international interests are very different*' (Interviewee 20T (AC)). Brazil instead made coalitions with other G77 play-

[37] UNFCCC 1992, article 3.

[38] The first 'Brazilian Proposal': During the Kyoto negotiations in 1997 Brazil proposed differentiated emission reduction targets according to their historic emissions (Davenport 2012).

[39] José Miguez, at the time a lead scientist at the Ministry of Science and Technology and a key proponent of the CDM in Kyoto.

ers such as India and China,[40] having '*no Brazilian policy for the Amazonian region beyond Brazil*' (Interviewee 20T (AC)). The same respondent argues that Brazil was much more concerned about its sovereignty than about a functioning international climate and forest protection regime: '*Brazil is always worried about national sovereignty, and the others are worried about getting money*'. While sovereignty might not have always had higher priority than raising resources, the sovereignty discourse had nevertheless, for a long time, been important enough to suppress international activities for forest protection as well as an open discussion of market mechanisms for forests. This position, however, was increasingly challenged by the state level in Brazil.

While Brazil opposed the inclusion of market instruments to promote the conservation of tropical forests and avoid deforestation in the flexible mechanisms of the Kyoto Protocol, in 2003 Brazilian environmentalists presented a proposal for a '*compensated reduction*' mechanism linked to the international carbon market. This would reward developing countries, via an international fund, for verifiable GHG emission reductions from deforestation, using satellite monitoring for verification (May et al. 2011; Santilli et al. 2005). In 2006 Brazil presented what became later known as 'the Brazilian proposal', at a UNFCCC workshop in Rome. It was a scheme of positive incentives for developing countries that reduce their greenhouse gas emissions from deforestation, with a reference emission level based on previous deforestation rates (Carvalho 2012; Stern 2007).

The proposal explicitly did not adopt a market component; instead, countries that reduced their national emissions from deforestation during a commitment period of five years would generate credits which would be compensated (Carvalho 2012). Brazil submitted this proposal to the UNFCCC for COP12 in Nairobi at the end of 2006, as a proposal for an international fund under the UNFCCC (Palmer and Engel 2009). The 'Brazilian proposal' was discussed in Nairobi at the 25th session of the UNFCCC's Subsidiary Body for Scientific and Technological Advice (SBSTA 25) which noted that approaches to reward or compensate actions would need to be broad and include several possible alternatives. SBSTA 25 acknowledged Brazil's efforts in combating deforestation but rejected its proposal with the argument that country circumstances and the drivers of deforestation are too heterogeneous to offer a solution via the international climate regime (SBSTA/2006/10, § 61).

[40] India, China and Brazil (along with G77) refused voluntary emissions reduction commitments for developing countries in Kyoto in 1997 (Davenport 2012). This changed in Copenhagen.

NGOs in Brazil also submitted a proposal for a fund to COP12 in Nairobi, the '*Agreement on Acknowledging the Value of the Forest and Ending Amazon Deforestation*', supporting action to reduce deforestation to zero by 2015 in the Amazon through a national system of reduction targets. The concept was based on regulatory and economic instruments, monitoring, control, and tax measures, and on establishing and strengthening forest governance – the mix of measures Brazil applied itself. States would get financial incentives from a fund fed by private and public capital, for their effective reduction of deforestation through forest management and payment for environmental services (Hare and Macey 2007).

In October 2007, shortly before COP 13 in Bali, a group of nine NGOs also launched a '*zero deforestation pact*' and a proposal for a fund, in the Congress in Brasília, which also proposed a national commitment to reduce deforestation in the Amazon to zero by the year 2015, based on annual targets and stronger forest governance, economic incentives and conservation or support for indigenous peoples (May et al. 2011). The estimated cost was about US$ 588 or 1 billion BRL[41] per year and the group proposed to locate this 'Amazon Fund' within BNDES (ibid). This shows strong similarities with the NGO proposal submitted in Nairobi as well as the future Amazon Fund.

In parallel, Marina Silva had negotiated funding with Norway, and a group of politicians around the MMA and the Itamaraty had created a conducive climate for discussions with Norway about potential support (Interviewee 22N (DON)). The idea of the Amazon Fund as a fund-raising mechanism developed by MMA was announced at COP13 in Bali in 2007 (Interviewee 13M (DON)). At the same occasion, reducing emissions from deforestation (RED) was formally introduced into the negotiations. With the launch of the Brazilian Amazon Fund, it was presented as an option to reduce global emissions. The Amazon Fund was well in line with the climate change strategy of the Norwegian government. Brazil had proven capacity to measure deforestation and had already demonstrated the political will and ability to reduce it. As a result, Brazil was the first country to receive support from Norway's International Climate and Forest Initiative (NICFI) (Marcovitch and Cuzziol Pinsky 2014). Germany, through its development bank KfW, pledged an additional EUR 21 million, in addition to the US$ 1 billion in funding received from Norway (KfW 2016).

In August 2008 the Amazon Fund was created, and in September 2008 an MoU be-

[41] Based on Santilli et al. (2005).

tween Norway and Brazil was signed. The first Norwegian disbursement to the Amazon Fund was made in October 2009 (Interviewee 22N (DON)). According to interviewee 20T (AC), BNDES was chosen as the manager of this new fund because it had the necessary know-how: '*what the Norwegian government wanted was the formation of an agency with the technical competence to evaluate projects*'.

In addition to the importance of the financial contribution itself, a key aspect of the one billion pledge has been the political attention it created in Brazil and internationally around the issue of reduced deforestation in a climate context (Interviewee 22N (DON)). Norway accepted the proposal of NGOs to make BNDES the trustee for the Amazon Fund and the Norwegian donation. The strong NGO engagement was encouraged by Norway (Interviewees 22N (DON), 1A (CS)) which had never cooperated with BNDES before. However, the support to the Amazon Fund via the BNDES presented a viable alternative to transferring money directly to the Brazilian government (Interviewee 22N (DON)).

The international fund proposed by the Government of Brazil has not yet been realized. The Amazon Fund, on the other hand, was seen by Brazil as a preliminary version of this international positive incentive fund (Palmer and Engel 2009); '*the Amazon Fund corresponds to Brazil's idea of a fund – a transfer of resources without the carbon credit market mechanism*' according to interviewee 20T (AC). It also contains many elements of the NGO proposal, such as its location within the BNDES, support for indigenous peoples, and strengthening forest governance in conjunction with state governments (May et al. 2011). I thus call the Amazon Fund a brainchild of Brazilian civil society. The special feature of the AF compared to the PPG-7 is its purely national governance structure and the ex-post payment for results. This puts Brazil in an advantageous position as it does not have to accept direct interference from donors, as the decline in deforestation rates had enabled a considerable shift in both the position on REDD+ and more general climate policy. The Brazilian government managed to abandon its defensive position and benefit from its new proactive role as a progressive power in the climate negotiations, notably after Copenhagen (Carvalho 2012; Viola 2013). Although Brazil adopted a different position, market mechanisms for avoided deforestation were still rejected at the international level, while internal actors such as some NGOs and the agricultural sector perceived them as opportunities (see Chapter 8).[42]

[42] A group of REDD+ opponents among Brazilian NGOs.

The Amazon Fund as a National REDD+ Financing Mechanism

The AF was an attempt by the PT administration to create an international climate finance instrument for REDD+ that avoids market mechanisms. The AF - like the earlier 'Brazilian proposal' in Nairobi - aims to support action to prevent, monitor and control deforestation and promote conservation and sustainable use of the Amazon biome. Payments to the AF are linked to verifiable reductions in emissions from Amazonian deforestation, calculated by INPE (May et al. 2011). The calculation of emissions reductions is straight forward and mirrors the 'Brazilian proposal'.[43] Article 2 of the AF states that donors will receive certificates from BNDES confirming their contribution to the Fund in monetary value, as well as the tonnes of carbon emissions reduced by their contribution per year (Art 2). These certificates are neither transferable nor tradable (ibid). The Amazon Fund is considered a national REDD+ financing mechanism which is the official position of the government including the MMA, and promoted as such on the website of the Fund.[44] Because the AF is a REDD+ financing mechanism, a domestic REDD+ market is rendered unnecessary and counter-productive.

The existence of the Fund and its system of ex-post and untradeable certificates seems to have locked MMA into its firm position of rejection of market mechanisms, showing that institutions also impact on discourses as well as the other way around. According to interviewee 1A (CS), the Fund's financing of '*all kinds of projects*' follows the traditional logic for financing projects through grants, and not necessarily the concept of REDD+. The AF therefore differs strongly from any decentralized REDD+ approach or market mechanism: it is a financing mechanism for Brazil's Amazonian public policies and enables the MMA to enact its agenda. The Fund was perhaps the best suited vehicle to implement MMA policy priorities at the time, in particular the PPCDAm as well as the ideas of *socio-ambientalismo* that supports sustainable livelihoods for forest communities (*povos da floresta*). With this orientation the Amazon Fund follows a land sharing logic in the sense that low-yield farming and sustainable use of the ecosystem with high biodiversity is promoted, although it integrates resources use into conservation rather than nature conservation approaches into agricultural production as does the land sharing concept (Fraanje 2018) (see Chapter 5).

[43] A ten year average deforestation rate as baseline; each year the deforestation rate is compared to this baseline and emissions reductions calculated. The baseline is reviewed every five years (Carvalho 2012).

[44] Amazon Fund: http://www.amazonfund.gov.br/en/amazon-fund/, last accessed 24.07.2018.

7.4.4 Governance and Performance of the Amazon Fund

The Amazon Fund governance arrangements were developed in 2009 - 2010 (Interviewee 13M (DON)). The Fund is governed by a Steering Committee (COFA) and a Technical Committee (CTFA). COFA meets twice a year and in addition to proposing guidelines and monitoring the results achieved by the AF, it adjusts the funding windows to the guidelines of the Sustainable Amazon Plan (PAS) and the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm): The AF's remit covers: 1) Public Forests and Protected Areas (Environmental Services and Management); 2) Sustainable Production Activities; 3) Scientific and Technological Development Applied to the Sustainable Use of Biodiversity; 4) Institutional Development and Enhancement of Control Mechanisms (AF 2008). Another AF objective is to promote the implementation of deforestation monitoring and control systems in other Brazilian biomes and other tropical countries and contribute to the establishment of similar funds overseas (AF 2008).

COFA itself contributed ideas for the institutional arrangements of the AF and '*developed positions about the implementation of this fund, for example eligibility criteria […]. The first COFA meetings defined the funding guidelines and the priority areas*' (Interviewee 13M (DON)). However, in some years MMA called COFA meetings irregularly (Interviewees 1A (CS), 13M (DON), 22N (DON)). The Technical Committee (CTFA) meets annually to certify the emissions avoided by deforestation in the Brazilian Amazon, by assessing whether the method of quantification of the deforested area (through PRODES) is consistent and accurate across time, and certifying that estimates of avoided GHG emissions (in tons per hectare) are consistent and credible, based on the data supplied by INPE and the Brazilian Forest Service (AF 2008). CTFA is composed of six 'notables' – reputable individuals – from science and technology. The Brazilian Development Bank (BNDES) is in charge of the Amazon Fund's operation and is tasked to manage fund raising and disbursement according to the guidelines set by COFA (AF 2008).

The AF governance arrangements allow for continued influence by civil society as COFA was modelled on the *Forum Brasileiro de Mudança do Clima* (Brazilian Forum on Climate Change, see Chapter 6). Once the AF was created by decree it was established that civil society would have a seat via the National Confederation of Agricultural Workers, the Coordination of Indigenous Organizations and the Brazilian Forum of NGOs (Interviewee 1A (CS)). The actors involved therefore keep shaping the AF's

design and activity (Interviewee 13M (DON)). A key strength of the Fund, according to Zadek et al. (2010), is the broad involvement of economic, political and civil society actors which Marcovitch and Cuzziol Pinsky (2014) call an innovative 'multiple stakeholder management model' (see figure 7.5).

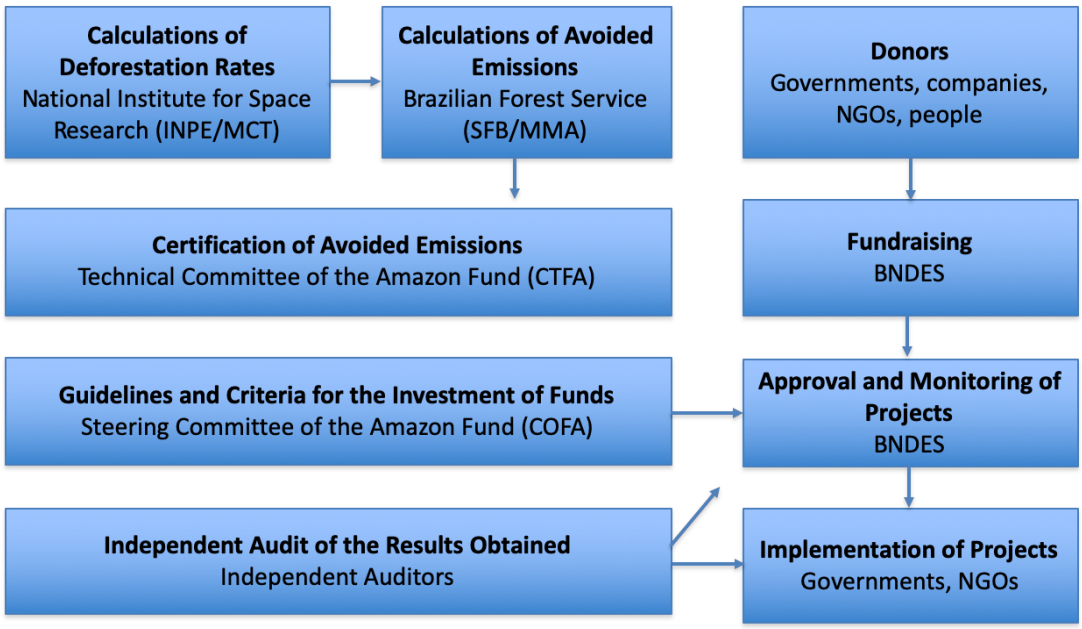

Figure 7.5: Amazon Fund multiple stakeholder management model
Source: Marcovitch and Cuzziol Pinsky (2014) based on BNDES 2011

Cooperation between some of these actors, notably MMA, BNDES and civil society represented in COFA, has however not always been easy (Interviewees 1A (CS), 13M (DON); Marcovitch and Cuzziol Pinsky 2014). BNDES was previously involved in financing major private or government infrastructure projects using refundable investments and real collateral. It first had to adapt to managing grants, which was a learning curve and initially caused long delays in AF operations (Interviewees 13M (DON), 22N (DON); Marcovitch and Cuzziol Pinsky 2014; Zadek et al. 2010). BNDES applied the same criteria to small grant financed projects carried out by NGOs or local governments as it did for high-risk infrastructure projects, mainly to safeguard against corruption (KfW 2016).

The BNDES team was also neither acquainted with nor allowed to travel frequently from its Rio de Janeiro headquarters to the project sites (Interviewee 13M (DON); own observation). In the first years of the AF's existence up until the end of 2011, doubts arose as to whether BNDES was a suitable institution to act as fund manager due to the

AF's low efficiency (KfW 2016). However, the integration of the Amazon Fund into the governance structure of BNDES meant that it was permanently safeguarded against any direct influence from day-to-day politics (KfW 2016). This has proven important in recent years to protect it from political encroachments.

To support the day to day operations of the AF team, the German Technical Cooperation (GIZ) signed a capacity development project with BNDES which started in 2010, co-financed by Norway.[45] Through this support to regular calls for proposals on thematic windows such as the Rural Environmental Registry (CAR) or the National Policy for Environmental and Territorial Management on Indigenous Land (Política Nacional de Gestão Ambiental e Territorial em terras indígenas, PNGATI), the number of projects and the disbursement of funds could be increased (Interviewee 13M (DON); KfW 2016).

Initial Fund Allocations

The tendency to focus on command and control approaches during its first phase shows how the AF was designed as part of a system of MMA Amazonian policy developed since the mid-2000s, and as a mirror of the discourse of both the government and civil society. However, its fiduciary standards proved to be a challenge for many applicants, especially smallholders, threatening the ambition of the fund to trigger transformational change in the region (Zadek et al. 2010). Several NGO representatives criticized the use of a considerable portion of the funding to finance state policies, programmes and projects, for which public money should be used (for example Interviewee 17Q (CS)). For the same interviewee the '*barrier*' to accessing the Amazon Fund was responsible for the Fund's lack of impact on climate change, arguing that instead of funding government policies, the resources of the Amazon Fund should go to projects that have the potential to change land-use practices: '*NGOs are in the field, they're on the ground, in direct contact with the producers, the loggers, and those who manage the area and who are responsible for land conversion*' (Interviewee 17Q (CS)). However, portfolio trends over time indicate that NGOs have been given greater consideration over the years.[46] Ironically, the Amazon Fund has been attacked by current Environment Minister Salles for this very fact.

[45] https://www.giz.de/de/weltweit/12550.html, last accessed 16.11.2020

[46] Amazon Fund Carteia dos Projectos, June 2020: http://www.amazonfund.gov.br/export/sites/default/en/.galleries/documentos/portfolio-report/2020_2tri_Amazon-Fund-Porfolio-Report.pdf, last accessed 23.11.2020.

Greening BNDES

Much has been written about donor driven environmental and climate policy and NGOs as executors of donor driven programmes (see Chapter 2.2). However, in the actor constellation discussed in 7.2 and 7.3 it was Brazilian NGOs (or Brazilian branches) which had a lot of direct influence on the development of ideas leading to the creation of the Amazon Fund. For instance, major NGOs (ISA, Greenpeace, Instituto Centro de Vida, IMAZON, TNC, Conservation International and WWF) repeatedly discussed policies for reducing deforestation, changing the development model in the Amazon, and the related climate finance: '*every time we discuss [this], the question is asked about how much it would cost to make this change*' recalls interviewee 1A (CS). A group of NGOs commissioned a study to assess the costs of ending Amazonian deforestation; '*in the end it was calculated that it would cost one billion US$ a year for seven years*' (Interview 1A (CS)). US$ one billion is also the sum of the first donation by Norway to the Amazon Fund. The sum was brought up by this group for the first time, who acted as agenda setters, although this is a surprising finding given the initial skepticism of most Brazilian NGOs towards BNDES. However, NGOs first held discussions with the BNDES about the possibilities of hosting such a fund and maintained personal contacts with BNDES, even before the official negotiations of President Lula and Minister Silva during COP 13 in Bali (2007).

Different actors had different motivations to include BNDES in the design of the Amazon Fund. Before BNDES became the manager of the AF, it was criticized for its large-scale infrastructure investments, '*financing more deforestation than sustainable development for the region*' (Interviewee 13M (DON)). Interviewee 13M (DON) even suggests that it was a political strategy of the government to give BNDES a '*green seal*' (ibid), but for others it was a more genuine opportunity to 'green' BNDES and to influence it in a more sustainable direction. This hope was expressed by civil society representatives involved in the first steps of the AF:

> *For us it was mainly an opportunity to bring to BNDES a sustainability agenda that it did not have yet, and would give us a stake in the bank […] and to bring the bank close to the dilemmas that its development practice promoted. (Interviewee 1A (CS))*

Marcovitch and Cuzziol Pinsky (2014) found nevertheless that there seemed no other institution more appropriate than BNDES to manage the AF because of its legitimacy and transparency (see also KfW 2016). In 2016, the German Development Bank KfW carried out an ex-post evaluation of the Fund, finding that its performance was good

and without significant shortcomings. The evaluation further stated that the selection of BNDES brought with it the realistic potential of enabling a multiplier for national environmental policy (KfW 2016).

Financial Sustainability of the Amazon Fund

The financial sustainability of the Amazon Fund is of course not indefinite. The AF is expected to raise donations to be used in projects that promote Amazon biome preservation and prevent deforestation, and BNDES is in charge of the fundraising (Marcovitch and Cuzziol Pinsky 2014). While the Fund has been active in presenting its results in international events such as COPs (most visibly during the Paris and Fiji COPs in 2015 and 2017[47]) and was able to secure the continued support of its main donors for over ten years, it has not yet mobilized other sources beyond the donations by Norway, Germany and Petrobras (see table 7.2). Fund-raising for the Amazon Fund is based on the effective reduction of CO_2 due to deforestation in the Brazilian Amazon. Only when the deforestation rate declines will donations be given (AF 2008; Marcovitch and Cuzziol Pinsky 2014). Currently, deforestation rates are on the rise again and the sovereignty discourse has come back with vengeance and is highly topical again, discouraging the old and any potential new donors. After having dismantled both COFA and CTFA and alienating the Norwegian and German governments, the Bolsonaro administration lost the support of the main contributors to the AF, jeopardizing its financial sustainability.

	Donations Committed	Donations Received In BRL	Donations Received in US$
Government of Norway	NOK 8,269,496,000.00	3,186,719,318.40*	1,212,378,452.36
German Government	EUR 54,920.000,00	192,690,369.00*	68,143,672.60
Petrobras	US$7,713,253.30	17,285,079.13	7,713,253.30
Total		3,396,694,793.53	1,288,235,378.26

Table 7.2: Donations to the Amazon Fund (committed and received)
Source: Amazon Fund. http://www.amazonfund.gov.br/en/donations/, last accessed 21.11.2020.

*Note: Values converted to US$ using the average exchange rate published by the

[47]Own observation in supporting the BNDES and GIZ AF teams during both events: see for example https://www.globallandscapesforum.org/video/juliana-santiago-closing-keynote-way-forward-glf-2015/, last accessed 21.11.2020 or https://ipam.org.br/wp-content/uploads/2018/04/relato%CC%81rio-eng-v1-rec.pdf, last accessed 21.11.2020.

Central Bank of Brazil at the date of each instalment.

7.5 Preliminary Conclusion

This Chapter has shown how the Amazon Fund mirrors the position of Brazil in the international climate negotiations on REDD+. The Fund is promoted as a national REDD+ financing mechanism which means the federal government keeps a certain degree of oversight over activities in the Amazonian states. This position was a result of a specific actor constellation, a coalition between civil society, Amazonian governors and the MMA. This chapter has shown how the Ministry of Environment and civil society have been interlinked at several levels (human capacity, staff, discursive interaction), and that these linkages can be seen as a triangle interaction between MMA, civil society and Norway, in opposition to other government agencies such as the Ministries of Foreign Affairs and Science and Technology, as well as the Secretariat for Strategic Affairs (see figure 7.1.)

This Chapter has demonstrated that the Amazon Fund shows features of those discourses promoted by civil society (for example global responsibility, *socio-ambientalismo*, but also sovereignty) with strong support for the people living in and of the forest. A direct attribution of deforestation impacts for instance is not necessary for activities funded by the Amazon Fund. The environmental movement in Brazil and the rubber-tapper movement have promoted the social-environmentalist discourse, convinced that *povos da floresta* (both indigenous and traditional forest dwellers) play a key role in forest protection. Influential ideas came from both within (e.g. the rubber tapper movement) and outside the country (US, Norway), and impacted on discourses and discursive frames within civil society but also government (seen in government documents) as well as institutions such as the Amazon Fund.

This Chapter has further shown how motivated individuals drove the federal Ministry of Environment since its very first days, which at the same time became a meeting point for NGOs. These actors strengthened a usually weaker ministry within the government and enabled it to become a leading actor in the emerging climate actor network and an agenda setter for Brazil's climate policy. This development was enabled by the Rio conference 1992 and peaked in the nomination of Marina Silva, a leading figure of the environmental movement. This chapter has further shown how the events around the Rio 1992 conference also strengthened Brazil's environmental NGOs and

impacted on a changing public discourse. This accelerated the discursive changes and increased attention on Amazônia, indigenous peoples and deforestation issues, supported by the media. The MMA was preparing to change Brazil's environmental and Amazonian policy towards the ideas of the environmental movement, such as protected areas, strengthening traditional users and supporting sustainable use of the Amazon's resources. It was able to fulfill this role with the help of technical capacities from civil society.

In addition to civil society – government relations, interactions across governance levels with Amazonian states were shaping the discursive and political developments that paved the way for the Amazon Fund. The analysis also includes international – domestic interactions between the PPG-7 - a major donor programme - and domestic actors, as well as transnational interactions between Brazilian states and private foundations or the government of California. While some of these transnational interactions strengthened the position of the Ministry of Environment, others challenged it. The existence of the Amazon Fund itself, once it was established, also influenced the position of the ministry.

The expectations of Amazonian governors for carbon market resources have also shaped the discourse and the governors have subsequently lobbied the federal government to move towards REDD+ in Brazil. An often-overlooked institution within the governments, such as the Secretariat for Strategic Affairs, lobbied ('*conspired*' according to Interviewee 88R (GOV)) for the introduction of a REDD+ market mechanism and sought to undermine MMA's position, highlighting the power play between government institutions.

The courteous relationship between the environmental movement and the executive branch has influenced the negotiation processes around the development of policies on Amazônia, including climate policies in general and the establishment of the Amazon Fund as one of the most important elements of the domestic climate finance landscape. This relationship has changed radically since January 2019, but dissolution of the 'courteous relationship' was already clearly visible in 2016.

Chapter 8

The ABC Programme for Low-Carbon Agriculture

8.1 Introduction

The emergence of large economies in developing countries such as Brazil, China and India, with their major demand for and supply of agricultural products, is an essential new feature of the global trade in food (Beddington et al. 2012). But Brazil's role as the world's largest beef exporter since 2003 is also associated with deforestation and land use changes from agriculture, accounting for over 70% of its GHG emissions (Beddington et al. 2012).[1] The agricultural sector, however, is also vulnerable to the impacts of climate change which are expected to cause large economic losses. By 2050 Brazil's GDP could lose around 2.5% of value each year due to temperature rises which would be equivalent to the loss of GDP for a whole year over the next 40 years (Assad et al. 2018).

The agricultural sector in Brazil employed 21% of the country's total workforce in 2002, dropping to 10% in 2017.[2] It consists of both large, heavily capitalized and mechanised agribusinesses, mostly producing for export, and smaller family farms (*agricultura familiar*), which produce 70% of the foodstuffs consumed within the country.[3] Family farms are a type of smallholder agriculture that has developed on small farms, man-

[1] Until that year, Australia had been the largest beef exporter and exports from Brazil and the US were more or less equal (Silva Neto and Bacchi 2014).

[2] World Bank: http://data.worldbank.org/indicator/SL.AGR.EMPL.ZS, accessed 15.01.2019.

[3] The distinction between agribusiness and family farms is however an outdated view of Brazilian agriculture, as there are both very traditional subsistence as well as highly productive and modern operations that are officially classified as family farms (Mueller and Mueller 2016). For simplicity it will be adopted here.

aged by individual families, sometimes assisted by a few employees. The harvests serve as food for both the family and the wider population.[4] The actors in the agricultural production process are thus heterogeneous, ranging from small family farms in sometimes precarious production conditions to high-tech and capital-intensive large-scale enterprises. In some Brazilian states agriculture dominates the creation of value. For example, in the state of Amazonas 276,000 people depend directly on the use of natural resources, of which 92% are family farmers and 8% are more commercial farmers. The cattle herd counts about 1.5 million heads (Interviewee 8H (PB)).

Brazil is implementing measures to address the negative effects of its agricultural industry as well as to reduce its vulnerability. As part of the country's National Climate Policy, in 2009 the Ministry of Agriculture, Livestock and Food Supply (MAPA) developed the '*Sector Plan for Mitigation and Adaptation to Climate Change for the Consolidation of a Low-Carbon Emissions Agriculture Economy*' (the ABC Plan), with the objective of reducing GHG emissions and increasing carbon sequestration by improving efficiency in the use of natural resources, increasing the resilience of production systems, and enabling the agricultural sector to adapt to climate change. The Plan is expected to reduce pressure on forests by increasing agricultural productivity and promoting sustainable management practices (World Bank 2017). To this end the Brazilian Development Bank (BNDES) launched a R$ 1bn (US$ 588m) ABC Programme to finance projects to reduce GHG emissions associated with agriculture to support the implementation of the ABC Plan in 2010. This scheme offers a subsidy in the form of credit at a low interest rate for differentiated, low-carbon agricultural practices.

