



**Utrecht
University**

EXPLORING THE FINANCING OF
NATURE-BASED SOLUTIONS BY
TRANSNATIONAL GOVERNANCE
INITIATIVES

Master Thesis – MSc Sustainable Development

Track: Earth System Governance

ECTS: 45

Name: Marie Sijbers

Supervisor: Prof. Dr. Harriet Bulkeley

Date: 13/07/2023

Acknowledgements

I would like to express my sincere gratitude to Harriet Bulkeley for her supervision and guidance throughout the process of writing this thesis. Her expertise in the field of transnational governance and climate finance has been extremely valuable, providing me with useful insights that greatly contributed to shaping this study into a coherent piece of research.

Second, I would like to thank Andrew Denault for setting me up with the data needed for my research and helping me think through my methodology and analyses. His help was instrumental in enabling the correct and systematic analysis of the database and saved me many hours of figuring out excel functions and shortcuts.

Third, I would like to thank Sarah Hughes-McLure for meeting with me and helping me to tailor her 'follow-the-money' methodology to this research. Our conversation provided me with valuable information that helped me to determine how to best approach my case study analysis.

Finally, thank you to family and friends who supported me throughout the process and pried me away from my laptop once in a while.

Abstract

Climate change and biodiversity loss are interdependent issues that require integrated solutions. Nature-Based Solutions (NBS) are one example of an intervention that can address climate and biodiversity objectives simultaneously. However, their uptake is hindered by a lack of funding. In research on climate finance, little is known about joint climate-biodiversity funding that flows to such integrated solutions. As funding gaps widen, there are increasing calls for non-state actors to contribute to scaling up funding for NBS. Among such non-state actors, a group of organizations that may come to play a bigger role is transnational governance initiatives (TGIs). These initiatives are increasingly supplementing more traditional governance in the climate domain. They engage in governance in multiple ways, including through the provision of finance. This research therefore examines the ways in which TGIs shape finance flows for NBS that address climate and biodiversity goals. It examines the trends and patterns in TGI-mediated financing using a mixed methods research design that includes quantitative data analysis and a qualitative comparative case study. It relies on the Climate-Cooperatives Database by the German Institute for Development and Sustainability as its main data source. The study is conducted through the lens of Critical Political Economy theory and aims to provide deeper insight into the social and economic relations, power structures and dependencies that shape these funding flows. The research reveals that TGIs tend to follow a funding model similar to traditional development finance; they facilitate funding flows from the Global North to the Global South and funding is mainly provided using traditional financial instruments. However, TGIs also give agency to non-state actors to influence and steer funding flows, particularly international conservation non-governmental organizations. In addition, through the conditionality of their funding, TGIs support the development of innovative financial instruments in beneficiary locations. Finally, the actors funding, governing and leading the initiatives mainly originate in the Global North, while the initiatives tend to implement in the Global South. The decision-making power regarding the allocation of funds resides predominantly with Northern actors, while Southern actors appear as project participants and beneficiaries. Consequently, this research argues that TGIs can play a role in providing joint climate-biodiversity finance but may uphold existing patterns of political economy associated with neoliberalism, particularly North-South dependencies on finance.

Key concepts: Transnational Governance; Climate Finance; Biodiversity Finance, Nature-Based Solutions