While Chapter 7 has shown how the Amazon Fund mostly focusses on command and control instruments and support to livelihoods to contain forest conversion and expand the sustainable use of the forest, the ABC Programme is addressing the lack of economic incentives for sustainable agricultural practices and land use. Drawing on interview data, policy documents, reports and literature this chapter will first show which actors prepared the ground for the development of the ABC Programme and second which wider discourses and discursive frames they drew upon. The last part of the chapter shows how these discursive elements found their way into the ABC Programme and shaped its implementation.

[4] Government of Brazil: 24.07.2015, http://www.brasil.gov.br/economia-e-emprego/2015/07/agricultura-familiar-produz-70-dos-alimentos-consumidos-por-brasileiro, accessed 10.04.2016.

Schmidt's (2016) ideas (or discourses) use different types of arguments such as expert knowledge in cognitive arguments or legitimacy with the help of societal values in normative arguments (Schmidt 2016). Chapter 7 has demonstrated how cognitive arguments (scientific data on the impacts of deforestation for the global climate) and normative arguments (appealing to a global responsibility to protect the Amazon) have been applied to mobilize but also to demobilize (through appealing to sovereignty fears) action around the issue of combating deforestation. This Chapter reveals the use of both cognitive and normative arguments in the application of discursive frames by different actors in favour of low carbon agriculture.

8.2 Actors and Actor Constellations

This section introduces the key actors, actor constellations and dynamics relevant to the establishment of the ABC Programme for Low-Carbon Agriculture and sets the scene for the analysis of the relevant discourses in section 8.3. The Ministry of Agriculture (*Ministério da Agricultura, Pecuária e Abastecimento*, MAPA) and the Confederation of Agriculture and Livestock (*Confederação da Agricultura e Pecuária do Brasil*, CNA) which represents both small and large farmers. MAPA and the state-owned agricultural research enterprise (Brazilian Agricultural Research Corporation or *Empresa Brasileira de Pesquisa Agropecuária*, EMBRAPA) are the main agenda setters. The analysis will show how MAPA provided the political access for the discourses prepared by EMBRAPA.

The ABC technologies were developed and tested at EMBRAPA research sites and EMBRAPA shaped the discourses and the policy on low-carbon agriculture in Brazil. The CNA on the other hand also played an active role in the formulation of both the ABC Plan and the ABC Programme and is also engaged in their implementation. Financial institutions such as *Banco do Brasil* helped to get the ABC off the ground; they are also supporting the implementation of environmental legislation (such as the CAR). The actors relevant for the ABC further include NGOs and international actors such as Greenpeace, Observatório ABC, the World Resources Institute or the British Embassy as well as the Ministry of Agrarian Development (*Ministério do Desenvolvimento Agrário*, MDA), the National Institute of Colonization and Reform (*Instituto Nacional de Colonização e Reforma*, INCRA), the Landless Social Movement (*Movimento dos Trabalhadores Rurais Sem Terra*, MST) representing the rural poor, and the media interacting in an at times contradictory legal setting (see figure 8.1). Before moving on to

discourses, some critical interactions between the actors are discussed, focussing especially on public-private coalitions, including key moratoria to regulate soy and beef production. These can be seen as predecessors of the ABC Plan and Programme.

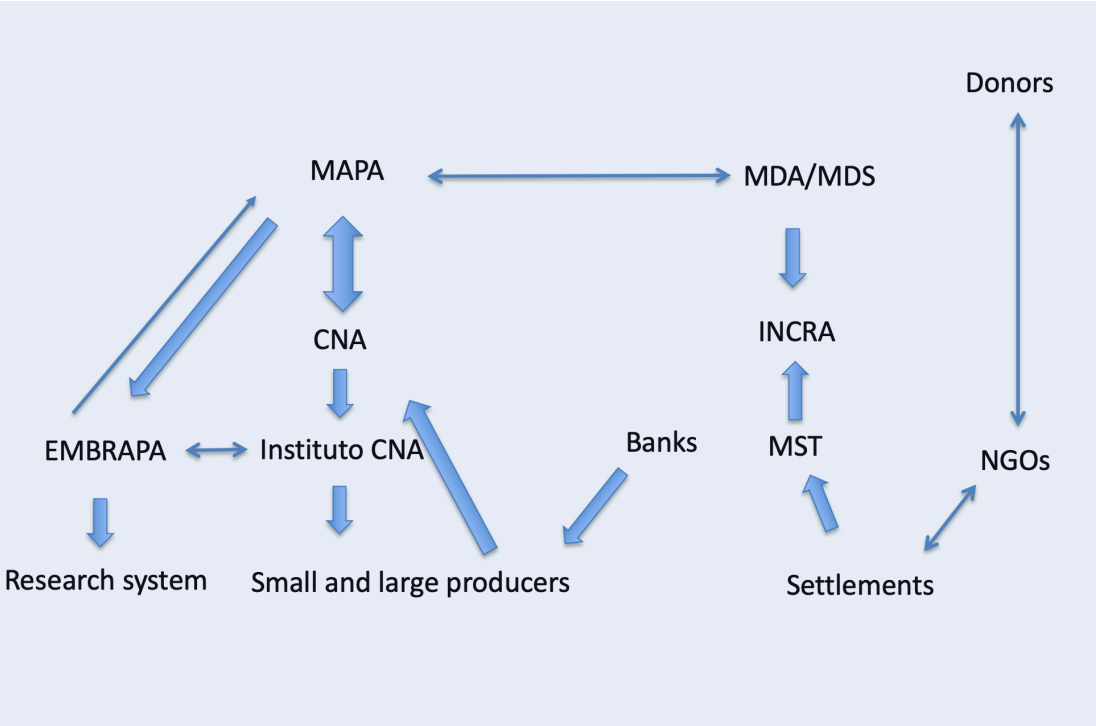

Figure 8.1: Actors Involved in discursive formations promoting the ABC
Source: own diagram based on data analysis. Arrows signify influence and cooperation.

8.2.1 The Ministry of Agriculture, Livestock and Food Supply and its Links to Agribusiness

The Ministry of Agriculture, Livestock and Food Supply (MAPA) was first established in 1860 during Portuguese colonial rule, as the *Secretaria de Estado dos Negócios da Agricultura, Comércio e Obras Públicas*. The modern MAPA was created in 1909 and it mainly dealt with regulatory aspects such as plant and animal health. Some strategic policies such as rural credit and minimum prices had little effect according to Mueller and Mueller (2016) as they were controlled by governmental organizations with no concern about agricultural development.

The colonization of the interior of Brazil (see 7.3.4) began during the First Republic (1889 - 1930) with exploration and integration initiatives particularly during Nilo

Piçanha's administration (1909 - 1910) (Hoshino and Hansen 2017). The Ministry of Industry, Agriculture and Commerce (the predecessor of MAPA) developed colonization projects which were later resumed by Getúlio Vargas (1930 - 1945) (ibid, see Chapters 5, 7). This 'March West' as promoted by Vargas in the 1930s was supported by subsidies for settlers to move into the interior away from the densely populated coastal areas where soils had long been exhausted from deforestation and intensive coffee and sugar cane production: '*the hope was that this migration would result in farms dotting the vast landscape, increase exports and ultimately unite the country politically and territorially*' (Nehring 2016: 208). During the military dictatorship (1964 - 1985) an agricultural policy network emerged involving the representatives of modernizing agribusiness, pressuring for resources for credit and minimum price policies, road infrastructure, investments in storage capacity and rural insurance policy (Mueller and Mueller 2016).

The modern MAPA is a very influential actor. Due to its proximity to agribusiness Viola and Franchini (2018) characterize it as a conservative force (see also Bastos Lima 2021). The interests of the agribusiness elite are among those best represented in Brazilian politics (Aamodt 2015). The ministry has been under the direct control of agribusiness since the early 1990s (Viola and Franchini 2018), for example industry representatives have been nominated as Ministers of Agriculture: Katia Abreu, a cattle rancher from Amazonia was the president of the Brazilian Confederation of Agriculture and Livestock between 2008 and 2011. From 2007 to 2014 she was senator of her home state Tocantins before becoming Minister of MAPA in January 2015 during Rousseff's second administration.[5] Blairo Maggi, owner of the world's largest soybean producer *Grupo Amaggi* and previous Governor of Mato Grosso, followed her in this office until Tereza Cristina Corrêa da Costa Dias, an agribusiness professional and former head of the ruralists (*ruralistas*) in the National Congress, took over in January 2019.[6]

The political weight of the agriculture sector to change legislation is based on the representatives of ruralists in many Brazilian states, dominated both by large and small-scale forms of production. In addition, capital-intensive agribusiness also has the resources to lobby for issues that are close to their interests, building a highly articulated movement with sound technical capacity and a political strategy, according to interviewees 76F (AC) and 55H (AC). The ruralists are represented in both the House of Representatives and the Senate (Interviewees 76F (AC), 55H (AC)). The political weight of

[5] With Rousseff's dismissal Abreu was also suspended as Minister by the new Temer government.
[6] For Maggio's role in reducing deforestation as governor of Mato Grosso see Chapter 7.

agribusiness can be seen both in political relations and in the Forest Code controversy (see 6.3.2).

Sustainable land use in Amazônia is a complex social process. The traditional opponents of deforestation control and prevention have been the timber industry, cattle ranchers and farmers in the Amazon and in the Cerrado. Pressures on natural resources originate not only from large agribusiness but also small-scale farmers and the rural poor (see Chapter 5). The agribusiness coalition together with the bureaucracy in MAPA and the rural caucus in Congress shared the belief that stricter forest and agricultural regulations restrict private property rights and jeopardize the food security and income of Brazilian farmers (Aamodt 2015). The Forest Code was revised in 2012 as an initiative of the rural advocacy groups in Congress (the *frente parliamentar do agronegocio*, or agribusiness lobby). These groups are strong and well-funded and employ many strategies to advance their interests, including the nomination of representatives in the legislature (Interviewee 76F (AC) (AC)).[7] In the case of the Forest Code reform, the victory of the ruralists can be attributed more to their degree of organization, power of mobilization and communication strategy (Interviewee 76F (AC)); the MMA '*lost a lot of its struggles*' (Interviewee 55H (AC), see Chapter 6).

The position of the industry and its political representatives has however changed from very conservative to pro low-carbon development. As public research and knowledge about the causes and impacts of climate change have grown, the positions of industry and climate change professionals have increasingly converged, and they have started to collaborate on low-carbon agricultural techniques (Interviewee 21U (PB)). The development of new ideas for low-carbon agriculture occurred in a triangular cooperation between MAPA, the Brazilian Confederation of Agriculture and Livestock (CNA), and Brazilian agricultural research enterprise EMBRAPA. In the pre-Copenhagen period, when voluntary mitigation targets for Brazil were discussed within the government, MAPA became a progressive force. It enabled the scientific discourse to enter the policy discourse (see 8.4.3). Once the establishment of a sectoral plan for agriculture was decided upon, MAPA provided the resources for its development and oversees the ABC implementation by the ABC state committees which formulate state ABC Plans and MAPA coordinates the technical assistance for ABC applicants (interviewee 14L (GOV)).

[7] e.g. senator Katja Abreu

8.2.2 The Brazilian Confederation of Agriculture and Livestock

The Brazilian Confederation of Agriculture and Livestock (CNA), founded in 1951, is the main agricultural interest organization (Aamodt 2015) and a very powerful actor in the agricultural sector according to interviewee 21U (PB). It represents both large and small agricultural producers and all rural unions of Brazil (Interviewee 8H (PB)). Its representatives highlight the positive role of agricultural producers as guardians of Brazil's natural resources, emphasizing that 80% of land in the Amazon region has to be preserved in compliance with the Forest Code, with producers thus only being able to cultivate 20% of the territory: '*And we do not get a penny for it. We provide a service that benefits the whole community*' (Interviewee 8H (PB)). In the preservation areas, deforestation is not allowed, and the property owner has to ensure that no third party enters to deforest (Interviewee 8H (PB)).

CNA's position on agricultural emissions and climate policy changed in the 2000s (Interviewee 21U (PB)). While environmental legislation was perceived as restrictive by the sector in general, low-carbon technologies such as crop-livestock-forest integration were also seen as an opportunity by industry representatives:

> *The [revised] Forest Code greatly improved the situation. But we still have many restrictions […]. But we are convinced that we can double or triple our agricultural and livestock production without expanding the area of production, only using sustainable production technologies. We are very determined to spread these technologies to the producers. (Interviewee 8H (PB))*

The contemporary CNA cooperates closely with both MAPA and EMBRAPA on the development of low-carbon agriculture. CNA for example tasked EMBRAPA with the restructuring of the national inventory of agricultural and livestock emissions (Interviewee 21U (PB)). They further cooperate in agricultural extension and jointly install demonstration units for 'crop-livestock-forest integration' and other low-carbon technologies (Interviewee 8H (PB)) and present the agricultural sector as key to achieve Brazil's climate targets.[8]

CNA also provides information and support for producers to access the ABC Programme. Its research and extension institute (Instituto CNA) created an online service for farmers helping them to access ABC loans.[9] The web-portal '*Agrosustenta*' provides tech-

[8] Among other publication instruments also with youtube videos: https://www.youtube.com/watch?v=4HYkc1H95FU, last accessed 10.12.2020.

[9] Instituto CNA was founded to undertake studies and research on social and environmental aspects benefiting the agribusiness as a whole: https://abccapacitacao.wordpress.com/tag/agrosustenta/, last

nical and economic information to support producers in their decision-making when applying for funding under the ABC. Through this scheme the farmers should be enabled to develop projects that meet the technical and financial parameters of the ABC Programme and the requirements of financial agents. At the same time financial institutions receive information through a standardized design to make it easier for their analysts to process requests and reduce the application time.[10] This makes agribusiness through CNA an active player in the implementation of the ABC Plan and Programme.

8.2.3 The Ministry of Agrarian Development and the Landless Social Movement

During the Workers' Party (PT) government (2003 - 2016) two Ministries dealt with agriculture and agrarian issues. MAPA and the Ministry of Agrarian Development (MDA). While MAPA represents the larger producers and export-oriented agro-businesses, MDA was tasked with the affairs of family farmers and agrarian reform settlers through the National Institute of Colonization and Reform (INCRA). MDA was created in 2000 to oversee land reform and abolished in 2016. MDA and MAPA had a division of tasks and a history of rivalry, polarized between defenders of agribusiness and defenders of sustainable agriculture (Zanetti Pessôa Candiotto 2018). MAPA and MDA designed and implemented public policies for organic agriculture and agroecology together with the Ministry of Environment (MMA) and the Ministry of Social Development (MDS) (ibid). MAPA and MDA were to jointly implement the ABC Plan and Programme which was an uneasy alliance. MAPA was the driving force behind the ABC as the MDA was more reluctant and did not consider it a priority but rather concentrated on the credit lines for small producers under the National Programme for Family Agriculture (*Programa Nacional de Fortalecimento da Agricultura Familiar*, PRONAF).[11] PRONAF is a public policy and credit line and it is much easier to access for small scale agricultural producers. It is also open to agrarian reform settlers and there is no mitigation or adaptation conditionality attached to it. After the impeachment of President Rousseff and the end of the PT era in 2016 the small-holder oriented MDA was soon abolished by the Temer government which meant a significant decrease in (financial) support for the *agricultura familiar* (Bastos Lima 2021).[12]

accessed 30.12.2018.

[10] http://www.agrosustenta.com.br/, last accessed 17.04.2016.

[11] This argument is based on comments from various interviewees but not from representatives of MDA or INCRA, as attempts to interview these organisations' representatives failed.

[12] MDA had been integrated into the MDS.

The Landless Social Movement (MST) was officially founded in the southernmost states of Brazil in the mid-1980s and was the most dynamic and well-organized social movement in Brazil by the end of the 1990s. It is a member of the trans-national Via Campesina movement (Wolford 2010)[13] and received the 'Alternative Nobel Prize' (Right Livelihood Award) by the Swedish parliament for its accomplishments in agrarian reform, innovative education, rural health and ecological farming (Wright and Wolford 2003). The MST became the key social force pressing for land reform. Its main tactic is large-scale land occupation. The MST rejects what they call a neoliberal emphasis on food as a commodity and adopted a '*food sovereignty model*' emphasising food production for local consumption. In 2000 it adopted agroecology aiming to balance food security and the sustainable use of natural resources with the help of agroecological science and indigenous knowledge systems. Since then, the MST and other rural social movements have institutionalised agroecological education in their community and pedagogy (Schwendler and Thompson 2017).[14] The MST is a powerful player at the national level in Brazil where it represents the rural poor, although its political effectiveness has been on the decline since the 2000s (Wolford 2010).

Being a controversial and politically charged issue in Brazil, the debate between the Landless Peasants' Movement (MST), farmers and government has been systematically kept in the limelight by the media, notably around the question of land reform and how much land was to be redistributed, and to how many beneficiaries (Mueller and Mueller 2016) (Chapter 5). The permanent threat of losing land forced some large landowners to become more productive. Rural credit for machinery made mechanization easier and signalled cheap capital and expensive labour even though labour was abundant. The large-scale mechanized agriculture sector that developed as a result benefitted a small number of large farmers, failed to absorb much rural labour, smallholders remained poor, and income inequalities increased in rural areas (Mueller and Mueller 2016). As discussed in the Chapter 5, insecure tenure, the primacy of productivity and the threat of invasion and redistribution make deforestation appear a rational choice for private landowners in some parts of the country (Araujo et al. 2011).

[13] *Movimento dos Trabalhadores Rurais Sem Terra*, http://www.mst.org.br/, last accessed 11.03.2019.

[14] Agroecology is expected to offer pesticide-free food for the population, income for rural families, to strengthen family farming and to reduce agricultural environmental impacts. Agroecology has been developed as a new paradigm toward sustainable agriculture including political-ideological and pedagogical dimensions in addition to the scientific dimension which makes it well suited as a social movement (Zanetti Pessôa Candiotto 2018).

At the same time, tenure insecurity and lack of property regularization are also major obstacles for the implementation of the ABC. This will be further discussed in 8.4.

8.2.4 The Brazilian Agricultural Research Corporation - EMBRAPA

The state-owned research enterprise EMBRAPA was created in 1973 by MAPA as a decentralized research network, composed of different centres spread throughout Brazil (Mueller and Mueller 2016). EMBRAPA coordinates the National Agricultural Research System which includes most public and private entities involved in agricultural research in the country (Alvarenga Neto and Vieira 2011). It played a key role in the productivity increases in Brazilian agriculture as well as in initializing the expansion of the agricultural frontier from the traditional areas to the central savannahs of the Cerrado (Mueller and Mueller 2016; see chapter 5).

The establishment of EMBRAPA and industrial agriculture in Brazil have their origins in social relations between Brazilian and US scientists on scientific knowledge production. This scientific groundwork legitimatized agricultural modernization on the basis of imported industrial inputs. As a result, political elites from Brazil and the US worked together to redesign the national agricultural research system and the training of local scientists (Nehring 2016), resulting in the creation of EMBRAPA. Another consequence was the Brazilian version of the Green Revolution. The US provided technical assistance via USAid from 1961 to 1969 to finance various activities from conducting surveys to locate lime and potassium deposits (for plant nutrition), to training Brazilian scientists with the goal of modernizing Brazil's agriculture and supporting long-term development planning (ibid).

In the 1970s and 1980s EMBRAPA and its partners were confronted with policy reversals and uncertainty and it was only after the stabilization of the mid-1990s that two decades of investment in agricultural research started to show results. The support for EMBRAPA and the recognition of its contribution to knowledge became widespread in the 2000s (Mueller and Mueller 2016). With its resources EMBRAPA has been able to play a key role in generating knowledge and raising awareness about climate change in the Brazilian agriculture sector (ibid, Figueiredo 2016).

EMBRAPA has its headquarters in Brasília and a network of 38 research centres, 3 service centres and 13 central divisions. It is thus present in almost all of Brazil's states, each with its own ecological conditions (centres for the savannas, humid trop-

ics and dry lands), agricultural product organizations (rice and beans, soybeans, beef and milk), and special thematic centres (such as genetics and remote sensing) (Mueller and Mueller 2016). EMBRAPA aims to provide knowledge and technologies generated by research to different segments of society, through cooperation among its research units, central units and national and international partners (Schmidt Bassi et al. 2014). As a leading research institution in Brazil EMBRAPA implements large research programmes on the impacts of climate change on the agricultural sector, its mitigation potential and technologies for low emission agriculture.[15] Its technical capacity, and political support and acceptance by the agricultural sector, enabled EMBRAPA to create the knowledge base and awareness necessary to shape the discourses leading to the establishment of low-carbon agriculture in Brazil. EMBRAPA was one of the first institutions to highlight the vulnerability of Brazil's agricultural sector to climate change:

> *EMBRAPA helped a lot and showed that climate change - not in terms of mitigation but of adaptation – could be a big problem for Brazil. (Interviewee 21U (PB))*

Furthermore, being situated between economic, scientific and epistemic interests, EMBRAPA directly influences Brazil's climate policy and climate finance (21U (PB)). It is close to the government, with many personal connections and staff secondments.[16] The cooperation with government institutions is also apparent in its collaboration on the national inventory of agricultural and livestock emissions (Interviewee 21U (PB)). EMBRAPA's extension techniques are relevant also for the ABC. EMBRAPA joined forces with CNA in the diffusion of ABC technologies through demonstration sites and internet-based distance learning programmes for producers in remote areas (Interviewee 8H (PB)).

8.2.5 The Financial Sector

The government of Brazil provides resources for the ABC via its National Bank for Economic and Social Development (BNDES), one of the largest development banks in the world (Torres and Zeidan 2016). BNDES is an exception among the national development banks (NDBs) created in the 1950s because it still plays a major role in designating credit for industrial and infrastructure projects today. In 2014 for example the value of its disbursements was almost twice the amount provided by the World Bank (ibid: 101). The main reason for its dominant role lies in the underdevelopment of

[15] EMBRAPA is among the top ten Brazilian institutions in terms of the volume of articles published in indexed journals which is ahead of the majority of Brazilian universities (Mueller and Mueller 2016).

[16] One example is Euardo Elgao Assad, who was the secretary of the MMA Ministra Isabela Teixera under the second Lula government (21U (PB)).

local financial markets (Torres and Zeidan 2016). Until the mid-2000s Brazil's credit market was characterized by scarcity, high volatility, high cost, high concentration and segmentation. Brazilian commercial banks charge interest rates that are among the highest in the world. Real interest rates declined from 2002 to 2012, from an average of 12% in 2002 to 4% in 2012 but climbed again to 6% in 2016 (Torres and Zeidan 2016).

Although independent of the government, BNDES is tied to the government through the financial resources provided by the national treasury.[17] As a result BNDES holds the largest share of the long-term credit market for non-financial corporations, with commercial banks and the corporate bond market still being relatively small (ibid). This makes BNDES one of the most relevant actors, in theory, for environmental credit and low-carbon development, including in the agricultural sector. BNDES' focus, however, is on funding investment projects and the exports of large Brazilian companies including a number of agriculture and food businesses responsible for deforestation rather than sustainable development in the region (Interviewee 13M (DON)); large companies can access its funds more easily than SMEs; funds are earmarked for the acquisition or export of machinery and equipment, construction and infrastructure projects (Torres and Zeidan 2016, see Chapter 7).

BNDES uses its own resources for the ABC programme. However, unlike in the case of the Amazon Fund and the loan segment of the *Fundo Clima*, it does not interact directly with credit applicants of the ABC programme; this is done instead by agents such as *Banco do Brasil* (BB) and *Banco da Amazônia* (BASA). Both institutions are also active in the ABC programme. Banco do Brasil is one of the oldest and largest banks in Brazil. It manages several government programmes, such as the National Programme for Family Agriculture (PRONAF), and is a major implementer of the ABC programme which it offers to rural producers and their cooperatives.[18] *Banco da Amazônia* was founded in the 1940s to finance rubber production and exports to the Allies in WWII. In the 1970s, it financed the expansion of the agricultural frontier, for instance with the Amazon Investment Fund (FINAM). Its website states that it is now committed to the sustainable development of the Amazon region and national policies such as the

[17] Government involvement in BNDES is considerable. For instance, after the financial crisis in 2008, the Brazilian government used BNDES as the main agent for countercyclical fiscal policy. In 2010 the Brazilian Treasury became BNDES's main supplier of funds. In 2015 loans from the Federal Government reached 56% of BNDE's total sources (Torres and Zeidan 2016).

[18] https://www.bb.com.br/pbb/pagina-inicial/agronegocios/agronegocio—produtos-e-servicos/credito/investir-em-sua-atividade/agricultura-de-baixo-carbono-(abc)#/; https://www.bb.com.br/pbb/pagina-inicial/sobre-nos/sustentabilidade#/, last accessed 11.03.2019.

Sustainable Amazon Plan (PAS).[19] BB invested its own resources in the ABC Programme (FGV 2014) (table 8.1 shows the latest available information) and was instrumental in the take-off of the ABC (Stabile et al. 2012).

	2011/ 2012		2012/ 2013		2013/ 2014	
BNDES	351.99		306.48		285.28	
BB	1,272.87		2,743.21		2,742.13	
Total	1,624.86	793 (31.12. 2011)	3,049.68	1.488,37 (31.12. 2012)	3,027.41	1.477,51 (31.12. 2013)
	Million BRL	Million US $	Million BRL	Million US $	Million BRL	Million US $

Table 8.1: Total amount contracted for the ABC Programme 2011 - 2014 by BNDES and BB in the first three harvest periods.
Source: FGV (2014: 86), based on BB, BNDES, MAPA and Central Bank. Currency conversion: https://www.oanda.com/lang/de/currency/converter/, last accessed 23.04.2019

During the 2016/2017 period for the first time the amounts contracted through BNDES were higher than those transferred by *Banco do Brasil* (Observatório ABC 2017).[20]

8.2.6 International Actors

Few donors are active in Brazil's agricultural sector in general, unlike in the case of the Amazon Fund. However, several initiatives indirectly support the implementation of the ABC Plan. The International Bank for Reconstruction and Development (IBRD) does so through a project on sustainable production in areas previously converted to agricultural use with grants totalling US$ 10.72m (WB 2017). The World Bank's (WB) Forest Investment Program (FIP), through its Brazil Investment Plan and Integrated Landscape Management in the Cerrado Biome Project, aims to expand further the use of low-carbon agriculture techniques, enhance environmental governance and landscape management, and strengthen the CAR at the federal and subnational levels (ibid). With a financial volume of US$ 25m, the WB further assists landholders in the process of implementing the Forest Code and promotes low-carbon-emission agricul-

[19] https://www.bancoamazonia.com.br/index.php/sobre-o-banco/sustentabilidade; https://www.bancoamazonia.com.br/index.php/sobre-o-banco/historia-marca, last accessed 11.03.2019.

[20] R$ 814.77m via BB (44.9%), R$ 816.19m via BNDES (45%) and R$ 183.99m through *Banco da Amazônia* (BASA) (10.1%) (Observatório ABC 2017).

ture in selected municipalities (WB 2017).[21] The European Union, the UK Department for Environment, Food and Rural Affairs (DEFRA) and the German Development Cooperation support rural property registration and regulation, integrated landscape approaches and the CAR in the Amazon region and the Cerrado. While these projects are aligned with the objectives of the ABC Plan, direct international involvement in the ABC Programme is minimal.

The resources for the ABC Programme are therefore all domestic. Support and influence from abroad are perhaps less needed and at the same time also difficult to obtain in so far as the Brazilian agriculture sector competes internationally. Minor exceptions are the support from the Climate and Land Use Alliance (CLUA) and the UK Foreign and Commonwealth Office (UKFCO) for the dissemination of knowledge and communication about the ABC Plan and Programme (Interviewee 2B (DON)), and the World Resources Institute (WRI) cooperated with EMBRAPA on the GHG inventory for agriculture (Interviewee 18S (GOV)).

The National Climate Fund (see Chapter 6), the financial mechanism of the national climate policy financed by Petrobras and the Brazilian government, supported the development of the ABC Plan and Programme in its early phases: '*The Fundo Clima supported all ABC's publicity: the production of all the communication material, the trainings, the booklets, the folders*' (Interviewee 12L (GOV)). Further to the ABC outreach and publicity, the GHG monitoring laboratory for agriculture and forestry was also financed by the National Climate Fund as were the development of methodologies for monitoring of emissions from cattle.

8.2.7 Civil Society

Civil society had long demanded less destructive agricultural practices, building the discursive foundations for the establishment of the ABC. However, it was not actively involved in the development of the ABC but has been monitoring its implementation. The Coalition for Climate, Forests and Agriculture (*Coalizão Brasil, Clima, Florestas e Agricultura*), a multi-sectoral coalition, for example, was constituted in 2014 and has since reached 180 members from agribusiness, civil-society groups, academia, and corporate businesses who lobby for ending illegal logging and deforestation. They are

[21] WB FIP Safeguards Document, http://documents.worldbank.org/curated/en/967301506029871422/pdf/Concept-Project-Information-Document-Integrated-Safeguards-Data-Sheet-FIP-Brazil-Investment-Plan-Integrated-Landscape-Management-in-the-Cerrado-Biome-Proje.pdf, last accessed 29.12.2018.

convinced that this would provide Brazil with an economic opportunity: '*low-carbon agriculture is the key to securing future markets and Brazil's economic development*'.[22] NGOs discussed in Chapter 7 (such as IPEA, IPAM, ISA, IDESAM, WWF, ICV) are all active in the land use sector and at the interface between deforestation, agriculture and climate change issues. IDESAM and ICV work with agrarian reform settlers on the transition to sustainable agricultural practices. WWF and IDESAM cooperate with the CNA to disseminate sustainable agricultural practices to remote farmers. Greenpeace on the other hand was particularly influential with two campaigns on the agricultural commodities soy and beef (see section 8.2.8).

In the context of low carbon agriculture policy and the ABC, the Getúlio Vargas Foundation (*Fundação Getúlio Vargas*, FGV) has a very prominent position and developed recommendations to improve the ABC for consideration by the government. The civil society and research initiative *Observatório ABC* (ABC Observatory) is the most influential civil-society actor in the ABC context, seeking to engage the public in the debate on low-carbon agriculture. Founded in 2013, it is coordinated by the Centre for the Study of Agribusiness at the Getúlio Vargas Foundation (GVAgro). *Observatório ABC* monitors the implementation of the ABC Plan and Programme through technical studies. Based on its analysis and consultations with other civil-society actors, it develops proposals for the revision of the ABC Plan. It further runs a digital platform that publishes data on ABC implementation including the volume of contracts per year and the implementation steps taken by each state, with the aim of enhancing transparency of the ABC resources spent.[23]

8.2.8 The Anti-Deforestation Coalition and Public-Private Initiatives

During the second half of the 1990s and the early 2000s Amazonian deforestation reached a record high and received a lot of attention domestically and internationally (see Chapter 7). Brazil's 2004 Initial National Communication based on data from the 1994 National Inventory also identified the agricultural sector as the responsible sector for the majority of the country's methane (CH_4) emissions (77%), mainly caused by ruminant herbivores' enteric fermentation (INC Brazil 2004):[24]

[22] Interview with Paulo Artaxo, professor at the Institute of Physics at USP and member of the IPCC, published on the coalition's website: http://www.coalizaobr.com.br/home/index.php/boletim-n-35/608-entrevista-ipcc-indica-necessidade-de-reducao-drastica-das-emissoes-ate-2040, interview 23.11.2018, last accessed 16.12.2018.

[23] http://observatorioabc.com.br/quem-somos/, last accessed 16.12.2018.

[24] Methane emissions result from many activities, including landfills, wastewater treatment, oil and natural gas processing systems, agricultural activities, coal mining, fossil fuel and biomass combustion,

It was the first National Communication where the numbers begin to appear; we had two big emitters in Brazil: Amazonian deforestation and agriculture. (Interviewee 39S (AC))

As a result of the Action Plan for Deforestation Prevention and Control in the Legal Amazon (PPCDAm) launched in 2004, large-scale deforestation through illegal logging was reduced considerably and the share of Land Use, Land Use Change and Forestry (LULUCF) in national emissions fell from 78 to 49%. (Viola and Franchini 2018; see Chapter 7); this made forest clearing for agricultural use suddenly more visible:

When the second inventory was presented in 2006 we still had a strong impact caused by Amazonian deforestation [but now] land use was the big deal, and agriculture. (Interviewee 39S (AC))

The relevant policies to reduce deforestation had been started and were showing results.

The minister of the Environment Marina Silva (2003-2008) was a key part of this transformation: she established a broad coalition of actors against the destruction of the Amazon forest (see Chapters 5 and 7) and was able to persuade President Lula da Silva to support an aggressive anti-deforestation policy; through the landmark policy PPCDAm, the cooperation and coordination between the different levels and branches of government the three-decade-old tacit alliance between the government and the illegal deforestation industry was finally broken (Viola and Franchini 2018). The Ministry of Mines and Energy (MME) and MAPA were reluctant about mitigation targets and domestic climate policy, arguing Brazil should prioritize food security and energy security. However, Silva, supported by a coalition of environmental NGOs and climate scientists, successfully connected core forest policy concerns in civil society with climate change, leading to a policy shift (see Chapter 7, Nunes and Peña 2015). Domestic and international action by environmental NGOs revealed extreme deforestation to the public, preparing the ground for public-private anti-deforestation initiatives (Viola and Franchini 2018; Aamodt 2015).

One example is the campaign 'Legal Beef' (*Carne Legal*) launched by the Federal Public Prosecutor's (*Ministério Público*) Office (a powerful and independent public prosecutor, also titled the '4th power' in Brazil, Hochstetler 2017a and Zellhuber 2016) with the

conversion of forestland and some industrial processes (3NC Brazil, MCTI: 2016). Brazil's Initial National Communication lists the following activities as major emitting agricultural activities: enteric fermentation; manure management; rice cultivation; burning of agricultural residues; N2O emissions from agricultural soils; burning of savannas (INC Brazil, MCTI: 2004).

objective of introducing and enforcing environmental and social standards in the livestock production chain in the Amazon to fight environmental crimes and slave labour (Interviewee 8H (PB)). Negotiations with the beef producers and cold storage warehouses to sign an agreement on sustainable livestock took place but failed initially (Interviewee 8H (PB)). These negotiations were followed by raids and calls for boycott. The operation *Boi Pirata* (pirate beef) in 2009 lasted several months and included the seizure of thousands of heads of livestock by IBAMA, the Army and ICMBio.[25] The most recent campaign was the Carne Fraca raid by IBAMA with the Federal Police and supported by the Public Prosecutor's Office in 2017.[26] Once the government had shown its seriousness and determination several public-private initiatives were created.

The Soy and Meat Moratoria

Pressed by major international NGOs, retailers such as McDonald's and big soybean traders including Cargill and Bunge signed an agreement in 2006 not to purchase soy grown in deforested areas of the Amazon. The Greenpeace campaign "The world is eating up the Amazon" led to a public outcry (Viola and Franchini 2018). The NGOs' campaign in the months leading up to the soy moratorium showed the public how some fast-food restaurants and supermarkets in industrialized countries were serving chicken fed with soy from deforested areas in the Brazilian Amazon (Greenpeace 2006).[27] McDonald's subsequently decided to lead a European consortium of soy importers to find a solution with soy producers in Brazil (Viola and Franchini 2018).[28] Blairo Maggi's soy conglomerate Grupo Amaggi had already had a previous successful experience with monitoring the farms that supplied it and supported the agreement (Nepstad et al. 2014).

The features of the soy moratorium include simple requirements for compliance, streamlined and transparent monitoring and enforcement systems, and active participation by NGOs and government agencies (Gibbs et al. 2015). Simultaneously, efforts by the Brazilian government to reduce deforestation were taken. The restrictions of the moratorium further included the use of slave labour and the infringement of indige-

[25]http://www.mma.gov.br/informma/item/5185-chega-ao-fim-operacao-boi-pirata-na-terra-do-meio, last accessed 23.04.2019.

[26]https://www.oeco.org.br/reportagens/operacao-carne-fria-do-ibama-autua-jbs-mas-governo-federal-tenta-abafar/, last accessed 23.04.2019.

[27]https://sustentabilidade.estadao.com.br/blogs/ambiente-se/moratoria-da-soja/, last accessed 6.12.2018.

[28]The soy sector in Brazil consists of a limited number of soy buyers with considerable control over soy purchase and finance (Gibbs et al. 2015).

nous land rights. Farms violating the moratorium are identified by the use of satellites and airborne monitoring systems and blocked from selling to soy moratorium signatories. This has resulted in a high compliance rate (Gibbs et al. 2015).

Greenpeace itself had begun to monitor the cultivation of grains by biome and estimated that about 30% of the soybean expansion planted in the Amazon came from recent deforestation; after the soy moratorium this fell to about 1% (Gibbs et al. 2015). However, the moratorium does not apply in the Cerrado, where the annual rate of expansion of soy cultivation into native vegetation has remained sizable, reaching 11–23% in 2007–2013, and as much as almost 40% in Brazil's newest agricultural hotspot, the states of Maranhão, Piauí, Tocantins and Bahia (Mapitoba) in the eastern Cerrado region (ibid).

The soy moratorium institutionalized a working group composed of NGO representatives, soy traders, farmers, retailers and the government (Viola and Franchini 2018). The agreement was ratified by the Brazilian government in 2008 (Viola and Franchini 2018). Originally the moratorium was extended annually, until in May 2018 it was decided that it would remain in place for an indefinite period until no longer necessary.[29] The original assumption was that Brazil's environmental governance structures, such as increased enforcement by the Rural Environmental Registry (CAR) mandated by the Forest Code (see Chapter 6), would be robust enough to replace the moratorium. Subsequently, however, the agreement was accepted as still necessary for the future (Gibbs et al. 2015).

A similar beef moratorium followed in 2009 (Viola and Franchini 2018). Pressure from civil society aimed to force retailers to purchase beef products only from slaughterhouses not connected to illegal deforestation (Schierhorn et al. 2016). In 2009 meatpacking companies and retailers across the Legal Amazon signed the unsustainable meat moratorium or 'Cattle Agreement' and agreed to boycott slaughterhouses associated with illegal deforestation (Schierhorn et al. 2016). The moratorium was again catalysed by a Greenpeace campaign. Greenpeace's 2009 report, '*Slaughtering the Amazon*', linked beef industry giant Bertin to deforestation and slave labour and led to demands for greater transparency and traceability of cattle and cattle by-products from Brazilian supermarkets like Wal-Mart as well as corporations such as Nike and Adidas (Nepstad et al. 2014). The Public Prosecutor's office took legal action against

[29] https://sustentabilidade.estadao.com.br/blogs/ambiente-se/moratoria-da-soja/, last accessed 6.12.2018.

Bertin and established a precedent for government action (Nepstad et al. 2014).

The moratorium motivated the beef industry, led by the two largest beef processors in the Amazon region (JBS (which acquired Bertin) and Marfrig), to develop more effective methods for monitoring and tracing the cattle supply chain (Nepstad et al. 2014). In 2013, an agreement between the Public Prosecutor's office and the Brazilian Association of Supermarkets (ABRAS) was signed in which major supermarket chains including Wal-Mart, Pão de Açúcar, and Carrefour pledged to sell only beef certified as sustainably sourced (Nepstad et al. 2014). However, according to Nepstad et al. (2014), beef processors such as JBS are concerned that although they are tracking deforestation on a large number of farms (60,000 in the Amazon region) they are still unable to demonstrate that their entire supply chain is deforestation free (ibid).

The soy and beef moratoria were based on the availability of technology (tracking and monitoring) as well as the political will of the public sector to enforce existing legislation. The two initiatives also show the power of civil society; their action created public pressure on actors to sign an agreement and led to changes in agricultural practice. And they hint at the use of cognitive and normative arguments (Schmidt 2016). Cognitive arguments provide recipes, guidelines and maps for political action and serve to justify the policies and programmes through reference to the deeper core of principles and norms of relevant scientific disciplines or technical practices (see Hall 1993). Normative arguments attach values to political action and serve to legitimize policies by speaking to their appropriateness as well as how they resonate with a deeper core of principles and norms of public life (ibid). For Schmidt (2016) discourses encompass these arguments, that may be '*generated, articulated, and contested by a wide range of agents in interactive processes of policy coordination and political communication in different institutional contexts*' (Schmidt 2016: 319; see also 2008). Having described the actors and actor constellations and their interests, as well as the main lines of conflict, the next section analyses the wider discourses and discursive frames and how actors drew on those to influence changes in the policy arena and ultimately the establishment of the ABC. For example, while the mobilization for biodiversity conservation, Indigenous rights and against deforestation and degradation has been a main line of conflict with the interests of the agribusiness (Aamodt 2015, Zellhuber 2016, see Chapter 6 on the Forest Code reform), in policy practice it was possible for agribusiness to embrace climate action when it was framed in the right way (Schön and Rein 1994).

8.3 Discourses

Compared to the discourses around the establishment of the Amazon Fund, the discourses in this chapter are even more science-driven and shaped by a positivist philosophy. The ABC is much more characterized by incentives and cooperation between the public and the private sectors compared to the institutional and policy realm of the Amazon Fund. EMBRAPA, an actor with equally tight connections to both realms, can be seen as a symbol of both this interaction and philosophy. My analysis shows that it was the single most influential player and discourse shaper in the context of the ABC. Its research on adapted and low-carbon agricultural techniques led to discourses that enabled and encouraged the agricultural sector to take a progressive position and commit to reducing its emissions.

According to Dayton (2000) discourses encompass discursive frames around specific issues. Discursive frames '*ever-changing "scripts" for organising and understanding the social and political world*' and constructed through 'social interaction, reaction, and adjustment' (ibid: 72f., original emphasis). This section will show how these discursive elements relate to wider discourses which essentially create priorities and influence actions (figure 8.2).

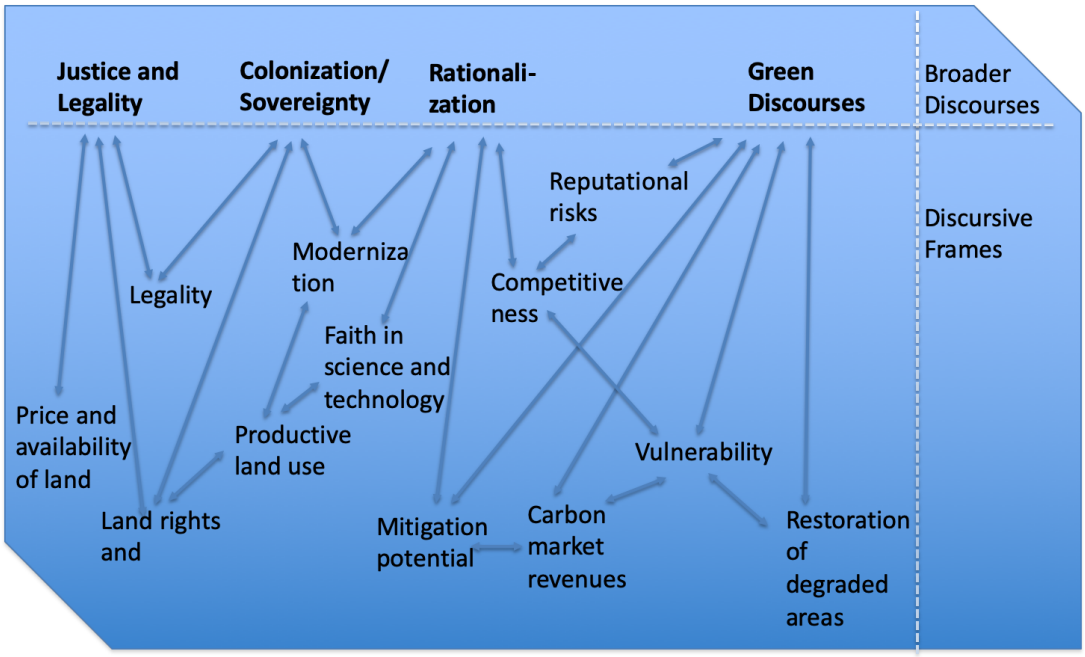

Figure 8.2: ABC Discourses and their relationships
Source: own diagram based on data analysis. Arrows signify influence.

8.3.1 Rationalization

Scientific knowledge is a dominant factor in discourse development (Schmidt 2016). This can be observed well in the discourses prevalent in the establishment of the ABC. Brazil does have a strong tradition of applied agricultural research and a devoted public research enterprise (EMBRAPA but also IPEA) which explains the dominance of this school of thought. This is visible particularly in the rationalization discourse which is divided into different discursive frames.

Agricultural Modernization

As a result of industrialization efforts from the 1930s various local agricultural practices were abandoned in favour of modern inputs (Nehring 2016). These steps paved the way for the orientation of Brazilian agriculture to global markets. During a phase of horizontal expansion (1946–1970) the growth of agricultural production was mainly due to the expansion of the agricultural frontier. The agricultural sector only received attention because of its role in supporting dramatic urban growth during the import substitution industrialization strategy (ISI) adopted after the Second World War (Mueller and Mueller 2016).

Since the 1960s, the low productivity of traditional agriculture and the sector's alleged resistance to political and technological change was diagnosed as a major impediment for the country's economic growth and development. This motivated a myriad of government programmes and interventions in the spirit of modernisation. From 1965 until the early 1990s, during the phase of 'conservative modernization', the exhaustion of 'unused' fertile lands in the frontier led to a system for technical change and policies that achieved a gradual modernization and diversification of agriculture but with high levels of concentration (Mueller and Mueller 2016: 19). These changes also included a research system for tropical agriculture (the EMBRAPA system). Since the 1970s, when the ethanol programme was initiated and EMBRAPA was created, a strong emphasis had been put on agricultural research to produce knowledge, technologies and varieties suited to Brazil's specific biomes and climates; EMBRAPA played a leading role in this modernization project (Mueller and Mueller 2016: 12). Scientific knowledge, based on a positivist understanding of knowledge, dominates the sector and is pivotal to understanding the development of the agricultural sector in Brazil since the second half of the 20T (AC)h century.

Agricultural policy did not change radically with the restoration of democracy in 1985

and significant agricultural reform only came in the 1990s ending a phase of almost constant macro-economic crises (Mueller and Mueller 2016). In the following Cardoso era from the mid-1990s the rationalization discourse became apparent in a phase of low government intervention with increasing participation of a substantially modernized agribusiness supplying domestic and international markets.

The agricultural sector grew dramatically from the 1990s, driven by international demand for agricultural commodities leading to a long period of growing commodity prices. At the beginning of the new millennium the agriculture sector started to show high growth rates which were interpreted in the framework of the rationalization discourse as signs of progress in the neoliberal economic policy framework of the era. By 2010 Brazil had undergone a spectacular agricultural transformation, achieving the highest growth of total factor productivity in agriculture globally (Mueller and Mueller 2016).[30] This transformation included the self-image of the sector which, in interviewee 3C (PB)'s (PB) perspective, had:

> *always worried about demonstrating that the agriculture practiced in Brazil today is not the agriculture of 50 or 100 years ago. It is modern agriculture, with a lot of research involved, a lot of innovation. That's why I say that today the need for opening up new areas is much less [important] than before. (Interviewee 3C (PB))*

In this view uncontrolled deforestation and land use changes are no longer necessary thanks to technological advancement. Several research participants showed this strong belief in progress and technology as the solution to environmental problems. These arguments can be located at the 'land sparing' end of the on the land 'sparing – sharing continuum' (Fraanje 2018). When land sparing is applied, a certain area of land is set aside for conservation while another is used for intensive agriculture (Fischer et al. 2013). The strategy of land sparing has been brought forward as appropriate in areas where land sharing would not lead inadvertently to agricultural expansion in other areas (Fraanje 2018) which is a valid concern in Brazil. Instead, the idea of applying ABC techniques and restoring already degraded areas is expected to lower the pressure on land conversion and enable conservation elsewhere (Interviewees 39S (AC) and 3C (PB)).

[30]The agricultural output of Brazil grew from 73 million tons of grain in 1996 to 119 million tons in 2004, a growth rate of about 6 per cent per year. The agricultural area also expanded, however, only by 3 per cent per year reaching 49 million hectares in 2004. In the same period the productivity of the agricultural sector increased by 15 per cent to 2,300 kg output per hectare in 2004 (Viola and Franchini (2018).

The argument that agricultural growth in recent years is due to efficiency and productivity increases rather than due to expansion of agricultural area is contested, however (Viola and Basso 2015). Nevertheless, increasing efficiency was also seen as the best approach to reducing deforestation by many participants (for example interviewees 39S, 16P (AC) (AC), 8H (PB), 3C (PB), 21U (PB), 16P (AC), 4D (PB) and others) who believed it to be a viable and realistic option. In this way this discursive frame also has an impact on actual land use.

Scientific Knowledge and Technology for the Green Revolution

At the heart of the above-mentioned agricultural transformation, the Brazilian 'Green Revolution', was scientific knowledge and technological advancement. It was a product of the rationalization discourse and based on the implementation of a standardized technology package, including the intensive use of modified seeds, machinery, chemical products and new technologies at all stages of production (Zanetti Pessôa Candiotto 2018). The modification of soy, which is nowadays cultivated in the savannah regions of Brazil (the Cerrado), is the most visible result. The soy plant imported from Asia had been studied and manipulated by EMBRAPA in the 1970s until it could survive on the low pH Cerrado soils. Productivity increases for several crops were achieved through transgenic varieties, resulting for instance in pest-resistant or drought-resistant crops, enabling higher yields without increasing fertilizer or irrigation costs on poor soils (Interviewee 4D (PB), Figueiredo 2016). The ethanol programme (see textbox 5) is an interesting example of the operation of this scientific knowledge discursive practice.

In the case of sugarcane, genetic manipulations for ethanol production are not straightforward:

> *We can already see these limits now, mainly because the genetic modification of cane is taking off slowly. […] To get drought resistant sugar cane, you need to artificially create a resistant variety. (Interviewee 4D (PB))*

According to interviewee 4D (PB), this scientific process is both costly and complicated (ibid), and if that was to be achieved: 'cane will lead to a new paradigm and you will see a very big jump in productivity, because you will be able to take it to other regions' (Interviewee 4D (PB)).

Although this development seems currently far away, the statement shows the strong belief in the potential of agricultural research which was evident in many encounters

during field work. In arguing 'we don't need to open up new areas' it expresses the efficiency discourse which also has a political dimension as it transports the message that destruction of the Amazon is not inevitable (Viola and Franchini 2018; see Chapter 7).

Textbox 5: The Brazilian Ethanol Programme

Ethanol from sugarcane has been used in Brazil since the beginning of the 20T (AC)h century. It was promoted to stabilize sugar prices and overcome oil supply shortages by the government during both world wars (Buen and Castro 2012). As a result of the oil shock in 1973-1974 the military government launched the ProAlcool programme in 1975 (Interviewee 33X (GOV)). When the second oil shock in 1979 strongly affected Brazil's balance of payments, the support for ethanol production was increased by creating a new industry for ethanol (Interviewee 33X (GOV); Buen and Castro 2012). Sovereignty and energy security considerations motivated this state support as much as considerations to address the national account deficits and inflation problems (Interviewee 33X (GOV); Buen and Castro 2012). Brazilian states which depended on sugar cane cultivation also lobbied for ethanol and so did researchers, state laboratories and universities who pressured for the development of this technology as a way to avoid technological dependence on industrialized countries. The media also pushed this policy-making by showing frequently the possible impacts of the oil crisis on Brazil and creating public support for alcohol as fuel (Buen and Castro 2012). Brazil's research and development (R&D) capacities enabled the ethanol programme. Other factors were the large agricultural area and the suitable climate (ibid). Since there is no further investment in biofuel generation, the government provides credit to incentivize storage capacity development for biofuels and the development of alternative products such as second-generation biofuels and bioplastic (Interviewee 33X (GOV)).

Mitigation Potential

The discursive frame on mitigation potential focuses on potential reductions of agricultural emissions to contribute to national emission reductions. It is linked to the rationalization discourse as well as to the 'green discourses' and an example of how

knowledge led to action. While individual contributions to deforestation and emissions may be contentious, the agricultural sector's potential for GHG emission reductions without economic losses is nevertheless significant and was recognized by stakeholders early on.

The main strategies to reduce GHG emissions through low-carbon agriculture are the minimization of deforestation and burning, adequate soil management and strategies to maximize carbon sequestration (Maia Cordeiro et al. 2011). The potential for carbon sequestration through Direct Planting Systems (SPD) in Brazil has been well researched and the technology is well established. The more complex systems of crop-livestock-forest integration (iLPF) contain a forest component and consequently will have higher GHG emission reduction rates. An additional advantage of iLPF is the interactive effect between the carbon sequestration and the ability of these systems to neutralize GHG emissions (CH_4), for example, through the enteric fermentation of cattle (Maia Cordeiro et al. 2011, Oliveira et al. 2013).

> *That would arguably make the biggest [GHG] reduction at the lowest cost. I say this because the Brazilian government always has great difficulty dealing with the issue of deforestation politically. (Interviewee 21U (PB))*

This implies a technical as well as a political logic for dealing with emissions from deforestation, and that reducing direct emissions from the agriculture sector, through both intensification as well as restoration of already degraded areas, might be politically easier to implement than combating both legal and illegal deforestation. And there was also increased confidence in applied agricultural research for mitigation potential and the ability to harvest such potential using adaptive techniques:

> *At that time, they said our numbers were very bold. Since 2009 research has advanced a lot in this direction. Today our 2009 figures are very conservative. We can do a lot more [than] we predicted in 2009. (Interviewee 39S (AC))*

With this confidence, EMBRAPA was able to influence the policy discourse (see 8.4). And consequently, the technologies proposed under the ABC Plan and Programme were perceived as helping to gain efficiency and competitiveness by the representatives and the actors in the agricultural sector according to interviewees 39S (AC) and 21U (PB). One political stakeholder argued that the technologies promoted under the ABC are neither new nor very specific, but that a lot of them were '*common sense*' (Interviewee 14L (GOV)). Agricultural emissions (mainly methane and nitrogen) would continue to rise without the ABC Plan but these emissions were '*unnecessary emissions*' (ibid).

My analysis has shown how the establishment of EMBRAPA and industrial agriculture in the Cerrado as described in the last section (8.2) were manifestations of a discourse dominated by scientific knowledge, leading to a strong belief in technology for progress, and how EMBRAPA was in a position to influence such discourses. EMBRAPA was able to ascend to be the most important discourse setter in the agricultural and climate change realm.

8.3.2 Sovereignty and Colonization

The sovereignty and colonization discourses are also relevant for the agricultural sector as they enabled the expansion and exploitation of natural resources in the first place, which became visible in the March West (see Chapters 5, 7). Ricardo's (1942) book the 'March to the West' became a key social theory work and influenced thinkers and writers of that time.

It idealized the exploratory journeys of colonial times in the 16th and 17th century and the coexistence of different racial groups merging Brazilianness and expansionism (Hoshino and Hansen 2017). Discourses of frontier and vigour were used to consolidate the basis of the nation (Hoshino and Hansen 2017).