Table of Contents

Acknowledgements	1
Abstract	2
List of abbreviations	5
Chapter 1: Introduction	7
1.1 Background information	7
1.2 Research objective	10
1.3 Research questions	10
1.4 Research framework.....	11
1.5 Social and scientific relevance.....	12
Chapter 2: Critical Political Economy	13
2.1 Theoretical framework: Critical Political Economy	13
2.2 The political economies of climate finance for nature.....	15
2.2.1 Who governs climate finance for nature?.....	15
2.2.2 How is climate finance for nature governed?	19
2.2.3 On whose behalf is climate finance for nature governed?	24
2.3 The political economies of transnational governance initiatives.....	26
2.3.1 Who governs in transnational governance initiatives?.....	27
2.3.2 How do transnational governance initiatives govern climate finance?.....	28
2.3.3 On whose behalf do transnational governance initiatives govern climate finance?	30
2.4 Bringing together climate finance for nature and transnational governance	32
Chapter 3: Methodology	34
3.1 Research strategy.....	34
3.2 Case selection	34
3.2.1 Data source: the Climate-Cooperative Initiatives Database	34
3.2.2 Case selection phase 1.....	37
3.2.3 Case selection phase 2.....	37
3.2.4 Case selection phase 3.....	38
3.3 Research methods	39
3.4 Research materials, data collection and data analysis	41
Chapter 4: Results and discussion C-CID analysis	43
4.1 Who governs?.....	43
4.1.1 Initiative types	43
4.1.2 Leader analysis – actor types	43
4.1.3 Leader analysis – geographical distribution	44
4.1.4 Leader analysis – top actors	45
4.1.5 Funder analysis – actor types	45
4.1.6 Funder analysis – actor types per issue area	47
4.1.7 Funder analysis – geographic distribution	47
4.1.8 Funder analysis – top actors.....	48
4.1.9 Funder analysis – actors with a funding and leading function.....	49
4.1.10 Who governs? – blended finance	50

4.2 <i>How do they govern?</i>	50
4.2.1 Functions analysis – all initiatives.....	50
4.2.2 Functions analysis – initiative types	51
4.2.3 Functions analysis – issue areas	52
4.2.4 Financial instruments	52
4.2.5 Financial instruments – Supported instruments.....	54
4.2.6 Indirect funding sources	55
4.3 <i>On Whose Behalf?</i>	56
4.3.1 Output analysis – functions v outputs.....	56
4.3.2 Output analysis - geography.....	57
4.3.3 Output analysis – income category	59
4.3.4 Output analysis – planned v actual implementation	59
4.4 <i>Discussion</i>	61
Chapter 5: Results and discussion case studies	65
5.1 <i>Blue Forests Project</i>	65
5.1.1 Who governs?.....	66
5.1.2 How do they govern?	68
5.1.3 On whose behalf?.....	71
5.2 <i>Caribbean Biodiversity Fund</i>	74
5.2.1 Who governs?.....	75
5.2.2 How do they govern?	77
5.2.3 On whose behalf?.....	80
5.3 <i>Ocean Risk and Resilience Action Alliance</i>	83
5.3.1 Who governs?.....	84
5.3.2 How do they govern?	86
5.3.3 On whose behalf?.....	89
5.4 <i>Discussion</i>	91
Chapter 6: Conclusions	99
6.1 <i>Limitations and further research</i>	100
Reference list.....	103
<i>Appendix A: Interviewees</i>	116
<i>Appendix B: Initiative type categorization</i>	117
<i>Appendix C: Funder actor type distribution per issue area</i>	119
<i>Appendix D: Geographical distribution of funders per issue area</i>	120
<i>Appendix E: Blue Forest Project – additional data</i>	121
<i>Appendix F: Caribbean Biodiversity Fund - additional data</i>	122
<i>Appendix G: Ocean Risk and Resilience Action Alliance – additional data</i>	124

List of abbreviations

- ACES** – Association for Coastal Ecosystem Services
- BFP** – Blue Forests Project
- BRICSAM** – Brazil, India, China, South Africa, Mexico
- C-CID** – Climate Cooperative Initiatives Database
- CBD** – Convention on Biological Diversity
- CBF** – Caribbean Biodiversity Fund
- CCI** – Caribbean Challenge Initiative
- CFA** – Community Forest Association
- CFP** – Call for Proposals
- CPE** – Critical Political Economy
- DFI** – Development Finance institution
- GCF** – Green Climate Fund
- GEF** – Global Environment Facility
- GFDRR** - Global Facility for Disaster Reduction and Recovery
- GRP** – Global Resilience Partnership
- ICI** – International Climate Cooperative
- IDOS** – German Institute for Development and Sustainability
- IUCN** – International Union for the Conservation of Nature
- LDCs** – Least Developed Countries
- MAR** – Mesoamerican Reef
- MDGs** – Millennium Development Goals
- MPA** – Marine Protected Area
- NBS** – Nature-Based Solution
- NCTF** – National Conservation Trust Fund
- NGO** – Non-Governmental Organization
- ODA** – Official Development Assistance
- OECD** – Organization for Economic Co-operation and Development
- ORIC** – Ocean Resilience and Innovation Challenge
- ORRAA** – Ocean Risk and Resilience Action Alliance
- PCU** – Project Coordinating Unit