Agricultural research initially looked to southern Brazil with its history of European settler agriculture and increasing land conflict and scarcity in contrast to the slave-landlord history in the northeast. It assumed that the population in the areas of European colonization '*have demonstrated ability to solve their problems, unaided or with only a little assistance. If, however, they should receive adequate help in readjusting to present-day requirements, the transition [of the agricultural sector] would be sped up, with greater productivity*' (Nehring 2016: 211). The military governments began promoting a more intensive use of land in the already settled areas and in the Cerrado near the main markets; the occupation of land in the Cerrado and Amazon frontier continued but now mostly with geopolitical motivation, mainly fuelled by the fear of a Communist invasion (Hochstetler and Keck 2007). The availability of unoccupied fertile lands in the agricultural frontier had diminished already significantly and the technologies for production in the Cerrado had not yet been developed (Mueller and Mueller 2016). There is a clear overlap between the colonization and sovereignty and the rationalization discourse, which manifests itself here in the discursive frame of productive land use as well as on availability of land (see 8.3.4 on rights and legality

discourse and see Chapter 5).

8.3.3 Green Discourses

Expectations of a Carbon Market

Potential revenues from the carbon market are another discursive element raised by interviewees; stakeholders might have considered it in their decision to emphasize and investigate the mitigation potential of the agricultural sector in the 2000s. Brazil was the first country to register a Clean Development Mechanism (CDM) project and currently has a total of 380 registered projects, coming third after China with 3861 and India with 1922 registered projects (Chapter 5).[31]. Its influence on the CDM board has led to the exclusion of the land-use sector from eligibility for CDM, depriving Brazil of enormous carbon market potential in the view of those in favour of a market mechanism for LULUCF. Trading emission reductions from agricultural activities would have only been possible under a new, post-Kyoto regime because agriculture is not eligible for trading under the Kyoto mechanisms:

> *At the time I talked about the profit we can make if a market for this was created, in addition to smaller amounts eventually to be expected from the voluntary [carbon] market. (Interviewee 21U (PB))*

When the ABC was designed there was no international framework yet for transactions with companies prepared to buy emission reduction certificates from the agriculture sector, but such a prospect fuelled the motivation to plan for a low-carbon agricultural policy. When a new post-Kyoto treaty was still under negotiation, expectations regarding a market mechanism that included agriculture led to political action in Brazil and according to interviewee 21U (PB), '*this enabled the Ministry of Agriculture to ask the CNA to structure a low-carbon agriculture policy*'.

Clear quantitative metrics are needed for any kind of transfer or marketing of emission reduction units. Because stakeholders were interested in the prospect of a post-Kyoto carbon market regime this can be considered an additional rationale for systematically assessing the mitigation potential and monitoring low-carbon practices. Research on estimating the mitigation impacts of different agricultural activities was set on track, and with EMBRAPA setting up a working group with almost 200 researchers, interviewee 21U (PB) argued '*this is where Brazil is making a difference*'. EMBRAPA and MAPA as well as the industry associations had great interest in a carbon market for

[31] https://www.cdmpipeline.org/cdm-projects-region.htm, last accessed 13.03.2021.

agriculture. These considerations helped prepare the ground for the development of the ABC Programme.

Reputational Risks

After deforestation rates had dropped in the mid-2000s and agriculture came into the focus as the new major emitter, concern about its international reputation emerged, especially about Brazil's cattle sector (Interviewee 39S (AC)). These reputational risks were additional considerations for the establishment of the ABC and formed another discursive frame with impacted ABC development. Reputational risks are the flip side of the discursive element mitigation potential, in a scenario where the potential has not been realized.

The causality between agricultural production, deforestation, and emissions is complex and the academic and political controversy about the role of different agricultural actors in deforestation is ongoing (Viola and Basso 2015; see also Chapter 5). Participants in my research from agribusiness, government, academia and civil society commented on this interdependence, for example respondent 7G (PB):

> *there is no statistical correlation between deforestation and increased agricultural productivity. The deforestation rate in Brazil has dropped in the last ten years, while the overall production of all other commodities has increased. (Interviewee 7G (PB))*

One interviewee denied a clear connection between increased agricultural output and deforestation: 'Deforestation is not necessarily caused by farmers. Sometimes it is for the timber' (Interviewee 3C (PB)). While this illustrates a conservative business attitude to climate policy, there are other positions in the same respondent's view:

> *We have irregular deforestation. This is not encouraged by the government, let alone the [agricultural] sector. We understand that this illegal deforestation must be suppressed. (Interviewee 3C (PB))*

Nevertheless, emissions from agriculture increased by 35% between 1990 and 2004, from 290 MtCO2e to 390 $MtCO_2e$, mostly due to the growth in emissions from cattle ranching (+70%) and agricultural soils (+60%), counting for 60% and 30% of emissions respectively in 2005 (Viola and Franchini 2018). Consequently, the sector's representatives had great interest in changing this development, an interest triggered by international events and a discursive frame drawing on the reputational risks of destructive practices.

With the passage of the Waxman-Markey Bill in the US House of Representatives in late June 2009, that included a border tax adjustment for products based on carbon intensity, Brazilian firms feared that the concern about carbon intensity could rise in other developed countries' markets and lead to related trade barriers and might have a role model character for other industrialized countries (Hochstetler and Viola 2012, Viola and Franchini 2018). Before COP15 in Copenhagen business associations and agricultural representatives such as the '*Aliança Brasileira Pelo Clima*' – Brazilian Climate Alliance, a group of Agrobusiness and Bioenergy Associations (ABPC) lobbied for sustainable and low-carbon technologies and market mechanisms against the position of conservative forces and the MMA (Petherick 2013). In the meantime, Brazilian states went ahead and formulated state-level climate change plans, some of them including quantifiable emission reduction targets such as Sao Paolo (25% until 2020 from 2005 levels) and cap-and-trade systems such as the state of Rio. The state of Acre in the Amazon biome prepared a law that to meet the eligibility criteria of the upcoming Californian cap-and-trade system (ibid). Although the Waxman-Markey bill failed in the end, the industry tried to anticipate losses by pressuring their government to behave in a more reformist manner at the international climate negotiations (Viola and Franchini 2018).

At the moment the EU discusses carbon border tax adjustments under its EU Green Deal. The EU-Mercosul Deal, negotiated over 20 years, recently highlighted fears that EU market access for Brazil and Argentina will lead to higher demand for meat and thus increase deforestation and the use of pesticides (Greenpeace 2020). Stakeholders like EMBRAPA are aware that serving export markets requires the proof of sustainable practices in the long term while at the same time ensuring stable income for producers.[32]

This discursive frame of reputation and the implications for competitiveness unfolded beyond policy practice and openly in the policy debate. The soy and meat moratoria have shown how reputational risks and competitiveness concerns can achieve political changes. The potential to balance the high emissions of the agricultural sector (especially cattle ranching) through adapted techniques was recognized at an early stage (Interviewees 39S (AC) and 3C (PB)) and the Sectoral Plan for a Low-carbon Agriculture (ABC Plan) was introduced as one of the priority measures to reduce national emissions.

[32] https://www.embrapa.br/busca-de-noticias/-/noticia/55203563/artigo—agricultura-de-baixa-emissao-de-carbono-tecnologias-disponiveis, last accessed 18.12.2020.

Restoration of Degraded Areas

The rationalization discourse has repercussions in green discourses notably in the discursive frame on restoration. Restoration of degraded areas is one of the key themes for arguments about efficiency increase and intensification, and the most commonly applied low-carbon technology under the ABC.

> *We can't say that sugarcane 'failed' in the state of Rondônia and caused deforestation. […] Because we have areas that need restoring […], areas that are no longer economically productive, for whatever reason […]. For me [it is possible] to optimize the use of areas that have already been cleared. (Interviewee 3C (PB))*

The recovery or restoration of degraded areas is a key approach under the ABC. Restoration of degraded areas formed part of Brazil's Copenhagen commitments. It is one of the technologies eligible for credit under the ABC Plan and Programme and is also part of Brazil's Nationally Determined Contribution (NDC).

Scientific knowledge drives the discursive frame on restoration which has also found a wide resonance internationally. For example, in the Bonn Challenge, an initiative to restore 150 million hectares of degraded and deforested landscapes by 2020 and 350 million ha by 2030; and the African Forest Landscape Restoration Initiative (AR100) to restore 100 million ha by 2030. The potential of restoration has been confirmed by recent work although it is difficult to calculate the exact land productivity depending on products, regions and time as well as different biophysical characteristics, such as climate and soil (Sabadini Carvalho et al. 2017). The recovery of deforested legal reserves alone might offset the emissions of 3.15 billion tons of carbon, which would be enough to meet Brazil's Copenhagen target to reduce emissions from deforestation (Sabadini Carvalho et al. 2017). The restoration of degraded areas is the largest and most important credit line under the ABC Programme.

Vulnerability

Beyond its mitigation potential, Brazil and especially the agricultural industry is also very vulnerable to the impacts of climate change (Interviewee 7G (PB)). Changes in precipitation and temperature have been observed in South America already (Leal Filho 2018). Precipitation has increased in Southern Brazil and decreased in North East Brazil. In addition, the intensity and frequency of extreme events such as droughts and heat waves in major cities have grown (ibid). A World Bank study led by EMBRAPA researchers found several potential adverse impacts of climate change on Brazilian agri-

culture and its subsistence such as a reduced quantity and quality of water flow; increased aridity, land degradation and desertification; reduction in the number of plant and animal species and changes in biome boundaries; and changes in ecosystem services (such as carbon sequestration, functional biodiversity, environmental flows) that are needed to maintain productivity in current agricultural areas (Assad et al. 2018). The southern region of Brazil, currently the agricultural powerhouse, could lose up to 5 million hectares of land due to climatic change, while Brazil as a whole may suffer a loss of about 11 million hectares of land in 2030 (ibid).

Brazil's research community engages with changes in local weather and climatic conditions in agricultural research:

> *The drought we had - we cannot swear that it's climate change – it's weather change, for sure. But if that starts to repeat, in one year, two years, three years, then it is climate change (Interviewee 16P (AC)).*[33]

The increased temperature in the coffee-growing regions of Southern Brazil, and the lack of frost as a result, have significant implications for the economy. This is also the case in other regions. The main problem for coffee production is the rising temperature.[34] In the case of a heat wave, if temperatures exceed 33°C during the flowering period production is lost, according to interviewee 16P (AC): '*by 2020 and by 2050, a very high percentage of loss [is predicted]. And it's [real] loss – we aren't theorizing'*. This respondent thus considered the coffee plant 'an indicator of problems' (Interviewee 16P (AC)). And the farmers are starting to understand 'what's going on' (ibid).

Brazil is the world's largest coffee producer.[35] Arabica coffee is grown in the Cerrado region, southern Minas Gerais and Mogiana and Paulista in São Paulo State. Robusta coffee is grown in north-western Paraná and the states of Espírito Santo and Rondônia.[36] The estimated projected economic losses from climate change are significant; the best current 'low risk' areas for coffee production are expected to be reduced by at least 30%, which could result in losses of almost US$ 1 billion by 2050 (Assad et al.

[33]What the interviewee describes here as a prolonged drought can perhaps be categorised as an 'extreme weather event or extreme climate event' if it persists for some time, according to the IPCC classification (IPCC, 2014, op. cit., p. 122.).

[34]According to Assad et al. (2018) the country could lose about 2.5% of GDP value each year due to temperature rises.

[35]Brazil exported 147,060 tons in the harvest year 2015/2016 and 123,120 tons in 2016/201. http://www.ico.org/prices/m1-exports.pdf, accessed 06.08.2017. http://www.ibge.gov.br/english/estatistica/economia/agropecuaria/estatisticas_cafe_parana/default.shtm

[36]CEPEA: http://www.cepea.esalq.usp.br/en/methodology/methodology-7.aspx, accessed 06.08.2017.

2018).

Coffee farmers are becoming increasingly aware and concerned about coffee's sensitivity to temperature increases, possibly making it more likely they will adjust their agricultural practices. Other relevant crops are less sensitive: soy is less sensitive than coffee, oranges are not sensitive to higher temperatures, and sugar cane even benefits from a warmer climate, leading to increased production (Interviewee 16P (AC)).

> *The great drama is coffee, and soy a little, which is already losing production area. And fruit: if you go to Santa Catarina, to the high [altitude] temperate fruit production areas, you already have a problem. Many plants, many fruit species are migrating. (Interviewee 16P (AC))*

The fact that it has already become warmer in one lifetime created strong fears among the affected farmers: 'That is what is making people terrified, scared, frightened; it's incredible, and [it has happened] in a very short time' (Interviewee 21U (PB)).

Brazil today is one of the top producers of a long list of agricultural products, including sugar, orange juice, soybeans, coffee, chicken, beef, pork, maize and cotton (Mueller and Mueller 2016).[37] The implications of climate change for agriculture are thus significant.

> *It was not so much the concern about Kyoto or about promoting low-carbon agriculture – well it was, but it was mainly because there is a concern about the future of the national economy. (Interviewee 21U (PB))*

According to Assad et al. (2018) the expected impacts of climate change on all current grain production might reach US$ 4 billion in 2050, with only the soy sector accounting for about 50% of the losses. Interests became framed differently in the light of these expected impacts, arguably due to the influential discourse around the vulnerability of Brazil's agriculture.

However, actors in Brazilian agriculture respond differently to the increase in temperature attributed to climate change and the related threats, depending on their cash crops: while some benefit or seem unaffected so far, others are experiencing negative impacts resulting in losses. There is therefore no unified position or consensus among producers or politicians in the agriculture sector (Interviewee 16P (AC)). The

[37] It remained the largest producer of sugar cane in 1990 and in 2011, but its share of total world production increased from 25% to 42%, by being 2nd, 3rd and 5th in 2011 and with an increased share of these products from 8%, 7% and 2%, to 14%, 13% and 3%). Growing figures were also recorded for livestock products such as cattle, chicken and pork (Mueller and Mueller 2016).

coffee producers have already suffered a lot and are more aware, however according to interviewee 16P (AC), 'most of the big producers do not believe it that much' (ibid).

Because the agricultural sector contributes significantly to GDP, and there are very large domestic resources in the sector (Interview 7G (PB)), threats to this part of the economy from climate change were more likely to trigger reactions from the policy sphere:

> *It's not only about accomplishing Brazil's voluntary commitments but also about making this sector sustainable and productive in the long run. (Interviewee 7G (PB))*

Extensive research activity and increased awareness of agricultural sub sectors, such as coffee production, have contributed to this change in position (Interviewee 16P (AC)). And when climate change and its impacts became more prominent issues and more widely discussed, agriculture received more attention in the context of the national economy (Interviewee 21U (PB)). Despite competing interests, the majority of producers see climate change as a threat to business. Growing awareness and concern and increased understanding of the nature and scale of the consequences have led to Brazil taking on mitigation commitments of its own and defining adaptation priorities with the ABC.

Competitiveness Concerns

Climate change threatens the core of the business model of Brazilian agribusiness. Research participants' responses underline that agriculture needs to be protected because it is seen as Brazil's only competitive export sector: Brazil was a net food importer in the 1940s and relied on only a few agricultural commodities. Today it is a net exporter and one of the biggest agricultural producers in the world (Nehring 2016). The country's fast-growing agribusiness sector is an essential component of Brazil's economy.[38] The economic research centre at the University of São Paulo (USP) in Piracicaba, estimated that agribusiness GDP, including revenue generated by inputs, and industrial and service segments, accounts for one fifth of the Brazilian economy. In 2015 it made up 21.46% and in 2014 44% of total exports.[39]

> *'No one can ignore the fact that Brazil receives so much money from the sale of soybeans, meat, grains and everything. […] It's a huge part of our GDP' (Interviewee 2B (DON)). Agriculture is seen by stakeholders as Brazil's*

[38] Emerging Markets: Analyzing Brazil's GDP: http://www.investopedia.com/articles/investing/102615/emerging-markets-analyzing-brazils-gdp.asp#ixzz4oy2Rk3Kz, accessed 06.08.2017.

[39] CEPEA: http://www.cepea.esalq.usp.br/en/brazilian-agribusiness-gdp.aspx, accessed 06.08.2017.

only internationally competitive sector: 'We are not China; we are not competitive in the area of computers or software, [but] in agriculture we are'. (Interviewee 21U (PB))

The resources used in the ABC framework can therefore also be seen as a means to protect the sector against future climate change. The relevance of the agriculture sector for the economy of the country is further highlighted through the expected impacts of climate change as discussed in previous sections. Although a genuinely 'green' discursive frame, there are overlaps with the rationalization discourse as well.

8.3.4 Rights and Legality

The discursive elements discussed in this section include land rights, land reform, and opportunities to improve productivity, and land prices and availability. These discursive frames are also intertwined and together constitute a larger discourse on justice and legality.

Land Rights, Land Prices and Productivity

Both the desire for land and the discursive frame on productivity can be traced back to the early days of the Republic (1889 - 1930). The right of landless people to occupy unproductive land was further articulated in the 1988 Brazilian constitution and most recently in the 2002 Civil Code. As a result, dozens of social movements through Brazil have relied on this right to occupy thousands of properties across the country in the hope that the land will be expropriated by INCRA and redistributed for the purposes of land reform (Brown et al. 2016, see Chapter 5). The postulate of productivity is linked to the rationalization as well as the colonization discourses (see Chapter 7); in this case it is also applied by the landless movement and the rural poor.

An example is Apuí in South Amazonas, where there is a very high deforestation rate compared to the state average and on a national scale (Interviewee 17Q (CS)). The first colonizers of Apuí came from the south and north-east of the country. At the end of the 1970s and early '80s the government encouraged settlements in '*hostile areas*' in the interior regions of the Cerrado and Amazonia to drive '*economic development*' (Interviewee 17Q (CS)). The main drivers were the very low land prices compared to other parts of the country. Viola and Basso (2015) argue that it was a strategy to avoid land reform in other parts of the country. Interview participants recalled that farmers could buy 200, 400 or even 500 ha in Amazonia for the price of 10 ha in their native

region. This has attracted a lot of people up to the present day, and the same dynamic unfolded in Rondônia and in Mato Grosso and led to deforestation (Interviewee 17Q (CS)). Here the discursive frames on productivity and land rights are overlapping.

Regional government incentives and the results of the research effort by the EMBRAPA network for production on the acid, low fertility land in the Cerrado encouraged settlers to move. As a result, by the end of the 1980s, the Cerrado began to be regarded as an area for agricultural expansion (Mueller and Mueller 2016). Here we see an overlap with the colonization discourse.

Availability of Land and Legality

The development model based on the availability of cheap land encourages illegal deforestation. To create and promote agricultural development based on improving the quality and fertility of land, and offering financial incentives for that, is challenging. Typically, the development model based on the availability of cheap land encourages illegal deforestation: a family or group of families first clears the land, buying in machinery and labour to do so. The timber produced is then sold illegally, and the revenues used to pay for the deforestation costs. The area is then used for cattle ranching. The costs are so low that it is very difficult to counter the logic of this development model and encourage alternative and more sustainable uses (Interviewee 17Q (CS)).

Extensive cattle ranching is the most common agricultural production system under cheaply available land and scarcity of capital and labour (Pacheco 2009), and according to one respondent, it is difficult

> *to explain to someone who […] 30 years ago was paid to go there. He was a hero because nobody wanted to go to Amazonia. […] and today I turn to him and say 'Oh no, you are a criminal, and I'll stop you. (Interviewee 2B (DON))*

Addressing the problematic land use patterns is therefore difficult. This has implications for the governance of low-carbon agriculture: actively managed and restored pasture, even with subsidised credit, cannot be expected on land cleared illegally for short-term profit. The implications for the ABC will be discussed in the next section.

Today, one generation later, there is a second wave of outmigration and advancing into the forested areas. Although the commercial sale of untitled land is prohibited by law, it is de facto common practice. Reasons can be found in the poor infrastructure and overall living conditions of settled families, many of whom want to sell up and leave

before titling services begin to be offered. This is believed to be a major condition for consolidation by '*soybean farmers, who are typically associated with lower transaction costs of ''acquiring" title to irregularly purchased land*' (Ludewigs et al. 2009: 1355). Local government agents allow untitled land purchases due to their inability to keep up with the responsibilities and promises of maintaining reasonable infrastructure conditions and public services (Ludewigs et al. 2009). The large agricultural producers for example in Mato Grosso are buying up the land of the small producers to create economies of scale in soy farming. The small producers, who came 30 years ago, are now selling their land and move further into Amazonia. According to Tritsch (2016) along the agricultural frontier deforestation tends to persist despite the decline of the rural population, since the land sold by the smallholders is converted by big farmers for commodity crops or pastures. This results in a further increase in deforestation for example in the state of Amazonas (Interviewee 17Q (CS)).

Changing these practices is complex, especially in remote areas far away from state presence, where practices are illegal or on the verge of illegality, and where there is poverty as well as power struggles. These difficulties partly explain why perhaps some initiatives concentrate instead on forest rehabilitation and protection in the framework of protected areas. Industry interests also hamper changes to practices and the development of technical alternatives to conventional production (Interviewee 17Q (CS)). The entanglement with local power structures was described as '*a serious problem*' by the same respondent. According to interviewee 17Q (CS), even if public funds might be available at the municipal level, municipal governments tend to purchase machinery or limestone to be distributed to farmers in order to secure their reelection, instead of investing in the development of new technical approaches.

The revised Forest Code both requires conservation as well as rehabilitation of native vegetation on private land. However, according to interviewee 15O (GOV) it lacks incentives for compliance (15O (GOV)) but even if it was enforced, '*our problem with certain laws, […] certain policies [is], they make a lot of people to criminals overnight*' (Interview 2B (DON)). The fact that this regulation is often not being respected, on the other hand, leads to illegal deforestation because the danger of getting caught is so small:

> *You impose a fine, you might get hold of some [illegally deforesting and farming individuals]. But you do not generate a transformation, although that is what we actually need. And that's what all this money, all this effort is about. (Interviewee 2B (DON))*

Although it is illegal it is difficult to stop land conversion due to the economic opportunity costs. The Forest Code also does not differentiate between small and large producers:

> *It requires even the small ones to reforest. That is not realistic. To ask them to reverse the trend, they would need to give up 80% of their productive land, this is not going to happen, or [it would] put them into a severe crisis as their income will drop by 80%.*[40] *(Interviewee 88R (GOV))*

Command and control instruments to contain forest conversion and expand sustainable use of the forest in the Amazon region are some of the main instruments Brazil used in addressing deforestation. Under the PPCDAm for example, a government programme was launched in 2008 called the Critical Municipalities Programme ('*Municipios Criticos*'). This suspended farmers' access to federal agricultural credit and markets in the 36 municipalities with the highest deforestation rates, through an agreement between the Ministry of Environment MMA and the Central Bank. The rationale behind the linking of rural credit to municipalities rather than to individual farms was to motivate collective action among farmers, livestock producers, agrarian reform settlements and local governments to reduce deforestation (Nepstad et al. 2014).

However, from 2012 to 2013, there was an approximate 30% increase in the deforestation rate (Sabadini Carvalho et al. 2017). The limitations of this approach have also been highlighted by research participants:

> *Brazil has a very serious problem: where justice does not reach and is slow, not all crimes are actually prosecuted. […] Many people know that deforestation is illegal and although they know they rely on getting away with it. […] When you speak to a smallholder and say 'You are committing a crime', he says 'Okay'. (Interviewee 2B (DON))*

The legality discourse is driving policy-making in Brazil and is also strongly embedded in the ABC as will be shown in the next section. Addressing illegal land conversion is a prerequisite for the envisioned carbon neutralization through restored pasture. Getting large areas of pasture under legal management is therefore part of the rationale of the ABC, however, this is hampered by the status quo.

> *I'll tell you something that may sound ugly, but tree planting is very easy, you know? Difficult is to go there and really convince the producer that if he adopt this practice, it will be more efficient. And here too we cannot ignore the economic argument behind. (Interviewee 2B (DON))*

[40] Under the Forest Code 80% of a property has to be preserved and only 20% can be used for agricultural production.

Research participants stressed that positive incentives should replace punishment. These could be in the form of financial benefits, capacity development and supporting the transition to legality. The measures of the ABC are voluntary and based on the provision of incentives such as new loans (Aamodt 2015). The ABC provides credit for a selection of technologies. Respondents argued that demonstrations of viable economic alternatives to unsustainable practices are needed. Only when producers can see and understand that they can earn profits with more efficient techniques, will they adopt the new practices, argued respondent 2B (DON). The ABC tries to change the economic incentives by seeking to break the cheap land development model and increase the transition to legality.

8.4 The Development and Implementation of the ABC Programme

From the presentation of the discourses in 8.3, this section now moves on to trace how discourses and their discursive frames have been incorporated into the creation of the ABC Programme. In order to illustrate this connection between the changing positioning and practices of the agricultural sector in the light of both its vulnerability and mitigation potential, this section will: first present the ABC technologies that were developed on the discursive foundations discussed in 8.3; then the political changes generated by these discourses which enabled the ABC programme; and finally ABC implementation and the challenges it faces, which in turn have their origins in the discourses discussed in this chapter. In other words the discourses that enabled the ABC programme at the same time have restricted it.

8.4.1 The ABC Technologies – Knowledge and Research

Interviewees see the use of already deforested and degraded areas as having significant potential for low–carbon, resilient development. Increases in productivity would allow deforested areas to produce greater outputs without further deforestation (Sabadini Carvalho et al. 2017). The ABC Programme uses the discursive element of deforested/degraded area use to promote the following 'ABC technologies' which are eligible for loans (see figure 8.3 and 8.4):

- Intergrated livestock and forestry (*Lavoura pecuária floresta*, iLPF)
- Low tillage or Direct Planting Systems (*Plantio direto*, SPD)
- Reforestation (*Florestas comerciais*)

- Manure management (*Florestas comerciais*)
- Organic agriculture (*Plantação de produção com base no sistema orgânico*) (included due to the lower input of fertilizers).

Figure 8.3: Integrated livestock and forestry (lavoura pecuária floresta) at EMBRAPA test site, EMBRAPA Cerrado

Source: the author

Figure 8.4: Low tillage (*Plantio direto*) machine at EMBRAPA test site, EMBRAPA Cerrado

Source: the author

Low-carbon and adapted agricultural practices have been researched and tested by EMBRAPA over several years on its field campuses in EMBRAPA Cerrado and EMBRAPA Campinas. The results of this research formed the basis for the ABC Plan and Programme. According to respondent 39S (AC), by the time of the Copenhagen pledges there was sufficient certainty and confidence to go public with these figures:

> *We had the information. We knew how much a cow emitted. We knew what a good pasture could reduce through sequestration and we knew from the literature, master's theses, doctorates, that when you have been taking carbon from the soil and you integrate crops with livestock, you reverse the [emissions] curve. (Interviewee 39S (AC))*

Convinced by their results actors in applied research pushed political decision-makers for action.

An important motivation for the agricultural sector to participate in the ABC was the conviction that sustainable, non-destructive practices will pay off in the long term –

based on the efficiency discourse. This means that the Brazilian agricultural sector will be able to benefit from the reduced degradation of the natural resources it depends upon. Adapted practices reduce vulnerability to the impacts of climate change, so enhance its resilience, and can significantly reduce GHG emissions. The high net emissions originating from cattle for instance can be balanced by pastures with high biomass production:

> *What we were trying to show is that cattle on degraded pasture does indeed emit a lot. But when you improve this pasture, you transform it into pasture with high biomass production and high rooting, the amount of carbon you can store in the soil neutralizes the methane in terms of CO_2 equivalents. (Interviewee 39S (AC))*

As one activity emits methane, the other reduces the emissions and basically neutralizes them (Interviewee 39S (AC)).