PES – Payments for Ecosystem Services

PSC – Project Steering Committee

PVC – Plan Vivo Certificate

REDD – Reducing Emissions from Deforestation and Forest Degradation

SDGs – Sustainable Development Goals

SIDS – Small Island Developing States

TASA - Turneffe Atoll Sustainability Association

TGI – Transnational Governance Initiative

TNC – The Nature Conservancy

UN – United Nations

UNDP – United Nations Development Program

UNEP – United Nations Environment Program

UNFCCC – United Nations Framework convention on Climate Change

WACA – West Africa Coastal Areas Management Program

WTW – Willis Towers Watson

WWF – World Wildlife Fund

Chapter 1: Introduction

This chapter sets the stage for the research by demonstrating how the three concepts of nature-based solutions, climate finance and transnational governance initiatives intersect and create an avenue of research that to date remains mostly unexplored. It provides background information on the problem at hand, describes the research gap and explains how this study aims to address it. In addition, it presents the research questions guiding the study and outlines how these will be addressed in the research framework.

1.1 Background information

1.1.1 Nature-based solutions and the climate-biodiversity nexus

It is becoming increasingly recognized that climate change and biodiversity loss are highly interdependent phenomena that must be tackled together. Among the nine planetary boundaries – which define a safe operating space for humanity based on the functioning of the Earth system – climate change and biosphere integrity are now recognized as the two ‘core’ boundaries that provide the overarching system within which the others operate (Steffen et al., 2015). They have co-evolved to create a mechanism of complex links and feedbacks that intertwine the two issues to the extent that when one is exacerbated, so is the other (Pörtner et al., 2021; Steffen et al., 2015). As climate change alters global temperatures, precipitation patterns and ocean acidification levels, ecosystems are subjected to shocks that adversely impact biodiversity. Simultaneously, biodiversity loss can impact nitrogen, carbon and water cycles in ways that disturb the climate system. The problems of climate change and biodiversity loss are therefore mutually reinforcing, a characteristic that must be recognized to develop appropriate solutions (Pörtner et al., 2021).

Acknowledging the inseparability of climate change and biodiversity loss, the Intergovernmental Panel on Climate Change and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services state, in their first joint report, that neither issue can be solved without consideration of the other (Pörtner et al., 2021). The report argues that to date, policies have been tailored to tackling the two issues independently. Such an approach fails to recognize the potential synergies and trade-offs that emerge in climate and biodiversity interventions. Instead, policies should be designed so that the interactions between biodiversity, climate and society are explicitly considered. Only then can unintended trade-offs be avoided, and potential co-benefits maximized (Pörtner et al., 2021). One type of intervention that holds potential in this regard is nature-based solutions (NBS). According to the report, NBS that protect, manage and restore ecosystems can simultaneously address climate mitigation, climate adaptation and biodiversity objectives (Pörtner et al., 2021).

While there is no universally accepted definition of NBS, the one adopted by the International Union for the Conservation of Nature (IUCN) is most commonly used as a reference. The IUCN defines NBS as “actions to protect, sustainably manage, and restore

natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits” (Cohen-Shacham et al., 2016, p.5). In addition, the IUCN states that the overarching goal of NBS is “to support the achievement of society’s development goals and safeguard human well-being in ways that reflect cultural and societal values and enhance the resilience of ecosystems, their capacity for renewal and the provision of services” (Cohen-Shacham et al., 2016, p.5). Research indicates that natural climate solutions – a type of NBS – could provide over a third of the cost-effective climate mitigation needed by 2030 to reach the goals of the Paris Agreement while providing a range of co-benefits. This can entail, among others, improved soil health, higher water and air quality, flood buffering and the maintenance of biodiversity (Griscom et al., 2017).

1.1.2 Financing of nature-based solutions

While the potential of NBS to address to climate and biodiversity objectives in an integrated manner is clear, the uptake and mainstreaming of such interventions are hindered by a lack of dedicated funding (Calliari et al., 2022; Mayor et al., 2021). To date, NBS have been predominantly financed with public resources (Calliari et al., 2022; Frantzeskaki et al., 2019; Mayor et al., 2021). The United Nations Environment Program (UNEP) (2021) report on the State of Finance for Nature finds that 86 percent of funding flowing to NBS is of a public nature. However, research indicates that public funding alone is insufficient to achieve the necessary scale of investment required for NBS to reach their full climate change mitigation potential (Calliari et al., 2022; Mayor et al., 2021). Since NBS can address several societal challenges simultaneously, benefits accrue across multiple governmental departments, which makes it difficult to assign responsibility and set up dedicated budgets (Calliari et al., 2022). In addition, NBS compete for funding with other public services, making the volume of allocated budgets insufficient for scaling up such interventions to the required level (Mayor et al., 2021). Therefore, studies have called for the inclusion of a greater range of actors and stakeholders, particularly those from the private sector, to leverage additional funding and make NBS more cost-effective (Calliari et al., 2022; Frantzeskaki et al., 2019; Mayor et al., 2021; Xie et al., 2022).

The need for the diversification of funding sources for NBS is also recognized on an international level. In December of 2022, the Kunming-Montreal global biodiversity framework was adopted, which calls for renewed efforts to progressively close the biodiversity finance gap of \$700 billion per year (Convention on Biological Diversity [CBD], 2022). To do so, the agreement stresses the need to increase the level of financial contributions from ‘all sources’, including public, private and international resources. In addition, it refers to the potential of blended finance – the pooling together of public and private funds – to raise new and additional resources and encourage greater private sector investment (CBD, 2022). The UNEP (2021) State of Finance for Nature report similarly emphasizes the need to scale up investments in NBS and unlock contributions from the

private sector through blended finance and other incentives. As such, the search for additional sources of funding for NBS is likely to lead to the increased involvement of a range of non-state actors, which will have implications for how climate finance for nature is governed.

1.1.3 Transnational governance initiatives as a funding source for NBS

Amidst growing calls for non-state agents to contribute to climate finance for nature and the need to fill funding gaps on a global scale, one set of organizations that may come to play a more important role in governing funding flows is transnational governance initiatives (TGIs). An initiative is characterized as transnational if it entails “regular interactions across national boundaries when at least one actor is a non-state agent or does not operate on behalf of a national government or intergovernmental organization” (Risse-Kappen, 1995, p. 3). Increasingly, such initiatives are seen operating in the climate domain. TGIs engage in governance by steering the behavior of their constituents in line with public goals (Andonova et al., 2009). They do so in different forms, such as through voluntary codes of conduct, public-private partnerships and transgovernmental (city) networks (Andonova et al., 2009). Their influence is seen in the context of a broader development toward an era of global environmental governance characterized by ‘agency beyond the state’ (Biermann & Pattberg, 2008). Such agency is exercised through a range of different activities, of which the provision of funding and financial services is one example (Andonova et al., 2009).

A recent study by Kawabata (2021) identified three main ways transnational governance networks can influence climate finance. Firstly, TGIs with expertise in financial markets may provide knowledge and guidance to public sector actors and thereby influence policymaking related to climate finance. Second, TGIs can steer financial institutions and investors with voluntary targets, rules and codes of conduct. This can mobilize additional funding and shape the form and direction of climate finance provided by these institutions. Third, TGIs may facilitate the matching of investors with relevant climate actions, or directly provide funding to develop projects with climate mitigation potential. As such, it is clear that TGIs can influence finance flows for climate objectives. However, while Kawabata (2021) provided a first overview of how TGIs can shape climate finance through the governance functions they engage in, the study did not examine how such financing activities are enacted on the ground and what this means in terms of how and where funding is received. In addition, this study focused on climate finance in general, which means that the contribution of TGIs to climate finance for nature is still unknown. Hence, there is an unexplored avenue of research at the intersection between the concepts of NBS, TGIs and climate finance that the present research aims to delve into.