8.4.2 Knowledge as a Stimulus for Policy Change

In December 2008 the National Climate Change Plan was launched with quantitative targets for the forestry, energy and waste management sectors (see 7.3.6). Agriculture, however, was not yet included. The core of the Plan was a deforestation reduction goal of 80% below the 1995–2005 levels (20,000 km^2) until 2017.[41] When deforestation control gained traction and positive results became visible, the MMA was able to increase its power and influence within the government, even after Marina Silva had resigned as MMA Secretary in 2008 (see Chapter 7). The political changes led to a more confident and reformist Brazilian standing on climate related issues both domestically and internationally (Viola and Franchini 2018). The ABC ideas based on the green discourses described above developed much less noticed in the shadow of the rise of the MMA and in an almost completely separate sphere, when the academic expert discourse of EMBRAPA suddenly entered the arena of policy debate (Schön and Rein 1994).

In the months before Copenhagen Brazilian political stakeholders defined Brazil's position and negotiated the possible contribution of different sectors to a national emissions reduction target. A proposal was prepared to take voluntary action towards

[41] The target, however, was already halfway reached by the time the Plan was launched. The often overestimated BAU (Business as Usual) scenarios were used and with the help of the already ongoing drastic decrease in deforestation emissions the targets were not difficult to achieve. Essentially Brazil committed to targets that were already guaranteed and pledged almost no additional mitigation efforts internationally (Viola and Franchini 2018).

emission reduction, among them actions in the forestry, energy and steel sectors, but excluding agriculture (Interviewee 39S (AC)). In this moment it was already possible to change agricultural management practices with positive impacts on deforestation and emissions through intensification, especially by medium and large-scale farmers (see Chapter 5). In addition, emission reductions could be achieved by low-carbon practices as demonstrated at EMBRAPA test sites. Now the political discussion was opened and MAPA and EMBRAPA supported the inclusion of agriculture in the national emission reduction targets. Interviewee 39S (AC) recalls the moment when mitigation in the Brazilian agricultural sector was officially discussed:

> *We proposed to take good pastures, crop-livestock-forest integration, the biological fixing of nitrogen by soybean crops, the treatment of agricultural waste and reforestation. And we showed them [the politicians] that each of these practices, accompanied by good policies and well-stimulated, could reduce the emissions from Brazil's agriculture. (Interviewee 39S (AC))*

The proposal was met with surprise by policy-makers who had overlooked the role of agriculture until then. The knowledge which had been developed had not yet been disseminated and entered the policy debate.

The reactions were strong, recalled respondent 39S (AC), 'they called us crazy', because the proposals were perceived as very ambitious, but EMBRAPA and MAPA had confidence in the data on which the estimations were based:

> *it was a very bold calculation. [...] But it was based on the data we had at hand. [...] We did the maths, [pledging] [...] about 20, 25 million hectares: 15 million for degraded pasture, 4 million for crop-livestock integration, 5 million for biological nitrogen fixation, therefore about 25 million hectares. If we were to create an agricultural policy that included such good agricultural practices, we could reduce the emissions from agriculture by 33 per cent. (Interviewee 39S (AC))*

As soon as information was substantiated, the policy measures were taken. In the view of actors in applied research this was a question of the availability of information as a basis for political action (Interviewee 39S (AC)). This shows the decisive role of knowledge in the discursive changes and subsequent political changes: scientific knowledge is viewed positivistically as objective and the basis for political action. It further shows the importance of framing: when their interests had been framed newly, MAPA adopted a similar position to MMA. The increased knowledge about vulnerabilities and adaptation needs, and information about the mitigation potential in the agricultural sector, created enough confidence for stakeholders to officially propose quanti-

tative GHG reduction targets, and to allow political decision-makers to turn them into national and international commitments, that Brazil pledged in Copenhagen and enacted into national policy and law (Interviewee 39S (AC)).

In Copenhagen, Brazil proposed to reduce its emissions by 36.1–38.9% by 2020 compared to business as usual (BAU) by adopting sectoral plans and setting goals for reducing deforestation (in Law 12.187/2009, see Chapters 6, 7). Deforestation should be reduced by 80% in the Amazon and by 40% in the Cerrado by 2020 in comparison to a historic baseline (Stabile et al. 2012). The national policy was then regulated in December 2010 and mandated the development of ten sectoral climate change plans. One of them was the Sector Plan for Mitigation and Adaptation to Climate Change for the Consolidation of a Low-Carbon Emissions Agriculture Economy (*Plano Setorial de Mitigação e de Adaptação às Mudanças Climáticas para a Consolidação de uma Economia de Baixa Emissão de Carbono na Agricultura*) (Interviewee 39S (AC)).[42]

The strong role of the agriculture and livestock sector within the national emissions reductions commitments came as a surprise to observers who had expected the energy or transport sectors to take a lead (Interviewee 38T (PB)), '*but no, it is agriculture because EMBRAPA has developed an ABC coordinated by the Ministry of Agriculture*', stated interviewee 21U (PB).

The Sector Plan for Agriculture was drafted by a working group led by MAPA. It was launched in December 2010 and published in 2011. Civil society contributions were incorporated into the drafts, the 2012 publication lists, next to EMBRAPA and CNA, also institutions like ISA, IPAM and the MMA were involved (MAPA 2012).

The measures foreseen under the ABC Plan include the following technologies and related targets:

- Restoration of an area of 15 million hectares of degraded pastures through adequate management and fertilization.
- Adoption of integration agriculture-forest (iLPF) systems and agroforestry systems on 4 million hectares.
- Direct Planting System (low tillage) on 8 million hectares.
- Expansion of the use of biological fixation on 5.5 million hectares.

[42]Through decree n° 7.390/2010, https://www.gov.br/agricultura/pt-br/assuntos/sustentabilidade/plano-abc/plano-abc-agricultura-de-baixa-emissao-de-carbono, last accessed 17.12.2020.

- Promotion of reforestation on 3 million hectares.
- Treatment of 4.4 million m^3 of animal manure for power generation and production of organic compound (FGV 2014).

A binding emission reduction commitment for an entire industry can be expected to generate resistance by that industry. Instead, it was not only politically acceptable for agriculture to have a role in achieving the voluntary commitments into which Brazil had entered internationally, but this approach was also seen as beneficial by the industry. The atmosphere in the policy debate, in which ideas for a low-carbon agriculture have developed and finally entered the political sphere, have been repeatedly described as collaborative and collegial by research participants (Interviewees 21U (PB), 39S (AC)). Once the ABC concept was developed it became easier for actors to move towards it. Even CNA as an interest group became a low-carbon agriculture proponent.

The ABC concept was therefore a push factor for policy change. This demonstrates how a particular problem definition (or set of problem definitions) emerges from a process of multiple sets of conflicting problem definitions (Hajer 1995). This does not require the actors being aware of their role in the process (Mehta 2011). EMBRAPA and MAPA as 'problem owners' had successfully established their 'problem definition' of agricultural emissions. This enabled them on the one hand to promote low-carbon agricultural techniques as beneficial for affected farmers, and on the other hand also improve the image of the agricultural sector among the public as an active contributor, instead of a source of resistance to progressive policy.

8.4.3 Challenges for ABC Implementation

The Low-Carbon Agriculture Plan foresees emissions reductions through the promotion of best practices in agriculture. The ABC Plan is financed by a special credit line, the ABC Programme (Stabile et al. 2012). The ABC Programme was created by the Brazilian Central Bank Resolution No. 3896 of 17/08/2010 and established under the Brazilian Development Bank BNDES.[43] The ABC Plan foresees a reduction of 133.9 – 162.9 million tons of CO_2 equivalent by 2020 (MAPA 2012). To achieve this objective, it was estimated that approximately BRL 197 billion (US$ 105.6 billion on 1.1.2012)[44] will be required from the national budget or through lines of credit and an estimated BRL 157 (US$ 84.2 billion on 1.1.2012) billion was made available from BNDES and the

[43] http://www.bcb.gov.br/pre/normativos/res/2010/pdf/res_3896_v1_O.pdf, last accessed 17.12.2020.

[44] https://www1.oanda.com/lang/de/currency/converter/, last accessed 18.12.2020

federal budget.[45] ABC interest rates differ according to the Agricultural Plan for each crop year (*safra*), with a payback time of 15 years (Interviewee 14L (GOV)). The interest rates vary from 5.5% in 2010/2011 to 8% in 2016/2017 and 7.5% in 2017/108 (Observatório ABC 2017). The latest publicly available information of CNA for 2018/2019 and 2019/2020 foresees rates of 6,0/5,25% and 7,0/5,25% respectively.[46] According to interviewee 14L (GOV), the attractiveness of the ABC lies not so much in the available credit but in the 'entire package' of rural credit, capacity building, technology transfer and knowledge dissemination; rural credit is important but would not be sufficient to change practices alone (Interviewee 14L (GOV)).

The ABC initiative was not met with resistance; on the contrary stakeholders welcomed it as a positive reform. The difficulty lay not in convincing the decision-makers but in the implementation and outreach to the agricultural sector, in reaching farmers and promoting the new practices; according to interviewee 39S (AC), '*this was accepted, this was very good for agriculture. The problem is changing the mode of agricultural production*'. The ABC Programme faced several challenges in its implementation which will be discussed in this section.

Missing Legality as an Obstacle for ABC Implementation

The discourses enabling the creation of the ABC are at the same time constraining its implementation. One example is the discursive element of land rights as part of the broader legality discourse. Smallholder access to the ABC Programme is hampered by both technical, cultural and legal barriers. Although the situation is heterogeneous across the states, in the north of Brazil and in the Legal Amazon where the agricultural frontier is located, legal barriers such as land rights are particularly prevalent, and the tenure issue is most critical (Interviewee 9I (PB)). To understand the barriers to ABC access, it is necessary to consider the history of agricultural expansion encouraged by Brazil's military government in the 1970s especially in the Centre-West region and Amazonia with repercussions until today (see Chapter 5):

> *Apparently, there are four tiers [of property titles], one document on top of another and it is impossible to identity the legal owner. (Interviewee 9I (PB))*

In 2009 the Brazilian government created the *Legal Land Programme* (T*erra Legal Amazônia*) aiming at bringing 55 million hectares of public land in Amazonia to le-

[45] https://www.gov.br/agricultura/pt-br/assuntos/sustentabilidade/plano-abc/financiamento, last accessed 17.12.2020.

[46] https://www.cnabrasil.org.br/assets/arquivos/sut.nota-t%C3%A9cnica.23.plano.ag%C3%ADcola.pecu%C3%A1rio.2019.2020.19jun2019.v4.pdf, last accessed 18.12.2020.

gal use and titling smallholder family farms (GIZ 2018). A technical chamber (*Câmara Técnica de Destinação*) was created through which federal agencies decide upon the allocation of public land for Protected Areas, Indigenous Territories, traditional user groups (such as extrativistas) and urban development. Until 2018, 60,000,000 hectares had been considered by the *Câmara Técnica* of which 3,509,270 hectares were established as Protected Areas. The land management system *Sistema de Gestão Fundiária-Titulação*, introduced by the German development cooperation, has for example issued over 30,000 titles to date. These properties are also registered with the CAR (GIZ 2018).

According to the revised Forest Code all properties should be georeferenced. This is causing major challenges (Interviewee 9I (PB)). The CAR provides the first transparent mechanism to evaluate compliance with environmental regulation such as the Forest Code by linking a responsible land-holder to land use on a particular property. All rural properties across Brazil have been required to obtain a CAR inscription since May 2016 (Gibbs et al. 2015). The CAR records the natural vegetation on each property as a basis for environmental monitoring as well as reforestation and restoration of forest areas (GIZ 2018). It can contribute to bringing considerable parts of Brazilian agricultural production out of illegality, especially in the north of the country. This can have two effects: first, legal producers can be reached more easily by national campaigns and low-carbon sustainable production schemes such as the ABC Programme. Second, reducing the share of illegal producers and improving governance along agricultural supply chains helps to decrease reputational risks and negative reputations of Brazil's agriculture. The CAR is promoted as a core element of the policy framework for 'green' agro-industrial development in the Amazon also by state led initiatives and NGOs, but its merit for reducing deforestation is difficult to quantify, and compliance with reforestation requirements is not consistent even among CAR registered landowners in the region (Thaler et al. 2019).

The discursive elements land availability and land rights (tenure) also have repercussions for the ABC Programme. They enabled it in the first place but constitute a barrier for its implementation at the same time. This impacts on the roll out of the ABC in such a way that in the Amazon biome access to ABC resources requires a CAR registration. Consequently, the ABC Programme has difficulty reaching these farmers and incentivizing them to take on sustainable land use practices as the majority do not have a land title (Interviewee 55H (AC)). In order to facilitate access to ABC credit and technical assistance; '*the land issue will have to be discussed and resolved at some point*'

(Interviewee 9I (PB); also Interviewee 55H (AC)).

Through its link to the CAR the ABC programme potentially shows a way into legality as the ABC credit line also finances the environmental regularization of rural properties. However, producers willing to regularize their land face challenges, which hinder the uptake of the ABC: notably, converting conventional agriculture to sustainable production requires considerable investment and this is why subsidized credit is necessary to help producers to apply new sustainable production technologies (Interviewee 8H (PB)). The ABC makes land titles a requirement for access to credit, but:

> *The great majority of our producers do not have a title because of the slowness of the agrarian regularization programmes, both of the Federal government, the Terra Legal Programme, the State Government and INCRA. (Interviewee 8H (PB))*

Attempts by CNA to accept other collateral, such as houses for those producers who want to finance pasture recovery or adopt crop-livestock-forest integration under the ABC but do not hold a title, were denied. At least for those producers who are interested in the ABC, the Legal Land Programme should prioritize the regularization of their title, thinks interviewee 8H (PB), but '*the bank is very legalistic on these questions: what the law says is obligatory. We can hardly keep up with this CAR*' (Interviewee 9I (PB)).

The ABC programme triggered a greater demand for CAR implementation and financing. Because the CAR is not regarded as an investment with return by farmers but a legal requirement, the ABC Programme and the participating banks and federal institutions encourage producers to take credit for the purpose of environmental regularization of their property (Interviewee 9I (PB)). The problematic aspects of the CAR (not applicable until a certain property size, the fact that overlapping claims do not get resolved in a reasonable amount of time) have become more strongly visible under the Bolsonaro government where land grabs relying on claims made with the help of the CAR have become more frequent (Bastos Lima 2021).

Since 2016 all financial institutions have had to request registration with the CAR to grant rural credit concessions. Achieving a high CAR coverage is therefore also in the interest of the financial institutions. Consequently, *Banco do Brazil* signed a cooperation agreement with the MMA about CAR dissemination and the training of technicians and farmers. The financial sector thus has an active role in the implementation of environmental regulation. There are views, however, suggesting that the CAR was

not high on the political agenda of other actors in the field of environmental policy; according to interviewee 88R (GOV) (GOV), '*the social and political costs are too high*', showing the impacts of the property rights discourse.

Land tenure arrangements in settlement projects are regulated trough the Land Statute (Law no 4330 of 1964) under which INCRA expropriates latifundios (landholdings larger than 10,000 ha) and redistributes them among landless families. However, most of the settlement projects in Amazonia are colonization projects on public lands (Ludewigs et al. 2009, see Chapter 5). In the view of respondent 8H (PB), '*it is inconceivable that a citizen files a petition for regularization of his/her area and has to wait 8, 10, 20 years with no end in sight*'.[47] Due to the high cadastral costs INCRA in some cases never undertook land registration (Ludewigs et al. 2009). Even Marina Silva, former Minister of Environment and environmental activist from the state of Acre, was against the regulation of tenure according to interviewee 88R (GOV). Under her administration the threshold for obligatory regularization of properties was increased from 100 to 500 ha. According to interviewee 88R (GOV), ultimately only the large producers were to benefit from the status quo. Nevertheless, actors like INCRA abstain from efforts to solve the tenure issue, argues this respondent (88R (GOV)), which seems contradictory.

In regions with large settler populations such as southern Amazonas, the state is often absent (Interviewee 8H (PB)). And if it is present, the presence is conceived as only in the form of command and control measures, while other government action might be more needed:

> *The Brazilian State only arrives in this region with punishment, with fines through IBAMA. But it does not provide the necessary orientation [about alternatives], the infrastructure. (Interviewee 8H (PB))*

Many producers (especially the small ones) lack the technical or financial resources to complete a CAR registration (Stabile et al. 2012). They are also not able to switch to low carbon agriculture out of their own means:

> *Because from the moment the producer has the knowledge and is made aware, and he understands that it is important for his property, and that it brings an economic return and environmental benefit, he still has the difficulty of knowing that there is a line of credit and the second difficulty is accessing this credit line. (Interviewee 3C (PB))*

[47] This is the case for the state of Amazonas. It is not representative for all Brazilian states but for those in the Legal Amazon.

Despite EMBRAPA's research, many farmers are not aware of the potential benefits of adopting new practices and even if they were, few of them are convinced that adopting these practices would lead to financial returns to justify their use (Stabile et al. 2012).

These barriers might look technical at first, but in reality they are also a structural barrier to access for non-professional agricultural producers in Brazil. The CAR does not solve the tenure issue, but it makes the problem more visible. What became visible here is how the rationalization discourse and the legality discourse have been embedded in the concept as well as the implementation of the ABC Programme, showing a contradictory picture. A desire to decriminalize the agricultural sector might also be a motivation in the strong linkage of the ABC to the CAR.

The Limitations of the Rationalization Discourse

What applies to the broader legality discourse also applies to the rationalization discourse: it enabled the origination of the ABC and limits its realization at the same time. The ABC Programme started with an economic incentive for farmers to change their agricultural practices to low-carbon and resilient practices. The programme, however, faced difficulties in disbursing its resources from the outset, due to a lack of publicity and marketing, and the ABC's stricter environmental requirements than other agricultural loans. Initially the credit line was managed by BNDES and similar to the Amazon Fund, they had difficulties with a large amount of small applications. BB and BASA are better positioned to deal with such applications (Interviewee 14L (GOV)).

The discourse prevalent in low-carbon agriculture promotion and characterizing the development of the ABC differs from those relevant for the Amazon Fund as it draws much more on economic incentives rather than focussing on socio-ambientalismo, environmental regulation and grants. The ABC target group is also different from the Amazon Fund and focusses on larger producers rather than smallholders, NGOs and public entities. They might also see the economic case more easily. Working with the agribusiness seems straightforward, the big producers are few in numbers and their location is well known; and 'they have competitive standards, […] they have a high degree of efficiency because they have to produce millions of Reais of profit' (Interviewee 2B (DON)). However, the very large producers might not be incentivized enough while the small producers struggle to first identify the financing option and then access it (Interviewees 38T, 3C (PB)).

Medium and smaller producers' land-use changes also have a significant impact on

deforestation and GHG emissions, especially in the livestock sector with low efficiency rates - this can mean one head of cattle per hectare (Interviewee 38T (PB)). Further advancing this type of agriculture would have devastating environmental effects. However, during the first years of the ABC Programme mostly professional farmers in the Central-South regions made use of the available financial resources. Most municipalities with degraded pastures, a priority of the Programme, have not borrowed from the ABC (FGV 2014). During the first years there was also a general lack of acceptance of the mechanism which was described as a 'cultural problem' (Interviewee 20T (AC)). The majority of agricultural producers did not trust the mechanism or did not know how to access it. In July 2014, after four years, 62% of the available resources were contracted (FGV 2014). The 2016/2017 harvest period has seen a 63% implementation rate (Observatório ABC 2017). The average value of contracts had increased, indicating that fewer farmers were able to access more resources (ibid). The central-west and southeast regions still captured most resources of the ABC Programme in 2016/2017, with 31% and 22.7% respectively (see figure 8.5). The north region picked up from 9.6% in 2014/15 to 19.5% in 2016/17 (Observatório ABC 2017).

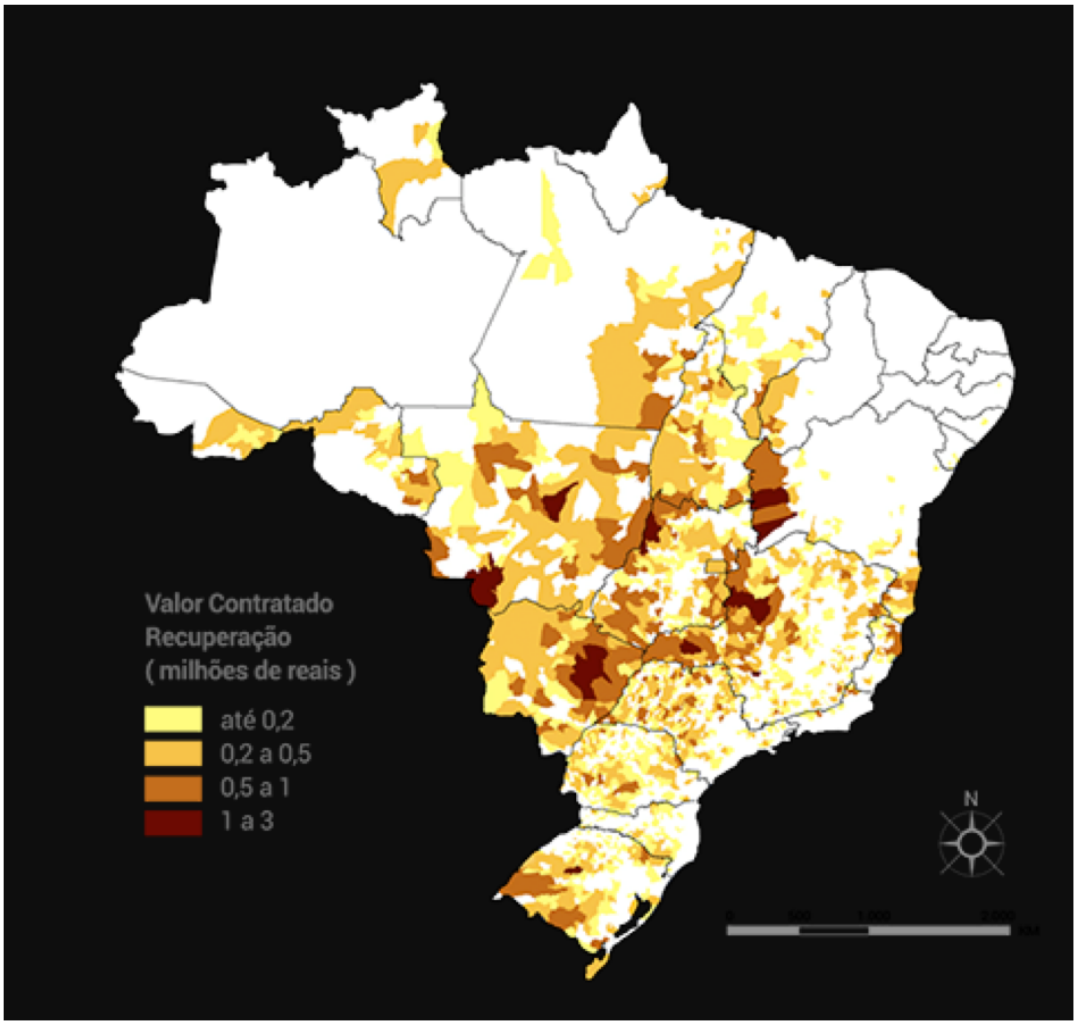

Figure 8.5: Amount contracted for restoration of degraded areas in million BRL
Source: Observatório ABC Infographics[48]

The recovery of degraded pastures is the main credit line of the ABC Programme and had the fastest uptake in credit volume in 2012/13 80. However, most municipalities with degraded pastures have not borrowed yet from the ABC Programme (FGV 2014). The credit line for Biological Nitrogen Fixation (BNF) did not experience high demand until 2014 despite the global warming potential and mitigation relevance of nitrous oxide (N_2O) (FGV 2014).

Alternative models of production such as low-carbon agriculture require more technology, more inputs, more labour, and therefore higher financial means and investment. These new technologies and practices first have to reach producers (Interviewee 8H (PB)). However, according to several research participants there is very little

agricultural extension in these areas (Interviewees 17Q (CS), 7G, 3C and 9I (PB)). If producers do not have certainty that sustainable practices will yield more profit, they will rather use conventional credit they can obtain for practices they already know instead of low-carbon investments (Stabile et al. 2012). Even professional farmers who are employing staff, such as property managers, agricultural technicians, or agronomists have difficulties to apply for funding under the ABC Programme and implement this type of financing. Family farmers do not have access to such professionals.

> *Even with that knowledge platform [Agrosustenta], a producer who has employees and who can access the database, still needs technical knowledge.[…] it is still far away from the family farms. (Interviewee 3C (PB))*

The public agencies for technical assistance and agricultural extension often do not have adequate structures or personnel to train small and medium producers in sustainable production methods (Stabile et al. 2012). In the state of Amazonas, for example, a technician from the agricultural extension serves up to 400 producers, whereas an ideal ratio would be 1:100 (Interviewee 8H (PB)). Some initiatives do exist, supported by EMBRAPA and the agricultural extension service (EMATER), but are patchy, isolated and difficult to replicate (Interviewee 17Q (CS)). Many agricultural producers, particularly smallholders, learn farming from their peers (Interviewee 2B (DON)). This suggests that a financial incentive offered through the ABC is not enough to engage them:

> *People only believe when they see results. And we need to invest resources in people who believe in it [sustainable production] and generate models that can be replicated on a large scale, to try to reduce implementation costs and increase success. (Interviewee 17Q (CS))*

The demonstration of economic results through adapted techniques is especially lacking, such as integration of crops, livestock, and forestry, and more publicity and extension services are needed (Stabile et al. 2012). As long as there is no guarantee of stable or increased income, innovation and behavioural change are difficult to realise.

Capacity Constraints in the Financial Sector

Even professional farms have difficulties in obtaining credit from the ABC Programme and need to be incentivized and motivated through tailored technical assistance and information campaigns. Family farmers and even more so informal settlers are even more difficult to reach despite the efforts of CNA, EMBRAPA and environmental NGOs like IDESAM (Interviewee 8H (PB)). One research participant noted: '*access to ABC is difficult for small producers per design*' (Interviewee 19S (GOV)). Financial, agricultural

and agronomic professionals are necessary for accessing the funding under the ABC programme. Both the farmers and the financial sector had to become familiar with the new financing instrument (Interviewee 9I (PB)). All banks have the challenge of finding technical personnel qualified to evaluate the risks of project proposals. The banks themselves are the ones taking on the loan risk, therefore many prefer to provide lower-risk credit (for instance for agricultural machines and other equipment) (Stabile et al. 2012). An exception is *Banco do Brasil* which has made R$ 850m of its own resources available to the ABC and was able to increase its lending in the first years of implementation (ibid).

The ABC credit line requires a well-designed and well detailed financing proposal, more than what is usually required to apply for a loan from a bank (Interviewee 9I (PB)) and that is for good reasons as it aims to transform an entire sector (Interviewee 2B (DON)). The GHG emissions reduction impact of every investment under the ABC has to be calculated and demonstrated (Interviewee 8H (PB)). The process is therefore more complicated and requires a more detailed project design which has to pass through the hands of technicians (Interviewee 9I (PB)). The signing off by an agricultural engineer can cost up to 5% of the loan (Stabile et al. 2012). Given the big gap between family farms producing for subsistence and local consumption and agribusinesses producing for export, this seems indeed a structural barrier.

The technical barriers for ABC access are high not only because access constraints to financial resources for smallholders. There is also an entire technical infrastructure of support and guidance needed, according to interviewees 3C (PB) and 8H (PB). Those producers with closer connections to rural unions and the CNA benefit from their extension services, are able to access this wider technical infrastructure, and so design projects more quickly (8H (PB)). So there are additional reasons why producers do not access ABC resources:

> *First because of the lack of technical knowledge and that includes the knowledge of good agricultural practice. And second, from the moment that he has gained the technical knowledge accessing the funding is depending on the application procedure. The procedure is time consuming and requires many documents. (Interviewee 3C (PB))*

The ABC does not differentiate between small, medium and large-scale agricultural producers, but the programme seems best suited for medium to large sized producers who can access the subsidized credit (Interviewee 38T (PB)).