1.2 Research objective

While the growing prevalence of TGIs in climate governance is recognized, there exists little research exploring the role of such initiatives in shaping the flows of climate finance (Kawabata, 2021). This research gap is part of a broader need for academic work exploring the implications of the involvement of sub- and non-state actors in governing global climate finance flows (Bracking & Leffel, 2021). In addition, while there is a substantial body of work examining climate and biodiversity finance individually (Bracking & Leffel, 2021; Buchner et al., 2021; R. Clark et al., 2018; Sullivan, 2013; Watson, 2016), research on climate finance flows for nature that address both issues simultaneously is scarce. Therefore, this study aims to contribute to this dual research gap by examining the role of TGIs in shaping the flow of finance for climate-related NBS. It does so by adopting a ‘follow the money’ approach to examine financing efforts by initiatives included in the Climate-Cooperative Initiatives Database (C-CID) held at the German Institute for Development and Sustainability (IDOS) (Chan et al., 2022). The analysis is conducted through the lens of critical political economy (CPE) and is theory-building in the sense that it will further develop the theory’s perspective on social relations and power structures in contemporary climate finance for nature. The final outputs entail an overview of the main trends and patterns in TGI-mediated finance flows toward NBS through a CPE lens, a closer analysis of how TGIs structure their funding activities and how this influences social and economic power structures within climate finance and a set of recommendations for further research on the role of TGIs in generating finance for nature.

1.3 Research questions

The central research question of this study asks: “How do transnational governance initiatives shape the flow of finance for climate related nature-based solutions?” three sub-questions were formulated to guide the research.

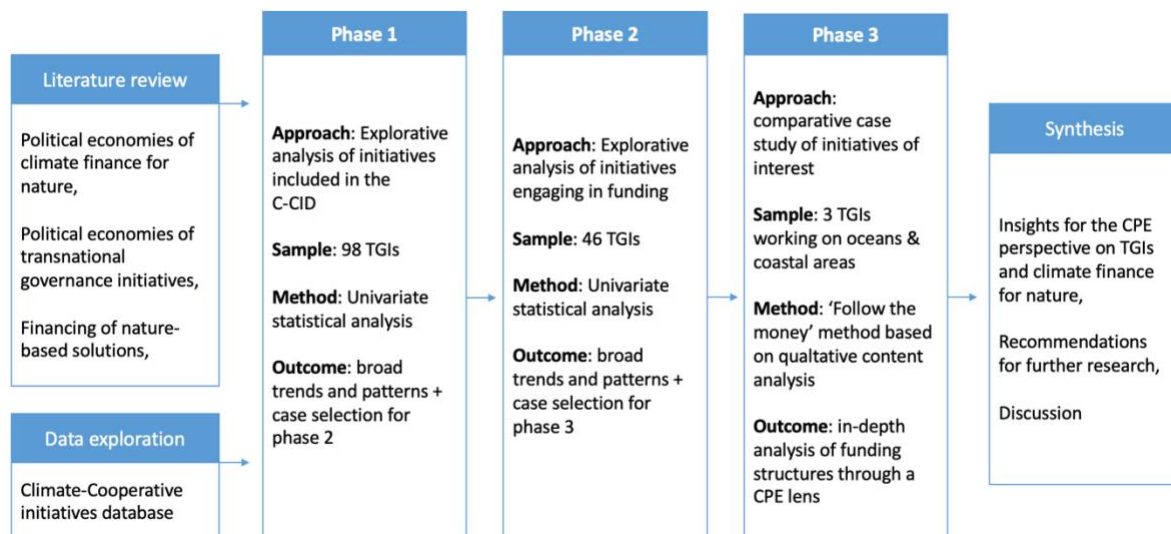
1. Who governs the funding of climate-related nature-based solutions in transnational governance initiatives?
2. How do transnational governance initiatives govern finance for climate-related nature-based solutions?
3. On whose behalf do transnational governance initiatives govern finance for climate-related nature-based solutions?

The first sub-question explores the actors involved in the provision of finance for TGIs and the disbursement of funding to beneficiaries. It provides insight into the sources of finance drawn upon by TGIs and the actors that hold decision-making power over the allocation of finance in TGIs. The second sub-question explores how TGIs engage in the governance of climate finance for nature by examining how their activities influence finance

flows and what types of financial instruments they use to disburse funds. Finally, the last sub-question analyzes whose interests TGIs represent when it comes to governing climate finance for nature. This entails examining the beneficiaries they target and the distribution of benefits and returns across actors and geographies.