The banks had difficulties finding trained experts to analyse the ABC project proposals and assess their risks. This situation has improved since Banco do Brasil, as the largest ABC lender, started conducting technical training for their agricultural extension services of more than 200 field agronomists, and established ABC related goals for their branch managers (Interviewee 9I (PB); Stabile et al. 2012). The technicians from the participating banks, the staff of environmental agencies and the agricultural extension services cooperate and exchange among themselves and form a network of support for the implementation of the ABC programme. The technicians needed to approve ABC proposals are employed by companies and have to be accredited, for instance with Banco do Brasil, to operate under the ABC Programme. These technicians are a bottleneck, but they can also disseminate information about the ABC Programme to farmers, argues argues interviewee 9I (PB).

> *The technical assistance far away from the bank had to be trained and that training was done by the bank, because the [first] projects came in very bad quality, the technicians were not used to this kind of funding. (Interviewee 9I (PB))*

Training sessions were held to improve the quality of projects but in the first year (financial and harvest year 2010/2011) the contracting rates were low. More people applied for ABC projects in the following years when understanding of the ABC Programme had grown and its interest rates had become attractive for farmers (lower than for regular rural credit) (Interviewee 9I (PB)).

8.5 Preliminary Conclusion

The agricultural sector is responsible for a large proportion of Brazil's national emissions. The main actors that shaped the low-carbon agriculture Programme (ABC) were based in applied research and the representatives of agribusiness in politics and interest organizations. International actors, civil society and the representatives of the rural poor such as INCRA and the MST acted in the background, creating the discursive foundations and providing important context for subsequent changes.

In the case of the ABC, I argue that by creating first a knowledge base, a discourse could develop which was then shared and spread among stakeholders in agricultural research, policy and practice, allowing them to understand the impacts and the potential results of climate change in their sector. The change of position of the association of agricultural producers, the CNA, was attributed by research participants to

increased knowledge (Interviewee 21U (PB)). It led to increasing confidence and ambition regarding the mitigation potential and efficiency gains: the step from discourse to action was taken. This significant change in the industry's position on climate change and a close collaboration among stakeholders (EMBRAPA, MAPA, CNA) has enabled the establishment and implementation of the ABC as a unique mix of research, practice and politics. Influential frames (Dayton 2000; Schön and Rein 1994) such as a technological fix for the climate problem (faith in science and technology), and the strong focus on research and development, are apparent in the rationalization discourse and the green discourses, for example around the restoration of degraded areas. This discursive frame fell on fertile ground as the proposed action was in the interest of the relevant actors and the interests were already framed in this way.

However, there is no unified position of agricultural actors drawing on a single pro-low-carbon discourse. Yet, despite the differences in stakeholders' positions, a growing awareness of the vulnerability of the agricultural sector as a whole can be observed. Political action then followed remarkably rapidly. As scientific knowledge about vulnerability and the mitigation potential has grown it has become easier for stakeholders in the agricultural sector to define clear targets that could be translated into political and even international commitment.

The response of the agricultural sector and the federal government differs from the political action related to the establishment of the Amazon Fund (MMA, the state governments, civil society and academia). The latter was characterized by the ideas of *socio-ambientalismo* and a belief in command and control instruments. Instead, here technological progress can be seen as a guiding ideology (Schön and Rein 1994, Schmidt 2016, Mehta 2011). The ABC's architects believe that applying techniques of low-carbon agricultural production will result in economic benefits, next to environmental and climate change benefits (Interviewees 7G (PB), 2B (DON)). The emphasis on practices and techniques leading to a reduction of GHG emissions and efficiency gains shows a strong belief in the power of technology. Brazil's agriculture sector has a history of adapting technologies and species to different environments, including cross-breeding and genetic modification. The intensification in the livestock sector in Amazonia in the 2000s shows the possibility of efficiency increases while deforestation rates slowed down (see background chapter). The ABC Programme is an interesting case study of how some definitions of issues are '*organized into*' politics while other definitions are '*organized out*' (Hajer 1995: 42). It installed a new institution bearing the elements of several influential ideas and changing discourses.

The soy and beef moratoria demonstrate how cooperation between government and non-governmental organizations with the private sector can lead to high compliance with environmental regulation. At the same time these show the conviction of the sector that private sector and incentive driven solutions, as well as technology driven solutions, work better than command and control approaches, traditionally applied by the Brazilian government in the case of environmental and climate policy.

ABC implementation in agrarian reform settlements is even more complicated. The ABC Programme supports the implementation of intensive practices (for instance crop and livestock integration, livestock intensification) to increase its productivity and reduce associated GHG emissions, and also seeks to do this with small scale farms (Stabile et al. 2012), highlighting the influence of the efficiency discourse. In order to achieve changes in mindsets and practices at scale, it will be necessary to work with those who are using non-sustainable practices, and with settlements in Amazonia in particular (for example Apuí). According to interviewee 8H (PB), inhabitants of settlements are open to low-carbon agriculture: '*The people are receptive, very receptive. They want to know about new technologies, but the technologies have to get to them*'.

The rationalization discourse reaches its limitations here. Research participants nevertheless described the ABC as a paradigm shift in rural credit (Interviewee 9I (PB)). For the first time GHG emission reductions were financed, rather than the purchase of equipment or animals. Under the ABC, projects had to be framed as low emission adapted production methods. An incentive-based mechanism for low-carbon agriculture was set in place.

Chapter 9

Discussion

9.1 Federal and State Actors, Governability and the Mechanics of the Funds

In this thesis I discuss two national climate funds in Brazil, the Amazon Fund and the ABC Programme for Low Carbon Agriculture. The two instruments have significant differences: the Amazon Fund has largely depended on international donors until very recently while the ABC works with domestic resources only; the Amazon Fund is regional (although 20% of its resources can be applied in other biomes and other tropical forest countries), while the ABC has nationwide coverage. Through its strong focus on the PPCDAm, the Amazon Fund is primarily based on command and control instruments (although there are notable exceptions, especially with regard to projects by grassroots organizations, Indigenous peoples and NGOs), while the ABC is based on the principle of economic incentives.

What they have in common though is their creation through executive instruments. The Amazon Fund was established by a presidential decree and while the ABC Plan was mandated by the National Climate Policy and Law (PNMC), the ABC Programme was directly created through the Ministry of Agriculture and Livestock. The creation of both was swift and smooth, which was even the case for the legislative project of the *Fundo Clima*. The analysis has shown that a combination of the internal rules (*regimento interno*) and executive instruments provided by the constitution enabled the executive to govern successfully.

Brazil has often been described as ungovernable due to its electoral system, particularly in relation to the costs of governability. An electoral system based on open-list

proportional representation with a relatively large number of elected members keeps the entry barriers low and allows space for new forces such as parties advocating popular interests and inclusionary practices. This was particularly the case for the PT, which was able to integrate activists and make steady electoral headway throughout the 1980s and '90s (Hunter 2003). Other factors that hamper governability are for example a lack of party discipline and federalism. Other authors argue that it is possible to govern under such a system, although the application of 'pork-barrel politics' is widely required (Alston and Mueller 2006). Nevertheless, as a result of these governing difficulties there is a tendency to push governing to the executive which was particularly visible during the PT era (Interviewee 76F (AC) and Amaral and Meneguello 2017) but can be observed also under Bolsonaro.[1]

Federalism necessarily involves numerous complicated transactions which complicate decision-making. States for example can act as de facto veto players in Congress. This can be problematic for the passage of environmental legislation in Brazil. On the other hand, subnational governments can also drive national environmental and climate policymaking and legislation through the passage of state-wide legislation as in the case of São Paulo and Rio de Janeiro (see chapter 8). This could lead to an expectation that a federal government will be able to implement an ambitious climate policy if the states agree to it (veto players). Many deputies seek positions in state governments before, during and after serving in the national Chamber. This can explain why they tend to favour state-based political interests in Congress.

But do these complexities necessarily mean that national climate policies and national climate finance institutions are difficult to establish? Are national policies only possible if they do not oblige the states to implement these? And do states act as veto players? States can challenge federal initiatives in Congress, but the analysis shows the opposite: states were passing progressive environmental legislation *before* the national level, and even pushing the federal government to adopt progressive climate legislation. The Forum of Governors actively participated in the development of the 'Brazilian proposal'; states also pushed the discussion of REDD+ beyond the 'pain barrier' of the federal government. Federalism in this case did not hamper 'climate governability'.

As a result of some of the governability barriers noted in this thesis, the PT was also

[1] See for example https://www.wilsoncenter.org/blog-post/brazils-congress-becoming-more-powerful-thats-not-necessarily-bad-democracy, last accessed 30.08.2021.

never overly interested in Brazil's legislature, but was rather oriented towards the executive and its direct relationship with the population through participatory mechanisms. It considered the legislature a place for 'bad politics' (Interviewee 76F (AC)). Although climate policy can be delivered through parliament, it is more straight forward to use executive instruments. The latter were used to create the Amazon Fund and the ABC Programme. The creation of national climate funds through various non-parliamentary instruments was a strategic choice to avoid climate objectives being watered down through pork-barrelling, and to avoid gridlock. The PT used a policy style that took small steps using for example decrees and *medidas provisorias* (provisional measures or decree laws). The participatory instruments of conferences and councils did enable some broader discussions and accountability, but I would argue they did not really lead to more democratic climate policy making. Under the PT administration and Marina Silva for instance, environmental conferences were '*a bit top down*' (Interviewee 66M (AC)) and dominated by the government. I would further argue that the excessive use of these executive instruments did provoke resistance and a 'conservative reaction', as seen in the Forest Code reform and even potentially the election of the current President Bolsonaro.

The incentive instruments used by the different climate funds differ considerably. The mainly publicly funded Amazon Fund, like the National Climate Fund, is characterized by a tendency to finance public policies and civil society and struggles to engage with the private sector.[2] On the other hand, the ABC Programme is almost exclusively implemented by the private sector. While the ABC uses a credit approach, some of the funding lines under the Amazon Fund such as the *Bolsa Floresta* are performance based; others are purely grants based.

One could argue that the Amazon Fund and the ABC Programme cater to different target groups. A discounted credit at favorable interest rates is likely to be an attractive incentive for large agricultural producers, and in addition technical assistance could make the package more attractive. A Payment for Environmental Services (PES) approach might not work for these types of actor but it might very well work for other actors who are for instance protecting forests and deciding not to deforest, such as indigenous peoples, or traditional populations.

Access to the Amazon Fund has been greatly improved and the high barriers men-

[2]The donations of Petrobras to the Amazon Fund are not entirely voluntary and Petrobras is owned by the Brazilian state.

tioned by several research participants and documented in the literature have been removed. So far, there is still a strong focus on state-led command-and-control measures to reduce deforestation, alternative economic activities and innovation in general still catching up. Economies of scale could be created and barriers to accessing the Amazon Fund further reduced by bundling sites. The *Bolsa Floresta* Programme, discussed in Chapter 7, is an example of a mechanism targeting a combination of welfare and incentives to use forests sustainably. It makes monthly payments to families who live within forest units where deforestation occurs (Interviewee 38T (PB)). The deforestation is monitored and the forest community as a whole benefits from health, infrastructure and education services when there is no deforestation. In addition, individual families are incentivized to engage in sustainable activities and alternative livelihoods. The community as a whole can join this mechanism, and both the transaction costs and the technical barriers to individuals are very low.

With respect to the ABC Programme, designing a programme to incentivize medium- to large-scale producers is arguably more straightforward and requires less time and less knowledge. From a cost efficiency point of view, it might even be sensible to focus on larger farms as they cover the majority of cultivated areas. It is easier for a programme like the ABC to reach the export-oriented parts of the agricultural sector whose reputation is very vulnerable to their use of destructive practices, and which have the necessary administrative, managerial and legal capacities. On the other hand, I found that entire groups are excluded from the ABC Programme through its design: 20% of the population depend on unsustainable practices. Reaching these people might really enable transformational change, instead of '*preaching to the converted*', as one interviewee (2B (DON)) called it, and incentivizing an already highly capitalized professional producer group. Behavior change towards resource use and land use patterns is complex. Achieving this is very challenging among people in remote areas, far away from a state presence, operating illegally or at the verge of illegality, and confronted with poverty and local power struggles (das Neves et al. 2021).

9.2 The Role of Civil Society

The study has also shown how the two Funds involved different constellations of actors, and different underlying philosophies and discourses. The role of civil society has been strongly emphasised, for example, in the case of the Amazon Fund (Chapter 7). It has been influential i) in shaping the discourse around the creation of the Fund and

ii) because of its technical capacity, especially in the area of monitoring deforestation. This capacity was not only relevant for the MMA and national climate policy, but also for Brazil's international position; once the high deforestation rate had been tackled, Brazil became less defensive.

I have shown that the Amazon Fund was a brainchild of civil society, a product of collaboration between MMA and NGOs, and based on the Brazilian proposal in the international climate negotiations under the UNFCCC. I have further shown how civil society 'lent' capacities to the Ministry of Environment and call their relationship one of 'historical proximity'. Two factors are relevant here: i) the environmental bureaucracy's recruiting system and ii) the technical capacity within civil society, leading to higher state capacity for reducing deforestation. Through the building of social capital (a critical number of people who '*at least partially share a common vision*' of problems and possible solutions for natural resource management) and through the rotation between governmental and non-governmental bodies, '*alternative knowledge and experiences could gain voice in official decision-making processes*' (Scholz and Schönenberg 2013: 105). This was a process that was initiated and strengthened through the PPG7 but remained beyond that. NGOs have even managed to make their influence permanent in the governance structure of the Amazon Fund, and civil society was also granted seats on the Amazon Fund steering committee.[3]

An interesting example of the division of tasks between government and civil society is a spirit of global responsibility and 'joint effort' (Interviewee 1A (CS)) when it comes to combating deforestation and REDD+. The NGOs participating in this discourse had put their hopes in the government creating the framework for REDD+ activities. The interpretation I offer here is that they see their role as proposing technical solutions for adoption by the government.

In the context of low carbon agriculture, the soy and meat moratoria and subsequent restrictions on producers were a major discursive and policy change and caused a shift in land use patterns in the region; soy production had previously been the major driver of very high deforestation rates in 2004 and 2005. Greenpeace was a key actor paving the way for the moratoria through public campaigns. In the case of the ABC, the single

[3]The Forum of Brazilian Civil Society (Fórum Brasileiro de ONGs e Movimentos Sociais para o Meio Ambiente e o Desenvolvimento, Fboms) has a permanent seat in the Amazon Steering Committee: http://www.fundoamazonia.gov.br/pt/fundo-amazonia/governanca/COFA/index.html, last accessed 11.06.2018.

prominent role of FGV (*Fundação Getúlio Vargas*) stands out.

Methmann (2011) and García (2008) see environmental NGOs as both an effect of and '*reproducers*' of hegemonic discourses in climate change politics. However, I found that Brazil's NGOs are by no means mere executors of donor-driven programmes (such as the ARPA or PPG7) but often set the agenda themselves. Moreover, I found several instances of a division of tasks between government and civil society and examples of the government sphere even reproducing the civil-society agenda:

- NGOs acting as advisers to the government on the evaluation of options and in decision-making and policy formulation in the state of Amazonas;
- NGOs acting as executors of government programmes rather than donor programmes (state of Amazonas, *Bolsa Floresta*);
- NGOs lending their expert manpower to the federal government (including expertise to use remote sensing data to detect deforestation);
- Through this, NGOs preparing the field for large government programmes such as the PPCDAM;
- NGOs preparing concepts for legal initiatives such as Brazilian NAMAs, national climate targets, a national climate change law or the Brazilian proposal for a forest fund and a strategy for REDD+, domestically as well as internationally;
- NGOs lobbying at international negotiations and pushing the government to change its position, successfully in Copenhagen in 2009;
- NGOs implementing the CAR, with funding from the Amazon Fund among other sources;
- NGOs lobbying for the soy moratorium and paving the ground for government action (ratification by government and legislative action);
- In the case of the meat moratorium NGOs also pressuring for an agreement that was later ratified by the government;
- An NGO acting as a watch dog for ABC implementation;
- Civil society has a seat on the steering committee of the Amazon Fund.

Civil society played a much more limited role in the ABC Programme compared to the Amazon Fund. Another key difference with the ABC Programme was that international actors were mainly absent. What does that mean in these times? The Amazon Fund is currently in crisis, but the ABC programme still has resources. At the same time, it was not without diplomatic scandal and international attention when the Brazilian government removed the foundations of international cooperation for the Amazon Fund. The ABC programme, in contrast, could be buried more quietly, however, this has not happened.

The international donors to the Amazon Fund have been alienated, however the Amazon Fund remains the most successful REDD+ fund to date. During the first 10 years of its existence, the Fund was keen to attract additional donors and had raised the interest of the UK government during international public events such as the Global Landscape Forum 2015 (COP21) or the Amazon Bonn Day 2017 (COP23). In my view the international players are likely to reengage once the political tide has changed.

9.3 Discourses

In Chapters 7 and 8 I showed how ideas, discursive frames and wider discourses have been used to make sense of interrelationships, such as deforestation leading to climate change. States' experiences generated relevant ideas that later shaped the Amazon Fund. These experiences included the Pilot Programme for the Protection of Tropical Forests in Brazil (*Programa Piloto para a Proteção das Florestas Tropicais do Brasil*, PPG7), bilateral cooperation agreements with California and the private sector, and experiences with subnational REDD+ activities. The PPG7 programme shaped the evolution and the design of the Amazon Fund. Positive experiences with bilateral donors were instrumental in preparing the ground for pledges to the Amazon Fund. The federal government and the states had different motives for participating in REDD+. A change in the discourse around REDD+ and the concept of REDD+ allowed a reconciliation between the positions of the Amazon states and enabled them to take the issue forward with the federal government (Interviewee 11K (CS)).

Furthermore, advances in climate science, successes in combatting deforestation, the perception of Amazonia as a global good, and the emphasis of the forest as the basis of livelihoods, all strengthened a discourse on global responsibility, replacing discourses on sovereignty and economic necessity. Such a discursive change was needed to es-

tablish the Amazon Fund.

The beginning of the climate discourse and the advancement of science in this area date back to the 19th and early 20th centuries. But it took until the 1980s and 1990s until the climate change discourse entered policy and the understanding was widely established that our (local) actions (can) have global impacts (Hannigan 2006[2]). As shown in Chapter 7, there were several international discourses at work influencing national discourses in Brazil. *Socio-ambientalismo* connects to the Western environmental discourse and the schism of the environmental movement into conservationists and preservationists, which found its own Brazilian expression.

I have argued that key state-level individuals have played a crucial role in the dissemination of these influential ideas. One of these ideas, the *socio-ambientalismo* discourse, which has been the most influential discourse analysed in this thesis, emphasised the value of the standing forest – rather than the value of the land for agricultural use, and the importance of the inhabitants of the forest ecosystem, (*povos da floresta*). This discourse was especially important in places like the state of Amazonas. The *Bolsa Floresta* Programme, supported by the Amazon Fund, can also be seen as an example of this influence.

Chapter 8 discussed the influence of discourses on the establishment and implementation of the ABC Plan and Programme, driven by the agribusiness sector, applied research and the federal government. The discourses discussed in this thesis included justice and legality, colonization, rationalization and green discourses. The justice and legality discourse enables and constrains the ABC at the same time, because its implementation is tied to legal titles. The rationalization discourse includes ideas such as technological fix, efficient land use and the restoration of degraded areas, and points to a dominant ideology of growth in the agricultural sector. It first led to the justification of agricultural expansion including destructive practices, and then to the development of alternative technologies to overcome them. That low-carbon and sustainability could be embraced in the discourses of policy practice much earlier than in the policy debate can be attributed to the framing of interests (Schön and Rein 1994).

The Rationalization discourse, the justice and legality discourse as well as the ABC approach based on incentives are very different than those found in the case of the Amazon Fund. The strong belief in technological progress and technological fix, and in legality as a basis for improved practices and efficiency gains initiated a changing dis-

course among industry leaders, drawing on the Scientific discourse. The related slogan '*we don't have to open up new areas*' grew and became a powerful theme, turning into political and economic action. It assumes that economic profit and growth are possible without deforesting, especially in Amazonia. The old myth in Brazilian public discourse that the political and economic cost of ending deforestation were too high was finally broken as a result (see Viola and Franchini 2018; see also chapter 7).

To locate these discourses within the 'land sparing-sharing continuum' (Fraanje 2018) the cognitive arguments brought forwards in the case of the Amazon Fund and *socio-ambientalismo* are in the range of land sharing, while those advocating for low carbon agriculture seem to be more on the land sparing end. Fraanje (2018) points out that, when land controls are absent or inadequate, measures to address land degradation in low-income countries with generally lower yields may not only result in environmental improvements but also improve yields. However, further expansion might be incentivized when higher yields achieve higher profits. And efficiency gains in food production may lead to overall increases in demand and supply and result in less, not more, land being spared for nature conservation. Therefore, a mix of methods or an in-between scenario between land sparing and land sharing may be best suited (Fraanje 2018). For the case of Brazil this points to a scenario where the approach of the AF and the ABC are both needed and complement each other. But none of them can be truly effective without adequate law enforcement.

9.4 The Power-Knowledge-Complex

In the *power-knowledge-complex*, a crucial point in discourse theory (van Dijk 2003), actors and discourses come together. Knowledge can be a power resource expressed and conveyed in discourses and is the basis of not only action but also the formation of reality.[4] This can be seen in examples of the global responsibility discourse, the ideas behind the sovereignty discourse, and the conceptualization of the Amazon as a resource to be exploited. Van Dijk (2003) defines knowledge as '*the consensual beliefs of an epistemic community*', arguing that knowledge cannot be true or false, only situated talk or text may be said to be so, For instance, when text expresses beliefs which are asserted to correspond to the facts. Beliefs themselves on the other hand, may, or may not, correspond to '*reality*', but they cannot be assigned truth or lack thereof

[4] And may be legitimated or challenged by alternative forms of beliefs (Foucault 1972 in van Dijk 2003).

- unless discursively asserted. In this understanding knowledge is not only mental, but also social, '*knowledge is acquired, shared and used by people in interaction, as well as by groups, institutions and organizations. Indeed, without such a social basis, knowledge would be no more than personal belief*' (ibid: 86). Experts legitimize action through their scientific and technical discourse (Hannigan 2006[2]). This can be observed in the Ministry of Environment's courteous relationship with civil society, on whose expertise it drew heavily, both legitimizing and enabling its political action with the help of this group of actors.

The legitimacy of experts who produce the relevant knowledge and the politicians who make decisions based on that knowledge can be questioned, because the scientific production of knowledge is guided by the structure of research funding and because political decision-making is not only based on '*hard facts*' (Cannon and Müller-Mahn 2010). The discourse moved from only being about deforestation, to include emissions from deforestation and the global climate discourse, and the interaction between these different discursive levels. Both civil society and academia, each producing expert knowledge, were the drivers of this change in the discourse, which was taken up by the federal government at a moment when the political context was beneficial for a repositioning of the government towards deforestation, both domestically and in the UNFCCC. The meaning making took place and actors began to see Brazil's role in global emissions and the global policy cycle differently, which led to a new discourse, the global responsibility discourse.

Here, however, I would like to raise the problem that both civil society and academia are not only observers but also stakeholders, and therefore cannot be neutral. This has to be considered when interpreting the interviews. Certain groups of actors emphasized certain aspects of forest policy, such as *socio-ambientalismo* or sovereignty or efficiency, that were in line with their values, and perhaps drew different conclusions that are in line with their world views (for example the need for agricultural intensification in order to achieve sustainability). Discourses are not about material objects as such – for instance hurricane Katrina or deforestation in the Amazon – but about ascribed meanings: why an event became a disaster, who is responsible etc. Discourses are thus '*virtual arenas in which actors meet to carry out controversies over a particular object in order to gain influence over the way the object is going to be transformed or managed. Therefore, discourses are not just practices of opinion-building and decision-making, but they can be considered as expressions of social relations, particular interests and power*' (Cannon and Müller-Mahn 2010: 631).

Cannon and Müller-Mahn (2010) remind us of the failure '*of outsiders to take people's own rationality and cultural determinants as equally valid*' (ibid: 625). This can also be applied to the sovereignty discourse and the fears of invasion which interviewee 88R (GOV) described as '*explicable but irrational*'. While this statement includes a judgement, it hints at the fact that there is some basis for this belief but that the different conclusions are being drawn. Van Dijk (2003) explains this phenomenon with the argument that people usually define knowledge as something that they believe about something. How actors' rationality and with this their interests are influenced by outside factors is a question that still needs deeper analysis and attention.

Something similar occurred in the case of low carbon agriculture: the spread of scientific knowledge and awareness about interdependencies modified the positions of actors and eventually led to policy and institutional change. An important element of the formation of discourses was the availability and dissemination of knowledge about the agricultural sector in a changing climate and its contribution to GHG emissions. This contributed to the formation of the discourses about mitigation and vulnerability. The Initial National Communication (INC) (2004) identified the land-use sector as the main source of Brazil's GHGs. After deforestation rates had dropped in the mid-2000s agriculture came into focus as the new major emitter, and because of its negative reputation efforts to counter agricultural emissions were started. The potential for reducing high agricultural emissions, especially from cattle ranching, was recognized and the 'problem definition' (Mehta 2011; Hajer 1995) of EMBRAPA and MAPA spread and entered the political discourse. Subsequently the use of adapted technologies was included in the 2010 ABC Plan.

In addition to knowledge and the positive connotation of technological development in general (efficiency discourse), additional specific discourses were at work here. The Brazilian economy is predominantly reliant on agriculture and some of the key crops are very vulnerable to climate change (especially coffee and to a lesser extent soy). The ABC Plan and Programme can also be seen as the industry's step to protect itself from the impacts of climate change rather than to commit to the goal of lowering GHG output alone (competitiveness and vulnerability). Concerns about the national economy were raised, arguing that the agricultural sector is Brazil's only internationally competitive sector. The sector's mitigation potential received attention from stakeholders seeking future revenue streams, a strategy to secure its future long-term competitiveness, and to secure its position in the power constellation of the political economy.

Discourses are formed by powerful groups of actors from different functional systems (politics, sciences, media) (van Dijk 2003), who might very well be driven by truthfulness. This can be observed in the climate change discourses in chapter 7 but also in chapter 8 in the discourse on the emissions and vulnerability of the agriculture sector. Increased awareness of this vulnerability has led to more progressive policies similar to the experiences of the agriculture sector and the ABC Programme for Low Carbon Agriculture (see Chapter 8). The lack of a unified position in the sector leads to contradictory results. For example, the influence of the ruralist caucus in Congress has weakened the Forest Code and through this environmental conservation and regulation efforts. Many agribusiness stakeholders supported the election of Jair Bolsonaro – a protagonist of environmental roll back - during the presidential elections in 2018. Since then, deforestation through land conversion for agricultural use has increased again. Actors such as EMBRAPA and CNA on the other hand recognized the economic stakes in a low-carbon agriculture. While economic interests and food security concerns are still very present in agricultural policy, a low-carbon trend has been started.

However, the investments for low-carbon agriculture are still low compared to total agricultural investments (Aamodt 2015); several participants were keen to put climate finance flows into perspective. Subsidies for conventional practices such as through BNDES or agricultural subsidies and credit are higher than for climate finance. However, compared to other climate funds (*Fundo Clima*, Indonesia Climate Change Trust Fund, Philippine Peoples Survival Fund) resources mobilized for the implementation of the ABC Programme look impressive, especially when the entire system of research and implementation is taken into account. These resources are seen by some interviewees as a measure to protect the sector against future climate change impacts as well as policy impacts through proactive engagement (Interviewees 2B (DON), 11K, 17Q (CS)).