1.4 Research framework

Figure 1
Research framework



This research is structured as a mixed-methods comparative case study, following an explanatory sequential design. The various steps and phases followed to answer the central research question are visualized in Figure 1. The research starts with a literature review and an initial exploration of the data contained in the C-CID. The literature review aids in developing a conceptual framework that approaches the concepts of climate finance for nature and transnational governance from a CPE perspective. The data exploration, on the other hand, allows for the identification of gaps in the dataset that must be filled with additional data collection. Next, the first phase of the research involves an initial quantitative analysis of 96 initiatives within the C-CID that work with NBS. Based on the outputs of this analysis, the second phase performs a quantitative analysis of a subset of 46 initiatives that engage in the funding of NBS. These two phases result in an initial answer to the three sub-questions based on the trends and patterns identified.

Based on the outcomes of the second phase, a selection of three cases of interest is made, which are examined in detail during the third phase of the research. The three cases are similar in that they all work on the same issue area: oceans and coastal areas. In this phase, an adaptation of the 'follow the money' methodology developed by Hughes-McLure (2022) is applied to guide an in-depth analysis of the funding structures applied by the TGIs. Subsequently, results are analyzed through a CPE lens to provide answers to the three sub-

questions. This phase constitutes the ‘explanatory’ component of the explanatory sequential design, as it gives more insight into how the trends and patterns identified in phases one and two play out in practice.

1.5 Social and scientific relevance

The social relevance of this research lies in its contribution to research on the sources and flows of finance for NBS. As aforementioned, one of the key barriers to the mainstreaming of NBS as a joint climate-biodiversity solution is the lack of funding (Mayor et al., 2021). The UNEP 2021 report on the State of Finance for Nature reveals that in order for the world to meet current targets on climate change, biodiversity and land degradation, investments in NBS will need to triple by 2030. By 2050, financing needs for nature will amount to almost four times what is invested today (UNEP, 2021). As such, there is a need for research on where additional finance could be sourced and how these funding gaps could be filled. In parallel, the emergence of new actors and funding mechanisms in the governance of climate finance is likely to result in shifting power structures between holders and receivers of finance (Bracking, 2019). Consequently, structural inequalities and dependencies may emerge in the governance of climate finance. By generating knowledge on the trends and patterns in climate finance for nature, this research can provide valuable insights into both of these societal questions.

The scientific relevance of this study comes from its contribution to filling the research gap on the role of non- and sub-state actors in the governance of climate finance for nature, as well as its focus on joint climate-biodiversity funding flows. As aforementioned, the increasing involvement of non- and sub-state actors in climate finance is a relatively recent phenomenon that continues to unfold as funding gaps widen. Academic work on the topic is therefore scarce, and additional research is needed to better understand the trends, patterns and implications associated with it. Simultaneously, this study contributes to a second research gap on the governance of climate finance for nature, which has received limited attention to date. Third, the theory-building nature of the research helps to build the CPE perspective on the governance of climate finance for nature. Finally, the study identifies areas for further research on the governance of climate finance and the mediating role of TGIs, which can incite further scientific knowledge production.

Chapter 2: Critical Political Economy

This chapter introduces and explains the critical political economy perspective that provides the theoretical framework for this research. The main ideas of this theoretical lens are then used to analyze the two central concepts that frame the research: climate finance for nature and transnational governance. Each of these concepts is explored in a separate subchapter, drawing on existing literature to provide an overview of what is known about their respective political economies. Finally, the chapter ends with a section that brings together the main themes uncovered for both concepts to provide an overview of the key dynamics to be considered in the data analysis. In line with the research questions guiding the study, each section addresses the three sub-questions: *who governs, how do they do so and on whose behalf*.

2.1 Theoretical framework: Critical Political Economy

The theoretical framework of CPE asks questions about who governs, how they do so, what is (or is not) governed, and on whose behalf governing takes place (Newell, 2015). Typical to a CPE perspective is an awareness of how institutions, social structures and power relations are historically and mutually constituted (Cafruny, 2016). CPE approaches make sense of the world through the lens of the capitalist mode of production, with relations between owners and producers of capital generating patterns of interaction that produce conflicts and structural inequalities (Bulkeley et al., 2014). Likewise, the forms of governance that emerge in global politics are seen as thoroughly influenced by the way in which capitalism takes shape in a given time or place (Bulkeley et al., 2014). The contemporary organization of the economy and the neoliberal ideologies that underpin it are thus central to CPE analyses (Newell, 2008). What makes the approach ‘critical’ is that it does not take social and power structures for granted. Rather, it actively problematizes the predominant socioeconomic and political structures observed in the capitalist world system by considering them as contested and subject to change (Cafruny, 2016).

With regard to global environmental governance, the CPE approach provides an integrative analysis of the economy, society and nature (Jäger & Schmidt, 2020). It draws attention to the inherent contradictions of the capitalist system and how these influence the natural environment. One such contradiction exists between the treadmill of production, which drives a continuous expansion of accumulation and profits, and the regenerative needs of ecosystems (Clark et al., 2022; Jäger & Schmidt, 2020). CPE theorists argue that the capitalist system cannot fully mitigate these ecological contradictions with its preferred interventions of technological innovation, market mechanisms or state reforms. Rather, the resulting ecological degradation is seen as an inherent factor of capitalist development (Clark et al., 2022). As such, visions of a green capitalist system that mitigates the environmental damage it produces are starkly rejected. Instead, CPE approaches assert that negative commodification will continue to exacerbate ecological problems, causing capitalism to

undermine the resource base on which it depends for the accumulation of wealth (Bulkeley et al., 2014; Clark et al., 2022).

The CPE approach is particularly attuned to how power relations between the state and the market affect decision-making in environmental governance (Newell, 2015). Because of the central importance of growth in the contemporary global economy, those actors that can stimulate capital accumulation gain increasing power over state decision-making (Newell, 2008). Consequently, patterns of trade, production and finance are seen as having a substantial influence on environmental politics because they shape the context in which states make decisions about environmental policy (Newell, 2008). Moreover, the approach recognizes how shifting power structures in the global economy influence policy choices. The increasing prevalence of market-based instruments in environmental governance, such as carbon trading, environmental taxation and labeling is seen as a manifestation of the reorganization of power and authority between the state and the market. In a process termed 'the marketization of environmental policy', power increasingly shifts to the latter (Newell, 2008). In line with this changing landscape, the CPE approach affirms that environmental governance is not solely confined to state decision-making, but rather involves the participation of market and civil society actors as governance providers, who engage in hybrid governance arrangements that may involve both cooperation and competition with the state (Newell, 2008).

Finally, the CPE approach gives insight into how social relations and power structures determine where environmental impacts are produced and how environmental protection is allocated (Newell, 2015). Marketized environmental governance is structured by the ideologies and characteristics of neoliberalism and works to reproduce power structures and inequalities endemic to neoliberal governance (Newell, 2008; 2015). In relation to the environment, CPE theorists show how existing core-periphery relationships lead to a highly unequal use of nature, with the Global North extracting resources for accumulation from the Global South, while simultaneously externalizing pollution and environmentally damaging production to Southern countries (Jäger & Schmidt, 2020). This process is termed 'unequal ecological exchange' and works to reinforce the coherence of the capitalist hegemony while exacerbating environmental problems (Jäger, 2022). It results in the continued transfer of energy and material sources from the periphery to the core and produces an unequal distribution of environmental impacts, with those countries least able to challenge their position in the global economic order bearing the brunt of it (Clark et al., 2022; Jäger, 2022).

In a CPE analysis of TGI-mediated climate finance flows for nature, it is crucial to consider these underlying themes and dynamics. The following sections therefore delve into these aspects to explore the political economies of climate finance for nature and transnational governance, starting with an examination of the former.

2.2 The political economies of climate finance for nature

This sub-chapter explores existing literature on climate finance for nature to provide an overview of what is known about its political economies. It does so in accordance with the three sub-questions guiding this research: *who governs, how do they do so and on whose behalf*, each of which is discussed in a separate section.