9.5 The Mobilization Potential of Discourses

The international mobilization potential of Amazonian deforestation is derived from the fact that the Brazilian Amazon has relevance for the global climate. The active discourses were however able to mobilize both domestically (a 'movement' in interviewee 19S's (GOV) words) and internationally. Viehöver (2011) sees reason for the growing attention to global climate change with changing relationships between sci-

ence, politics, and the public media. The relationships between the actors seem indeed to be the key to understanding their roles, as can be seen for instance in the example of the global responsibility discourse. NGO representatives reported that combating deforestation was understood as a joint national effort of the government, the private sector and civil society. The feeling of unity and of belonging to a larger movement conveyed by the interviewees had been a strong mobilizing force. Perhaps this allowed the government to align civil society behind its policies, creating wide ownership. It can also generate an atmosphere of creativity in which ideas flourish and innovative concepts compete for support. This can be observed in the emergence of the concept of the Amazon Fund when the Brazilian proposal was developed and deforestation rates were dropping simultaneously.

In the case of the Amazon Fund the motivation of the Ministry of Environment seems to have been to give more prominence to forest protection. The motivation of other ministries for joining the discourse might have been to cover up the role of other sectoral emissions. What is clear is that once the federal government owned and adopted this discourse (see sub-section 7.3.5, '*We can do it!*'), it was encouraged to commit to a national emission reduction target in the international climate negotiations in 2009 and to commit to it in law.

However, the discursive change regarding deforestation as discussed in chapter 7 did not lead to a change in environmental outcomes per se; instead, it took a combination of discursive changes, discursive practices and measures by government actors at different levels to close the enforcement gap. A process of feedback, reassurance and reflection therefore took place. This can be observed in the involvement of the president (who made the issue a top priority) and the cooperation among actors who had not worked together before (the federal government, the Ministry of Environment, IBAMA, the federal police, the army, the judicial system). One of the key problems in large-scale illegal deforestation was the absence of the state and the rule of law. The military government had encouraged the occupation of the Amazon region with economic and geopolitical motives; the transition to democracy did lead to a power vacuum in Amazônia and accelerated the exploitation of its resources propelled by state intervention and coincided with accelerated land occupation by ranchers, speculators, small scale farmers and miners in the Amazon; predatory practices such as the regular burning of forest for conversion to pasture and farmland in the late 1980s were not stopped by state and local governments (Hochstetler and Keck 2007), a development that is visible again today. Closing the enforcement gap in the mid 2000s

also meant extending the presence of the federal state to parts of the Amazon where it had previously no authority. The state mobilized all its branches and elements in a concerted effort.

Discourses have political relevance and can support social and political change. A double responsibility (domestic and international) and double mobilization strategy could be observed: changes in discursive practices such as global responsibility for protecting the Amazon, and with it the climate, were used to mobilize support for political action and show policy alternatives, alternatives which were powerful enough to trigger social change. This change was reflected in the development of the Brazilian proposal in the international climate negotiations but the global responsibility for combating anthropogenic climate change was also reflected in the domestic sphere. When it became clear that deforestation in the Amazon can change entire precipitation cycles, and that deforestation was not even '*economically that useful*' (Interviewee 66M (AC)), the public view started to change, and alternative social and political actions were presented. Brazil's high vulnerability to extreme weather events such as drought and flooding (and their increase) also became an issue of public concern at that time. Even the Amazon region itself is highly vulnerable to the impacts of climate change, which was brought up by governors in some states. Connecting the topic to the bigger questions might have also helped the agenda of NGOs and social movements.

I have shown that discourses have the power to influence and change Amazonian policy and even Brazil's position in the international climate regime. Storylines like economic necessity and the sovereignty discourse have prevented decisions about curbing deforestation for decades. The political change to halt illegal deforestation itself impacted on the discourse and led to a new international position for Brazil in the development of progressive domestic and international climate policy. In states like Amazonas in the 2000s climate policy and law were ahead of those at the federal level. Institutional change, in the form of the creation of new climate funds, thus became possible. New institutions such as state-level environment ministries and large socio-environmental programmes and implementing agencies began to be established, and once an institution has been created it participates in the agenda-setting and the development of ideas. However, also the maintenance of institutions and institutional processes requires agency (Hochstetler and Keck 2007) as can be seen during the Bolsonaro administration, when institutions get weakened and institutional processes dismantled, for example through systematic budget cuts.

The mobilisation resulting in new institutions that has taken place around the issue of Amazonian deforestation, with links to international climate negotiations and the commitment of major donors during the time of analysis, has been far greater than that around emissions from the agricultural sector. Nevertheless, lines of mobilisation and climate-policy advocacy actors (Aamodt 2018b) were becoming visible here too. NGO campaigns (Greenpeace 2006) started the international public and motivated government and agribusiness to make efforts towards deforestation-free supply chains. MAPA is close to the business community and so is EMBRAPA through its application-oriented approach, while at the same time showing close links with the political sphere as well. This is in line with Hochstetler and Keck (2007) who found climate policy actors representing several categories of actors at the same time. The motivation of individual scientists, the scientific community and other climate policy actors is clearly visible through the analysed data. Those parts of the private sector that identified potential points of traction pushed the agenda, together with a benevolent ministry, and based on knowledge products from EMBRAPA. This has been much less public, but equally effective. Here we find a 'branching point' (Hall and Taylor 1996), without an immediate crisis (see conceptual framework in Chapter 3).

Chapter 10

Conclusion

10.1 Summary of Findings

This section first presents the main findings of the thesis and then sets out how the findings answer the research questions. The main findings are the following:

1. The thesis has shown that although Brazil has often been described as difficult to govern, this portrayal needs nuancing. While I found factors constraining the federal government's ability to realize its agenda, I also found that in the period under study the Workers' Party (PT) government was successful in realizing its climate policy, enabled by a combination of internal rules (*regimento interno*) and executive instruments provided by the constitution.

2. The PT government successfully realized an ambitious climate change agenda. The PT was oriented towards the executive and governed in a 'flat' way, often bypassing the legislature. In my view it was so successful with its climate agenda that it triggered a 'conservative reaction' by the rural caucus together with the agribusiness lobby. The excessive use of executive instruments in climate policy and climate finance also provoked resistance, visible for example in the revision of the Forest Code.

3. In the case of both climate funds, certain individuals (positive or negative champions) were instrumental in both pushing for or resisting policy change, and so for consequently setting up both funds. Another key finding is thus the role of influential personalities in Brazil's climate policy and climate finance. These were governors (Braga and Maggi), senators (Abreu and Silva), ministers (Lutzenberger, Sarney Filho, Unger, Silva or Minc), presidents and presidential candidates (foremost Lula and Silva again), researchers (Assad) and activists (Mendes). In com-

bination with institutions, it was these influential personalities (champions) at the top of government or movements who managed to push an agenda and discourse. At times they were even directly included in the creation of the climate funds, for example Silva who negotiated the donation to the Amazon Fund with main donor Norway and enabled the Fund's swift take-off.

4. Civil society capacities, notably expertise and manpower, were key in enabling the Ministry of Environment to fulfil its mandate and a decisive factor in the creation of the Amazon Fund. The same can be said about NGOs' involvement in government programmes, including state-level programmes. The high permeability between the spheres of government and civil society in the state of Amazonas mirrors the situation at the Ministry of Environment during Marina Silva's term. Environmental activists and environmentally motivated politicians pervaded the MMA especially during the tenures of Lutzenberger, Sarney Filho and Silva.

5. The PPG7 Programme was largely a donor driven initiative, however, it strongly involved and empowered civil society and strengthened the power base of the MMA. Civil society and government had strong reciprocal collaborations and formed a network, into which donors could tap. Through the PPG7 objectives and its actor constellation, the PPG7 became a predecessor for the Amazon Fund.

6. My research found a number of distinctive features of the discourses on *socio-ambientalismo, global responsibility and REDD+*. These features derived from, first, the interconnectedness of national and international discourses such as climate change impacts on national and regional assets and ecosystems, for example in the context of Rio 1992 (boomerang effect), and second from the specific socio-environmental circumstances in Brazil (extractivists).

7. The *socio-ambientalismo* discourse, coming from a social perspective, builds a bridge between the sustainable forest use and climate debate, a connection that has in turn been successfully established mainly by civil society and academia in Brazil. The *socio-ambientalismo* discourse has had visible success in the fight against deforestation in Brazil. It rejects market mechanisms, and strongly influenced the 'Brazilian proposal' and the design of the Amazon Fund, which seeks to support sustainable development in Amazonia and does not ask for strict evidence of emission reduction or deforestation avoided as a result of its projects.

8. The ABC Plan and Programme works with the private sector and is based on financial incentives for changed agricultural practices. I found that the command and control approaches of the Brazilian government were necessary for any success in deforestation control but that winning the support of industry representatives made it more effective. In the case of the ABC, the national research enterprise EMBRAPA mediated between the two spheres and promoted research and discourse enabling the adoption of low-carbon agriculture. While being very different from the actor constellation around Amazonian deforestation, this smaller group of climate policy actors (MAPA, EMBRAPA and CNA) was able to draw on the advocacy coalition that Greenpeace had mobilized.

9. The influence of the 'ruralist caucus' in Congress has weakened the Forest Code and through this conservation efforts. However, there was no unified position in the sector. Mitigation efforts and environmental regulation in general are seen as critical by the agricultural sector. But concerns about the national economy were also raised, arguing that the agricultural sector is Brazil's only internationally competitive sector. Once the framing of the issue had changed, the sector's mitigation potential received attention from stakeholders seeking future revenue streams and a strategy to secure its long-term competitiveness, leading to a 'branching point without a crisis'.

These findings allow me to answer my research questions:

RQ 1: How is the governance of climate policy and finance carried out in Brazil?

The thesis found that despite its alleged ungovernability, in the period I studied the government successfully implemented a set of climate policy and institutional changes using a combination of internal rules (regimento interno) and executive instruments provided by the constitution (such as decree laws but also conferences and councils) (Chapter 6). The main mechanisms for the governance of climate policy and climate finance are therefore i) institutional rules, ii) effective actor constellations, and iii) actions, supported and strengthened by discourses, that changed actors' perceptions. In governing climate policy and finance in Brazil, but also in the genesis and dissemination of knowledge, individual actors need to be taken into account; influential personalities (positive or negative champions, often in the role of ministers or governors) were instrumental for policy change – or a lack thereof – because they either stood up for an initiative or blocked one (Chapter 6, 7 and 8). In Brazil in general, there was

(and remains) a high permeability between government and civil society in the environmental realm, which impacts on how the governance of climate policy and finance is carried out. Civil society capacities were key in enabling the Ministry of Environment to become an influential player and realize an ambitious climate agenda (Chapter 7). In the agricultural sector there is also a high permeability between government, applied research and the private sector. A policy shift from conservative towards low carbon approaches was possible once the private sector had been won over by new emerging discourses about the issue (developed by applied research and NGO campaigns) (Chapter 8). Brazil has a strong federal system. At the state level, in Amazonas, civil society was actively invited to draft a state policy (civil society-state permeability of relations and staff was visible at this level as well) and invited international actors to support its *Bolsa Floresta* Programme (Chapter 7).

The drastic drop in emissions from deforestation after 2005 also changed Brazil's standing internationally (Chapter 7). Closing the enforcement gap in tackling illegal deforestation since 2005 required a concerted effort by various parts of the government to implement existing legislation. These enforcement efforts and successes led to a paradigm shift. The PPDCDAM, the legal centrepiece of the new policy, regulated cooperation among the different levels of government in the fight against illegal deforestation and used a combination of command and control and a mobilisation of governance instruments at all levels (firefighters, IBAMA, federal police, military, judiciary). The PPDCSAM also created the policy foundation for the Amazon Fund, and ultimately also the ABC, because it enabled the passage of the National Climate Policy and Law that mandated the sectoral plans, including the ABC Plan.

The international level participated in governing climate policy and climate finance actively in Brazil through the PPG7 programme and then the Amazon Fund (through donors). The international level also partially enabled the positive shift in Brazil's international position (the international environment was '*friendly towards aggressive climate change proposals*' (Interviewee 55H (AC)), and Brazil became a '*climate good guy*' (Interviewee 55H (AC)), see Chapter 7). In the case of agriculture, however, the international level is seen as a competitor to Brazil's agricultural sector and mostly absent from the ABC Programme for Low-Carbon Agriculture. The ABC is an entirely executive project but prepared and implemented in closest cooperation between applied research and the private sector, which is almost absent from the Amazon Fund and its predecessors (Chapter 8).

RQ 2: What ideas are being constructed by whom?

The most important discourses identified in this thesis in relation to the Amazon Fund were *socio-ambientalismo*, global responsibility, colonization, sovereignty and REDD+. In relation to the ABC, the most important discourses were justice and legality, colonization, rationalization and green discourses. Through the *socio-ambientalismo* discourse civil society was able to build a bridge between sustainable forest use and climate debate. It originated in North American thinking about the environment and the schism between the conservationist and preservationist movements, but became something distinctively Brazilian when it was developed within the rubber tapper movement. The *povos da floresta*, the people of and in the forest, became viewed not as a problem, but rather as a key solution to forest protection. *Socio-ambientalismo* influenced the fight against deforestation in Brazil and was not only promoted by civil society, but also MMA (although arguably through the influence of NGOs) and donors through their support for the PPG7 programme. The *Bolsa Floresta* Programme, which is modelled after the PT flagship programme *Bolsa Familia*, also showed features of the *socio-ambientalismo* discourse. And so does the Amazon Fund. The *socio-ambientalismo* discourse also entered the CDM and REDD+ debate in Brazil, where NGOs are divided over the question (Chapter 7).

The global responsibility discourse which emerged in Brazil created pressure for stricter anti-deforestation policies. It was influenced by scientific discourses: the Stern review (2006) showed the economic impacts of GHG emissions from deforestation; and IPCC AR4 highlighted the impacts of climate change for Brazil. These developments illustrated the interconnectedness of national and international discourses such as climate change impacts on national and regional ecosystems (boomerang effect). Scientific knowledge pushed the shift from a focus only on deforestation to a discourse on deforestation emissions and climate change. A new consensus emerged in Brazilian society that the Amazon was a global asset, and a domestic political momentum was created ('*we can do it*').

Scientific knowledge on the potential of low carbon agriculture was also instrumental for the promotion of discourses conducive to the adoption of the ABC Plan and Programme. Through a reframing of climate change issues and growing awareness of the agricultural sector's own vulnerability, the agricultural sector was able to focus on its mitigation potential, its resilience, and related future revenue streams to secure its future long-term competitiveness ('*we don't have to open up new areas*') (Chapter 8).

The colonization of the interior discourse can still be seen in expansion and land conversion trends, but it is being mitigated by trends to increase legality and sustainable land uses. Historically, the Amazon and the Brazilian interior were constructed as a vast empty space by the Portuguese colonizers and in the early Republic. Colonization and settlement were encouraged (the 'March West'; Kubitschek and the construction of the capital Brasília). At the same time the interior was politically constructed as a place of hardship, that needed to be developed for economic use (Chapter 7 and 8).

For a long period, the fear of foreign invasion (sovereignty discourse) by communists and environmentalists had led to the rejection of any kind of international oversight over the Amazon or international anti-deforestation measures. Under the military dictatorship this discourse flourished, and now it is doing so again under the Bolsonaro administration. But for about 25 years this discourse had been quelled, allowing the creation of the PPG7, the Amazon Fund and a new Amazonian policy (Chapter 7 and 8).

Amazônia is not only a 'projection surface' but an active agent in itself, mediating the positions of motivated individuals, expert knowledge and political processes such as clientelism. Interesting national-subnational, national-international and transnational dynamics can be observed in the interactions among the Amazonian states as well as with the federal government. Discourses in the states of the legal Amazon have for example influenced and changed national discourses. The REDD+ discourse among the Amazonian states changed, after avoided deforestation was acknowledged, but also after forest carbon stocks were acknowledged and included in the REDD+ concept. At this point it became more relevant for the Amazonian states and they found a common position, lobbied the federal government and started to be active in international climate negotiations (Chapter 7 and 8).

RQ 3: How do actors ensure that certain ideas are enacted and enter the policy realm?

Actors used their various power resources to ensure their ideas entered the public discourse and policy realm, in the sense of the power-knowledge-complex, and drew on advocacy coalitions.

The PPG7 strengthened the power base of MMA and formed a network between government and civil society, into which donors could gain leverage or offer support.

Through the *global responsibility* discourse, civil society in Brazil as well as overseas (for instance in Norway) created pressure for stricter anti-deforestation policies. When deforestation rates decreased, Brazil gained in international confidence and proposed an international forest fund mechanism known as the 'Brazilian proposal', the prototype or model for the Amazon Fund. Civil society and the Amazonian states pushed for the adoption of a new international position, NGOs through campaigning and influencing the MMA and public opinion, and the Amazonian states by uniting their positions and making allies with partners abroad. The interconnectedness of national and international discourses such as climate change impacts on national and regional ecosystems (boomerang effect) led NGOs to put pressure on Brazil's (both domestic and international) position on deforestation (Chapter 7).

The national research enterprise EMBRAPA was instrumental in promoting discourses conducive to the adoption of low-carbon agriculture. Based on its basic research, EMBRAPA used its political access and provided tailored answers. In direct dialogue with the private sector and MAPA, it explored what was politically feasible and provided policy-compatible solutions. It was thus able to feed its applied research into the policy realm and influence the formulation of national climate targets.

Public pressure motivated the agricultural industry to address illegal deforestation in its value chains and commit to low carbon agriculture. Command and control approaches by the government were necessary for any success in deforestation control, but winning the support of industry representatives made it more effective in the case of the agricultural sector and the ABC Programme (Chapter 8).

By addressing the three questions above, my thesis can answer my overarching research question:

> **How do actors employ ideas to influence political processes and the design of major climate finance institutions in Brazil?'**

The close ties between NGOs and the Ministry of Environment on the one hand, and between the national research enterprise EMBRAPA and the Ministry of Agriculture on the other, showed how actors used networks and applied resources ranging from scientific knowledge to public pressure, financial resources as well as legislative and executive rights. The different actor constellations and discourses shaped the two climate funds and were responsible for their distinct orientation, underlying philoso-

phies and practical features. None of these factors operated in isolation: their impacts resulted from the interaction of groups of ideas - an interaction that was itself unique, specific to the Brazilian context and specific to a moment within a favourable international environment.

The PPG7 and –its donors promoted the *socio-ambientalismo* discourse. MMA and civil society built on this. The success in reducing deforestation enabled MMA to enforce a new Amazonian policy. All of this paved the way for the Amazon Fund. The proximity between applied research and agribusiness facilitated the creation of the ABC Programme. Motivated researchers, civil society campaigns and public-private partnerships for deforestation free value chains (soy and meat moratoria) strengthened those parts of the private sector that were able to see the potential in a low carbon agriculture.

Knowledge, science, technology and capacity, enthusiasm and a feeling of unity, were available at a given time when they were needed and when they did fit the problem at hand (reducing emissions from deforestation and agricultural practices). External and internal events interconnected these resources or factors in a certain way, which enabled stakeholders to draw on these resources and their specific Brazilian traditions such as councils and conferences and actor networks formed by ministries and civil society / applied research, creating a moment in time, that was favourable for a change in policy and the set-up of the climate funds.

10.2 Future Research Implications

The thesis has shown how certain configurations of governance institutions, actor networks and discourses can enable the creation of effective climate policy. However, these enabling factors can always be altered or reversed, notably by the highest / executive level of government (as shown by the current Bolsonaro executive), and also by reactive opposition: for example the successful executive climate policy making of the PT administration triggered a conservative reaction by the rural caucus together with the agribusiness lobby (Forest Code reform). Further research into such counter movements to climate reform could prove useful.

Findings about factors which enable reforms to counter deforestation and emissions, which could well be transferrable to other cases or countries, and require further re-

search in other settings, were: the role of research institutions in promoting discourses conducive to the adoption of low-carbon development pathways; the interconnectedness of national and international discourses such as climate change impacts on national and regional assets and ecosystems; the global repercussions of emissions from Amazonian deforestation (global responsibility and its double mobilization potential); and the role of incentives versus command and control instruments or their interplay. The thesis has further shown that expertise, manpower and capacities were key factors in environmental policymaking. It would be interesting to compare this example to other countries in the region, such as Peru or Ecuador (for their Amazonian biome) but also Argentina or Chile (for their agricultural sector).

The analysis also clearly showed that political change (stronger law enforcement and the halting of illegal deforestation) impacted on discourse and led to a new position for Brazil internationally in the development of a progressive domestic and international climate policy. Thus, I conclude that discourse change leads to political change and triggers further discourse change. This relationship now needs to be analysed further: it would be interesting to see how discourses triggered policy changes and the creation of new institutions, which then affected discourses again, in other countries or sectors.

Related to this, the thesis has shown how concerns about the competitiveness of Brazil's agricultural sector and, due to its strong position domestically and internationally, the national economy as a whole, have come to the fore and pushed others (such as the sovereignty discourse or the premise that deforestation is economically necessary) into the background. This raises several questions for further research: whether discourses can develop and exist independently of the economic interests of the agricultural sector; whether, in a context of agricultural economic interests, can the agriculture sector be a driver of conservation; and how does climate change as an idea influence the perceptions of interests of the affected stakeholders, such as those in the agricultural sector? Public research carries the bulk of agricultural research in developing countries and emerging economies (Figueiredo 2016); it would be interesting to compare EMBRAPA and its low carbon agriculture agenda with cases in other countries.

Another avenue for further research and action relates to the impacts of subsidized credit. The thesis has shown that it can be an effective incentive mechanism to promote a change in land use practices such as low-carbon agriculture, but that it is not

suitable for all groups of actors and benefits those with higher capacities and capital. Moreover, adapted practices do not guarantee the end of unsustainable land use and deforestation, but must be accompanied by effective command and control policies (Sabadini Carvalho et al. 2017). The adoption of market instruments or economic stimulus programmes to promote the transition to deforestation free agricultural practices in Brazil has been overall slow and irregular (Stabile et al 2012). But attractive ABC interest rates could be linked to further enhance compliance with environmental regulation. Certification schemes exclude producers who are not in compliance with environmental legislation, labour laws, and the rights of indigenous and traditional populations; these are still in early stages of development in Brazil (Stabile et al 2012), and would be an important area for further climate action when the political climate is more favourable again, and where future research is needed.

The implications of the recent environmental protection roll-back for emissions and carbon lock-in also need further research and review. Since 2011 GHG emissions, mainly from increased deforestation, have been rising again at rates higher than GDP (Viola and Franchini 2018). Agricultural emissions however have remained stable even as agricultural production has been rising steadily (ibid). Therefore, since 2009, the efforts of the Brazilian government to reduce deforestation also led to a gradual decoupling of agricultural expansion and deforestation and emissions due to government policies and changed agricultural management practices (Tritsch 2016; Viola and Franchini 2018). Low-carbon agriculture is effective in reducing emissions.
However, the dramatic shift in climate policy as well as in the international negotiation and in the reduction of emissions was already partially rolled back after 2010/2012 (Viola and Basso 2015, Macedo et al. 2012). While deforestation had been reduced at large scale in the first instance, the plan for 'economic development' of the Amazon biome was resumed under the PT administrations and intensified, benefiting consortia of infrastructure and extractive industries (Tautz et al. 2012, Mattei 2012). On the other hand, the environmental setback became clearly visible under Dilma Rousseff but Michel Temer's administration started the roll back that is now in full swing under the Bolsonaro administration and Environmental Secretary Salles. Was Lula da Silva's policy hence an anomaly? This would need to be analysed retrospectively in the next years. In the future, the impacts of the EU-Mercosur trade deal on demand for agricultural goods and related emissions will have to be observed and analysed.

10.3 Concluding Remarks and Outlook

Several authors (for example Edwards and Roberts 2015, Boucher et al. 2014) have argued that Brazil is a low carbon country, because of Brazil's extensive hydropower and biofuels systems and because it reduced its deforestation rates so significantly until 2015. However, it is among the world's biggest emitters and at the time of writing, the achievements in reducing deforestation and GHG emissions are being reversed. Traditionally Agriculture, Forestry and Other Land Use (AFOLU) was the sector with the biggest emissions but after the drop in deforestation rates, the energy sector became the highest emitter and transport is the largest energy-related emissions source, followed by industry, electricity generation, and buildings (La Rovere et al. 2013). Electricity generation is expected to become the dominant source of GHG emissions in the future (Edwards and Roberts 2015). In addition, we see a roll back in Amazonian policy and a revival of the sovereignty discourse (Pelicice and Castello (2021).

There was concern that a Bolsonaro victory could increase deforestation and compromise agribusiness. Researchers at the National Institute of Space Research (INPE) have calculated how deforestation might unfold under the dismantling of the country's environmental governance system and calculated that deforestation rates in the Amazon could more than triple. The civil society group Climate Observatory feared that the Bolsonaro government would dismantle Brazil's environmental governance, ignoring that Brazil's unique environmental patrimony is an asset, not a liability, which also demands a unique structure of regulation. They were to be proven right.[1] The pessimistic expectations have been exceeded in reality. In 2019 and 2020, the devastating forest fires kept the world in suspense and led to diplomatic complications (President Macron and Bolsonaro) (Brando et al. 2020).[2] In summer 2021 news reached the world that the Amazon turns from a carbon sink into a carbon source.[3]

At the time of writing, the COVID-19 crisis is claiming a high death toll in the interior of the country. In Amazonia, the spread of the virus is being exacerbated by illegal deforestation and extracting activities fostered by the federal government, emphasizing the fragile balance between environmental and human health (Alves 2020, Fonseca

[1] Girardi in Estadão 31.10.2018, https://sustentabilidade.estadao.com.br/blogs/ambiente-se/fusao-com-agricultura-pode-trazer-danos-para-as-duas-agendas-diz-ministro-do-meio-ambiente/, last accessed 27.12.2018.

[2] CNBC 23.08.2019, https://www.cnbc.com/2019/08/23/brazils-bolsonaro-hits-back-at-frances-macron-over-amazon-fires.html, last accessed 13.12.2020

[3] https://www.theguardian.com/environment/2021/jul/14/amazon-rainforest-now-emitting-more-co2-than-it-absorbs, last accessed 18.8.2021.

Morello 2021, Santos et al. 2021). I hope that one day the political situation will change and that my research will contribute to understanding how a different climate policy for Brazil was possible, and will be possible again.

Chapter 11

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Appendix A

Examples of Coding Results

Interview group 1 (Government)

Emerging themes from first and second round of coding:

- Sovereignty and energy security as rationale for bioenergy in Brazil
- International commodity prices as a cause of the bioenergy crisis
- Climate change both as a threat and opportunity
- Climate finance as insufficient
- Access to climate finance is difficult for small actors due to lack of capacities
- Lacking incentive structures prevent sustainable land use
- Lack of tenure regulation as a core problem
- Participation and consultation as a way to receive information and give information
- Political parties as profit driven (lack of ideological profiles)

Emerging themes from third round of coding:

- Private sector as a rational actor
- Bioenergy sector shaped by both political considerations and economic opportunities
- Information sharing as neutral / interest free process

- Benefit sharing within government coalitions
- Impossibility of political reform
- Strong focus on command and control (rather than positive incentives)
- Obstacles for small-scale access inbuilt in system
- Lack of willingness to regulate tenure as a core problem
- Political tradition of participation

Interview group 2 (NGOs)

Examples of emerging themes from first and second round of coding:

- Deforestation control as a national effort
- Deforestation control as a national responsibility
- The costs of deforestation vs. the costs of avoiding deforestation
- Knowledge and awareness as key factors/ key obstacles
- Superior technical capacities of agribusiness enable political access and influence
- Brazil as a pilot site for Norwegian climate finance delivery
- Contradiction between the purpose of climate finance and the traditional pipeline of projects of BNDES, the manager of climate finance
- Contradiction between the provisions in the law and the reality regarding governance of the Amazon Fund
- Role of the state / its absence in core tasks
- Lack of ambition
- Difficulties of small-scale access to climate finance: transaction costs
- Tenure as a key obstacle for access to climate finance
- Scale of climate finance versus conventional subsidies and project finance
- The interventionist State

- Rich country – poor society

Examples of emerging themes from third round of coding:

- Ownership of the process and claim for recognition
- Competing roles of state and civil society, voluntarily and involuntarily
- Overemphasis on deforestation as a source of emissions
- Knowledge as a neutral concept, technical barriers as main problem in access
- Deforestation control as ‘distraction’
- Quality of democracy
- Decentralized responsibilities but no distributive policies
- Transparency as a means for evolution of policies and practices

Appendix B

Ethical Cleareance Form

ETHICAL APPROVAL – GUIDANCE NOTES

UNIVERSITY OF EAST ANGLIA
INTERNATIONAL DEVELOPMENT RESEARCH ETHICS COMMITTEE

GUIDANCE NOTES

These notes are in three sections: general information (for all applicants); additional information for students (UG/PGT/PGR) and additional information for faculty/research associates.

1. GENERAL

Guidance on ethics is available in the International Development Ethics Handbook and on the UEA website http://www.uea.ac.uk/dev/ethics Please consult these sources of information before filling this form.

STUDENTS

You must submit this application form and any accompanying documents as follows:-

1) Electronically to Professor Janet Seeley - j.seeley@uea.ac.uk, with a copy to dev.ethics@uea.ac.uk **AND** copy to your Supervisor.
(Consent forms etc should be submitted as separate documents and not included in the same file as the ethics form. Complete the top of the Part B page)

2) A hard copy INCLUDING THE **REQUIRED SIGNATURES** to:
DEV Local Office, room ARTS 1.72, School of International Development.

Checklist: **BEFORE** submitting please check the following:

- ✓ You have included a consent form and an interview schedule/ survey if these are being used in the research
- ✓ Your Supervisor has read and commented on your ethics form and accompanying materials (consent form, questionnaire or interview schedule if these are being used)
- ✓ You and your Supervisor have signed the original form
- ✓ You have included *your name in the file name* of the electronic copy of the form and any accompanying documents. **Forms which are not properly labelled will be returned and may miss the deadline for that month's ethics committee meeting**. You have you completed the top Section of the PART B of the form (on the last page)
- ✓ You have copied your supervisor in on the electronic submission
- ✓ You have submitted a risk assessment form signed by you and your supervisor to Learning and Teaching Services

ALL OTHER APPLICANTS

You must submit this application form and any accompanying documents as follows:-

1) Electronically to Professor Janet Seeley - j.seeley@uea.ac.uk, with a copy to dev.ethics@uea.ac.uk. (Consent forms, etc should be submitted as separate documents and not included in the same file as the ethics form. Complete the top of the Part B page. Include your name in the file name of the electronic copy)

2) A hard copy INCLUDING THE **REQUIRED SIGNATURES** to DEV Local Office (Room 1.72), Arts 1, School of International Development.

- **RESUBMISSION** – if you are asked to resubmit your application following review by the committee, please resubmit a new signed hard copy and electronic form, **PLUS** **include a letter** with your revised application **detailing** how you have responded to the committee's comments. The covering letter should be submitted as a separate file, not included within the ethics form.

2. Additional information for Students (Undergraduate and Postgraduate taught and Postgraduate research)

Students should ensure that their supervisor has read and approved their application, and any subsequent resubmissions.

a) DEV UG/PGT students must include their ethics form as an appendix in their dissertations.
b) DEV UG/PGT students who seek ethical clearance, and therefore include their form as an appendix, must include a brief paragraph (which may be expanded in an appendix, if space is limited) describing the ethical issues related to their research and any changes to their outline procedures.
c) Applicants should not start data collection before ethical approval is granted.
d) Postgraduate research students will be required to submit a one page report on the ethical issues related to their research to the PGR students office at the conclusion of their fieldwork, which will be forwarded to the Chair (the PGR students hub will have a record of who seeks ethical clearance from the International Development Committee or from another Committee).
e) Postgraduate research students are expected to include their ethics form as an appendix in their thesis and explain their approach to ethical issues in their thesis. Examiners are increasingly aware of ethical issues in research and may well ask questions related to the ethics of research during the viva voce.
f) Separate guidance is available for UG Development Work Experience students in the School of International Development. Please consult course directors.

3. Additional information for Faculty/Research Associates Faculty members/research associates are invited to submit a copy of their full proposal with this form.

Dev Faculty/DevCo associates members should submit a report on the ethical issues related to their research to DEVCo at the conclusion of their project, which will be forwarded to the Chair (DEVCo will have a record of who seeks ethical clearance from the International Development Ethics Committee or from another Committee). Please use the form available at https://intranet.uea.ac.uk/dev/intranet/ethics (if you do not have access to the intranet please request the form from Dev.general@uea.ac.uk or from the Committee Chair).

Faculty/research associates who access research funding via SSF/other route, rather than DEV, will be asked to voluntarily send their report to the Chair of the International Development Ethics committee (a list will be kept by the Chair of such projects so that we can check).

Faculty/research associates with projects that last more than one year will be required to submit an annual report to the Chair of the International Development Ethics committee reporting on progress. Please use the form, which should not time consuming to fill in—the template is available at

ETHICAL APPROVAL – GUIDANCE NOTES

UNIVERSITY OF EAST ANGLIA

INTERNATIONAL DEVELOPMENT RESEARCH ETHICS COMMITTEE

https://intranet.uea.ac.uk/dev/intranet/ethics (if you do not have access to the intranet please request the template from Dev.ethics@uea.ac.uk or from the Committee Chair)

University of East Anglia

APPLICATION FOR ETHICAL APPROVAL – PART A

UNIVERSITY OF EAST ANGLIA
INTERNATIONAL DEVELOPMENT RESEARCH ETHICS COMMITTEE

COMPLETE ALL SECTIONS IN **PART A** AND APPLICANT INFORMATION IN **PART B**

APPLICANT INFORMATION

Forename	Ursula
Surname	Flossmann-Kraus
Gender	Female
Student ID number *(if applicable)*	100031292
Contact email address	u.flossmann-kraus@uea.ac.uk
Date application form submitted	7.12.2013
1st application or resubmission?	1st application

PROJECT INFORMATION

Project Title	Governance of Climate Finance in Brazil

** DEV/DEVco faculty or DEVco research associate applications only:*

* Project Funder	
* Submitted by SSF or DEVco?	
If yes – Project Code:	

Postgraduate research students only:

Date of your PP presentation	25.09.2013

PERSON(S) SUBMITTING RESEARCH PROPOSAL

Name(s) of all person(s) submitting research proposal. Including main applicant	Status (BA/BSc/MA/MSc/MRes/ MPhil/PhD/research associate/faculty etc.) Students: specify your course	Department/Group/ Institute/Centre
Ursula Flossmann-Kraus	MPhil/research	DEV

SUPERVISOR AUTHORISATION

In the case of undergraduate and postgraduate research, please give details of supervisor(s). The Supervisor is asked to certify the accuracy of the following account. If the supervisor is out of the country at the time of submission they should send an email to the Chair of the ethics committee (j.seeley@uea.ac.uk), copied to dev.ethics@uea.ac.uk stating that they have seen and approved the application.

Name of supervisor(s)	Position held
Prof. Declan Conway Dr. Heike Schroeder	DEV Professor DEV Senior lecturer
Signature *(supervisor of student)*	Date

APPLICANT SIGNATURE

Signature *(proposer of research)*	Date

APPLICANT SIGNATURE

1. OVERVIEW OF THE STUDY

Describe the purposes of the research/project proposed. Detail the methods to be used and the research questions. Provide any other relevant background which will allow the reviewers to contextualise your research or project activities. Include questionnaires/checklists as attachments, if appropriate.

Climate change has become a widely acknowledged development challenge of our times, which is expected to stress water and food resources as well as local infrastructure and economic activity - jeopardizing already achieved development goals (IPCC 2007). The international community as the Conference of the Parties (COP) to the United Nations Convention on Climate Change (UNFCCC) announced in Copenhagen and formally reiterated in Cancun and Durban its pledge to considerably increase the scale of funding for mitigation and adaptation to climate change in developing countries (hereafter *climate finance*) to 100 billion USD annually by the year 2020. Copenhagen also gave the start signal to the establishment of the Green Climate Fund (GCF), through which a considerable amount of climate finance shall be channelled in the future and which already has resumed work. It was further agreed that in the provision of climate finance adaptation and mitigation should be addressed with the same priority.

However, after almost five years since Copenhagen, it seems unlikely that the proposed amount of climate finance will actually be raised and that the amount raised will be sufficient to meet all identified needs (Buchner et al 2012:63). This poses the challenge of prioritization in spending the limited amount of resources (Bird et al 2013:3). The same problem arises at the national level where budgetary resources are never sufficient to meet all spending needs (Bird et al 2013:3). Accessing, managing and spending climate finance in a way to effectively reduce vulnerability and reduce greenhouse gas emissions is a big challenge for national governments (Donner et al 2011:908) and the international community alike (Bird et al 2013).

This research is asking: “What determines access and allocation of climate finance in Brazil?”

Sub questions:

1. Who governs climate policy and climate finance in Brazil?
2. How does the international level shape the scope for action for the national level in accessing and managing climate finance
3. By whom and how is Brazil’s climate policy and policy towards climate finance being shaped?
4. Which social, economic and political factors influence climate finance access and allocation in Brazil?
5. What are the barriers to climate finance access and how are they being perceived?

Methodology:

This PhD project is a single case study of a country selected because of its relevance and availability of empirical data.

1. The first step in my methodology is a document review, to be conduct for both the international discourse level (UNFCCC meeting reports, country submissions, COP decisions etc) and the Brazilian climate policy level (the relevant documents include e.g. the Plan of Action for Conservation of the Legal Amazon (2004), the Climate Change Plan etc.; NGO statements and broad sheet newspaper articles).

2. The second step is a mapping of relevant actors and stakeholders following Luttrell et al. (2012) as well as an analysis of their roles and relationships with the help of literature and official

1. OVERVIEW OF THE STUDY

documents such as laws. Different actors and networks of actors will be relevant for climate finance in different sectors and three different clusters will be created: mitigation (energy, energy efficiency, transport, waste), adaptation (including ecosystem based adaptation) and land use (including reforestation, aforestation, agroforestry, avoided deforestation and forest conservation, monitoring and fire fighting, climate smart agriculture and other land relevant activities). A second step will differentiate between the three climate funds Amazon Fund, Fundo Clima and ABC Programme.

3. Based on the clustering in step 2, maps of actor networks and flowcharts of relevant decision-making and budgeting processes will be created.

4. The fourth part of is the generation of primary data in the country of study (Brazil) in a two-step approach: Under sub-question 5 a survey will be conducted with organizations and/or municipalities via email or during phone calls. Through coding and analysing the answers a pool of organizations will be created, which are worth contacting for in-depth interviews. The survey will have very open questions, such as “have you heard of the Amazon Fund/Fundo Clima?”, “have you ever applied to one of these funds?”, “if so has your application be successful?”, “what do you think have been the reasons?” etc. Through this method the researcher expects not only to find institutions which can give valuable information during an interviews in a next step, but that interesting conclusions about the patterns that underlie the allocation of money through the two national climate funds and the main barriers to access to these funds can be drawn already.

Finally semi-structured interviews with those organizations /NGOs which came out as relevant candidates in my survey as well as with selected policy-makers will be conducted.

5. During the stay at CPI Rio, a dataset will be created containing figures of financial allocation and disbursement under the ABC Programme, the Amazon Fund and the Fundo Clima. If data and time allows, statistical tests will be performed to analyze a possible pattern in allocation of funds.

Field Work Schedule:

Phase 1: January 9 – February 21, 2014 at Climate Policy Initiative (CPI), Rio de Janeiro

- Portuguese refreshment course (3 weeks minimum)
- Translation of survey
- Literature review
- Desk research at Climate Policy Initiative (CPI) Rio, presentation of research framework and improvement of framework
- Data collection and analysis of NGO statements and broadsheet newspaper articles for discourse analysis on the establishments of the 3 climate funds
- Data collection on ABC Programme for Low Carbon Agriculture through CPI network
- Discussion of methodology for a quantitative analysis with CPI Rio (Prof Juliano Asuncao)
- First round of interviews with:
- Ministry of Environment (MMA) in Rio
- Brazilian Development Bank (BNDES) in Rio
- Amazon Fund staff
- Fundo Clima staff
- Petrobras in Sao Paolo
- KfW in Sao Paolo
- Identification of further interview partners and research participants

1. OVERVIEW OF THE STUDY

Phase 4: Early March – travel to Amazonia (Manaus and/or Acre)

- Contacts and exchange with researchers at the University of Amazonia in Manaus
- Interviews with:
- Municipality of Manaus
- Research IBAMA
- NGOs

Phase 5: March – May 2014 at University of Brasilia

- Presentation of first findings and exchange at the University of Brasilia, collaboration in postgraduate research group
- Conduct of survey and analysis of survey
- Interviews with selected stakeholders including:
- Ministry of Environment (MMA) in Brasilia
- Department of Agricultural Research (EMBRAPA) in Brasilia
- Representatives of Norway, Germany and European Commission in Brasilia
- Donor organizations (Norway, KfW)
- Preliminary analysis of collected data

Phase 5: June 2014, Follow up phase Brasilia and Rio

- Verification of data with selected research participants
- Presentation of results at host institution and with selected research participants

2. SOURCES OF FUNDING

The organisation, individual or group providing finance for the study/project.

Self funded

3. RISKS OR COSTS TO PARTICIPANTS

What risks or costs to the participants are entailed in involvement in the research/project? Are there any potential physical, psychological or disclosure dangers that can be anticipated? What is the possible benefit or harm to the subject or society from their participation or from the project as a whole? What procedures have been established for the care and protection of participants (e.g. insurance, medical cover) and the control of any information gained from them or about them?

Participants include staff of Government agencies, the Amazon Fund, finance institutions, NGOs and development partners as well as members or research institutions.

Risks:

There are no direct costs, potential physical, psychological or disclosure dangers associated with this research. However, all matters related to public finance are usually regarded as sensitive and subject of national sovereignty. Hence participants – depending on their role and position – might be reluctant to discuss details of climate finance allocation and disbursement unless anonymity is granted.

3. RISKS OR COSTS TO PARTICIPANTS

Therefore informed consent of the participants will be sought before each interview. In any presentation of the findings, names of participants will remain anonymous. However, for the research presentation it might be necessary to identify the affiliated organization of an individual. In general, data will only be related to the organization type and country (e.g. Brazilian NGO representative, Brazilian Government). If for purposes of clarity the specific organization needs to be identified, permission will be sought and needs to be granted from the person interviewed. This option will be indicated on the consent form to be approved by every participant before the interview. The researcher will also refrain from referring to the date of the interview/conversation if asked to do so by the respondent. Interviews/conversations written notes and electronic recordings will be assured confidentiality through secured data storage on a password encoded laptop with sole access by the author.

Opportunities:

Participants in the research can benefit from reflecting upon the allocation and disbursement of climate finance in Brazil and whether it is tailored to meet the needs and goals it was leveraged for. Brazilian society can benefit from this analysis and formulate an opinion about the use of domestic and international funds in Brazil. The host research institutions (CPI and UNB) can benefit from contacts and future collaborations with UEA.

4. RECRUITMENT/SELECTION PROCEDURES

How will study/project participants be selected? Is there any sense in which participants might be 'obliged' to participate – as in the case of students, prisoners or patients – or are volunteers being recruited? If participation is compulsory, the potential consequences of non-compliance must be indicated to participants; if voluntary, entitlement to withdraw consent must be indicated and when that entitlement lapses.

Participants will be selected according to the institution they belong to or work for (approximately 5 interview partners for each of the 3 climate funds; 10 for donor agencies and project stakeholders; 10 for private sector, NGOs and Academia with the aim of conducting 50 interviews in total). Only representatives from institutions, which are considered significant for climate finance in Brazil interviewed. Participants are neither students, prisoners, patients, nor in a position in which they would feel obliged to participate.

The researcher will be interacting with a wide range of participants. Interviewees might be members of representatives of national governments (on the national, province or municipal level), NGOs, development partners such as the bilateral and multilateral development agencies, think tanks, research institutes. The interview request will be transmitted via email and phone call, persons participating in the interviews will do so voluntarily and will be free to decline to participate in the research or to leave the interview at any time without giving reasons. Participants will also be free to withdraw their consent for the information they have given to be used in the research, as long as they communicate this wish to the researcher within the 30 days following the interview. Where consent is withdrawn, the information from the interview will not be used in the research publications. Where individuals decline to participate an alternative person will be approached if appropriate. Participants will be required to give permission before audio recording of the interview takes place. Where participants decline to be recorded, the researcher will take notes herself. The interviews will be conducted in Portuguese with the help of a translator.

Contacts with interview partners will be made via email or through intermediaries (contact person at the University of Brasila, the German International Cooperation, the University of Sao Paolo, CPI Rio and other personal connections). The survey to be used among agencies such as NGOs which are potential applicants to the Amazon Fund and the Fundo Clima will be emailed and followed up via phone call. Answers to the questions in the survey will be analyzed anonymously. Agencies responding to the questionnaire will be asked for an interview.

5. PARTICIPANTS IN DEPENDENT RELATIONSHIPS

Specify whether participants will include students or others in a dependent relationship (this could affect their ability to decline to participate). If such participants will be included what will you do to ensure that their participation is voluntary etc.?

Respondents will not include students or others in a dependent relationship.

6. VULNERABLE INDIVIDUALS

Specify whether the research will include children or people with mental illness. If so, please explain the necessity of involving these individuals as research participants and what will be done to facilitate their participation.

Neither minors nor people with mental illness will be part of this study.

7. PAYMENTS AND INCENTIVES

Will payment or any other incentive, such as a gift or free services, be made to any participant? If so, please specify and state the level of payment to be made and/or the source of the funds/gift/free service to be used. Please explain the justification for offering payment or other incentive.

The participants will neither receive payment nor any other incentive or free service to participate in the study. Brazilian law forbids offering any payment or other benefit for any reason to civil servants, government researchers or other individuals working for the state.

8. CONSENT

Please give details of how consent is to be obtained. A copy of the proposed consent form, along with a separate information sheet, written in simple, non-technical language MUST accompany this proposal form (do not include the text of the form in this space, attach with your submission as a separate document).

Consent will be sought both verbally and in a written form, by provision of an introductory letter using non-technical language, by talking through and giving the participant a copy of an information sheet with a consent form. However, certain groups of interviewees (government employees) in Brazil are likely to be uncomfortable with signing a consent form out of fear that the researcher aims at unveiling mismanagement or corrupt practices. Consent can therefore be sought written or verbally. The researcher will give the participant the opportunity to ask any questions they have about the research and provide appropriate explanations. On the rare occasion that someone is unable to give written consent, they will only be able to participate if verbal consent is given.

The consent form will be in Portuguese and English. This consent forms will be attached.

9. CULTURAL, SOCIAL, GENDER-BASED CHARACTERISTICS

Comment on any cultural, social or gender-based characteristics of the participants which have affected the design of the project or which may affect its conduct.

9. CULTURAL, SOCIAL, GENDER-BASED CHARACTERISTICS

The researcher will take care to be well informed of religious, culturally and gender-specific sensitive customs or expectations in the different regions of Brazil so as not to cause offence by her conduct or dress. The researcher is aware that different strategies may be required to communicate to civil servants or expat respondents than to local level officials as well as to males and females. Participants' responses may be influenced by their perception of what information they think the researcher would like to hear and certain cultural norms such as gender norms. Through the researcher's background as a 'white' European, expectations could be raised about material benefits, personal links to European employers. Advice from local experts will be sought in situations where the researcher is unsure her presence might influence research participants.

10. ENVIRONMENTAL IMPACT

Identify any environmental impacts arising from your research/project and the measures you will take to minimise risk of impact.

The environmental impact of this research will include the emission of Green House Gases, such as CO2 through the use of airplanes and other motorized vehicles such as buses for travelling to the research sights, which are mainly in the bigger cities Brasilia and Rio.

During the a long distance flight to Brazil as well as at least 4 domestic flights between Rio, Sao Paolo, Manaus and Brasilia will be necessary.

11. CONFIDENTIALITY

Please state who will have access to the data and what measures which will be adopted to maintain the confidentiality of the research subject and to comply with data protection requirements e.g. will the data be anonymised?

The researcher (Ursula Flossmann-Kraus) and PhD supervisors (Heike Schroeder and Declan Conway) will have access to the data. They agree (through signing this form) to treat the information as confidential by not discussing it or passing copies of it to anyone else and to abide by their commitments to maintaining participants' anonymity. She will also be required to keep the data on the computer, in notebooks and audio recordings safe (for example through coding the data, applying passwords, keeping notebooks in a locked filing cabinet or room). Data may only be passed on to other persons, where appropriate, once it has been anonymised.
All possible efforts to maintain confidentiality and anonymity will be sought in the event of a Freedom of Information request regarding the data by seeking advice from the University Freedom of Information Officer and relevant codes of conduct.

12. THIRD PARTY DATA

Will you require access to data on participants held by a third party? In cases where participants will be identified from information held by another party (for example, a doctor or school) describe the arrangements you intend to make to gain access to this information.

Not applicable

13. PROTECTION OF RESEARCHER (APPLICANT)

Please state briefly any precautions being taken to protect your health and safety. Have you taken out travel and health insurance for the full period of the research? If not, why not. Have you read and acted upon FCO travel advice (website)? If acted upon, how?

13. PROTECTION OF RESEARCHER (APPLICANT)

The UEA medical centre will be consulted to discuss possible vaccinations and health and safety advice. A medical insurance has been obtained from the UEA medical service covering the entire field work period.

The researcher will be registered with the German embassy during the time of fieldwork. The FCO travel advise as well as the equivalent website of the German Foreign Office will be checked regularly on travel advise updates. Contacts and friends in Brazil will be consulted for advise how to stay safe in the respective areas. Regular contact with supervisors as well as friends and family at home will be ensured. The researcher will carry a mobile phone and emergency telephone numbers. Wherever possible interviews will be conducted in public places or offices where other people are around rather than in private homes or otherwise potentially risky locations. The safety of the researcher will be an important consideration in the choice of the public transport used and the accommodation chosen. As a general rule, the consumption of alcohol or going out alone after dark will be avoided. The carriage of value items will be kept to a minimum and travel documents will be photocopied and secured in a safe place separate from the originals.

14. PROTECTION OF OTHER RESEARCHERS

Please state briefly any precautions being taken to protect the health and safety of other researchers and others associated with the project (as distinct from the participants or the applicant).
Not applicable.

15. RESEARCH PERMISSIONS (INCLUDING ETHICAL CLEARANCE) IN HOST COUNTRY AND/OR ORGANISATION

The UEA's staff and students will seek to comply with travel and research guidance provided by the British Government and the Governments (and Embassies) of host countries. This pertains to research permission, in-country ethical clearance, visas, health and safety information, and other travel advisory notices where applicable. If this research project is being undertaken outside the UK, has formal permission/a research permit been sought to conduct this research? Please describe the action you have taken and if a formal permit has not been sought please explain why this is not necessary/appropriate (for very short studies it is not always appropriate to apply for formal clearance, for example).
Formal affiliation with a host institution (the Department of International Relations at the University of Brasilia) has been established. The researcher will be enrolled as a doctoral student at the University of Brasilia. The Chair of the Department for International Relations at the University of Brasilia has confirmed this in writing by letter. The paperwork for obtaining a visa for Brazil has been prepared and the visa application will take place in Frankfurt, Germany between December 9 and 13. In-country research permit and ethical clearance will be obtained once arrived in the country.

16. MONITORING OF RESEARCH

What procedures are in place for monitoring the research/project (by funding agency, supervisor, community, self etc).
During field work from January to June 2014, contact will be maintained via email and skype to monitor progress and seek advise. A report will be written about the outcome of the fieldwork.

17. ANTICIPATED USE OF RESEARCH DATA ETC

What is the anticipated use of the data, forms of publication and dissemination of findings etc.?
The data collected as well as the analysis of the findings will primarily be used for the creation of the PhD thesis and subsequent publications and conference presentations.

18. FEEDBACK TO PARTICIPANTS

Will the data or findings of this research/project be made available to participants? If so, specify the form and timescale for feedback. What commitments will be made to participants regarding feedback? How will these obligations be verified?
All published reports, journal articles and conference papers arising from the research will be made available to participants who express interest. Participants will be given the chance to ask questions on specific areas of interest, opening up the opportunity for information sharing and discourse between parties. Contact details enabling participants to make future contact with the researcher (Ursula Flossmann-Kraus) will be provided on an information sheet handed out at the interview.

19. DURATION OF PROJECT

The start date should not be within the 2 months after the submission of this application, to allow for clearance to be processed.

Start date	End date
08.01.2014	26.06.2014

20. PROJECT LOCATION(S)

Please state location(s) where the research will be carried out.

Rio de Janeiro (and Sao Paolo):

- language refresher course in January 2014
- collaboration with CPI / collection of quantitative data through CPI datasets January – February 2014
- first round of interviews (Ministry of Environment, Amazon Fund, BNDES, Fundo Clima, development partners, research institutes, NGOs and private sector (Petrobras) January – February 2014
- follow up interviews in June 2014
- validation of findings with research participants in June 2014

Manaus:

- interviews (Municipality of Manaus, University of Amazonia, research institutes (IPAM), regional environmental agencies (IBAMA), NGOs) in February / March 2014

Acre:

- Interviews (state government of Acre, potentially with project stakeholders)
- potentially visit project sites in February / March 2014

Brasilia:

- participation in postgraduate researcher group at the Department for International Relations of the University of Brasilia, March – May 2014
- second round of interviews (with national government agencies (Ministry of Environment, Ministry of Agriculture), development partners (Norway, KfW), March – May 2014

University of East Anglia

REVIEW REPORT AND DECISION - PART B

UNIVERSITY OF EAST ANGLIA
INTERNATIONAL DEVELOPMENT RESEARCH ETHICS COMMITTEE

APPLICANT INFORMATION

To be completed by the applicant

Forename	Ursula
Surname	Flossmann-Kraus
Student ID number *(if applicable)*	100031292
UG, PGT or PGR *(if applicable)*	PGR
Supervisor *(if applicable)*	Declan Conway and Heike Schroeder
Project Title	Governance of Climate Finance in Brazil

RESUBMISSIONS – IF YOU ARE ASKED TO RESUBMIT YOUR APPLICATION FOLLOWING REVIEW BY THE COMMITTEE PLEASE **INCLUDE A LETTER** WITH YOUR REVISED APPLICATION DETAILING HOW YOU HAVE RESPONDED TO THE COMMITTEE'S COMMENTS. Students please ensure your supervisor has approved your revisions before resubmission.

REVIEWER'S RECOMMENDATION (✓)

To be completed by the Ethics Committee

Accept	
Request modifications	
Reject	

REVIEWERS' CHECKLIST

Delete as appropriate

Risks and inconvenience to participants are minimised and not unreasonable given the research question/ project purpose.	✓	×
All relevant ethical issues are acknowledged and understood by the researcher.	✓	×
Procedures for informed consent are sufficient and appropriate	✓	×

REVIEWERS' COMMENTS

COMMITTEE'S RECOMMENDATION

SIGNATURE (CHAIR OF THE INTERNATIONAL DEVELOPMENT ETHICS COMMITTEE)

Signature	Date

Official use only – Ref. no.