The United Nations Framework convention on Climate Change (UNFCCC) (n.d) defines climate finance as “local, national or transnational financing – drawn from public, private and alternative sources of financing – that seeks to support mitigation and adaptation actions that will address climate change.” Within the context of the UNFCCC, climate finance is often framed as a transfer of funding from developed to developing nations (The Nature Conservancy, 2021). However, similar to Bridge et al. (2020), this study takes a broader perspective by conceptualizing climate finance as flows of money that include but are not limited to donor funding and development aid, to encompass the diverse sources of funds (public and private) and instruments used to direct money to climate goals. Within this broader category of climate finance, this research narrows down on climate finance flows for nature. It does so by examining funding for NBS, which is conceptualized in the UNEP (2021) State of Finance for Nature report as “a financial flow that contributes positively to financing nature-related activities or assets” (p.15). However, since research on climate finance flows for nature is scarce, this section draws on a combination of literature on trends and patterns in climate finance (Bracking & Leffel, 2021; Buchner et al., 2021; Clark et al., 2018; Watson, 2016), the UNEP (2021) State of Finance for Nature report, and research on the financing of nature-based solutions (Brears, 2022; Calliari et al., 2022; Frantzeskaki et al., 2019; Mayor et al., 2021; Toxopeus & Polzin, 2021).

2.2.1 Who governs climate finance for nature?

With regard to the sources of finance, a broad range of actors are involved in the provision of climate finance for nature, ranging from development finance institutions to institutional investors and philanthropic organizations. Table 2 summarizes the main actors providing finance for NBS and classifies them according to the public/private dimension.

Table 1
Overview of funding sources of NBS finance

Sector	Sources
Public finance	Development finance institutions <ul style="list-style-type: none">• National DFIs• Bilateral DFIs• Multilateral DFIs

	<ul style="list-style-type: none"> • Subnational DFIs
	Government budgets and agencies
	Multilateral climate funds
	National climate funds
Private finance	Corporations
	Commercial finance institutions
	Institutional investors <ul style="list-style-type: none"> • Asset managers • Insurance companies • Pension funds • Sovereign wealth funds • Private equity funds
	Philanthropy
	Household spending

Note. Based on Buchner et al., 2021; Watson, 2016; Bracking & Leffel, 2021; Clark et al., 2018; UNEP, 2021

Public funding sources

According to UNEP (2021) 86% of the investment going into NBS annually comes from public sources. The three main actors providing funding within the public sector are domestic governments, development finance institutions and dedicated climate funds. Among these actors, domestic governments are responsible for the biggest proportion of investments flowing into NBS (UNEP, 2021). In addition to domestic government spending, Development Finance Institutions (DFIs) are important funders. DFIs are specialized development banks that facilitate private sector investment in developing countries. They are usually owned by national governments and financed by national or international development funds (Roppongi, 2022). DFIs take different forms, appearing as subnational, national, bilateral or multilateral banks (Bracking & Leffel, 2021). While the contributions of DFIs to climate finance *for nature* have not yet been quantified, the 2021 Global Landscape of Climate Finance report by the Climate Policy Initiative reveals that DFIs provide the majority (68%) of public climate finance, with national DFIs constituting the biggest source (Buchner et al., 2021).

Aside from DFIs, dedicated climate funds, both national and multilateral, are a key public source of climate finance for nature, as they provide funding specifically for climate change mitigation, adaptation and other environmental issues (Bracking & Leffel, 2021). National climate funds, similar to national DFIs, are government owned and are used to pool,

coordinate and disburse funding for climate goals from different sources (Bracking & Leffel, 2021). Multilateral climate funds are established by multiple countries and organizations to provide climate finance to developing countries, typically in the form of grants and loans (Bracking & Leffel, 2021). In the current landscape of climate finance, the Green Climate Fund (GCF) and the Global Environment Facility (GEF) are the biggest multilateral climate funds (Buchner et al., 2021). Both funds act as operating entities of the financial mechanism of the UNFCCC and support environmental objectives in developing countries. However, they have different mandates and funding priorities.

Established in 2010, the GCF is “mandated to support developing countries raise and realize their Nationally Determined Contributions (NDC) ambitions towards low-emissions, climate-resilient pathways” (GCF, n.d.). The fund is designed so developing countries lead GCF financing decisions and funds are equally allocated between mitigation and adaptation (GCF, n.d.; Roppongi, 2022). According to the Climate Policy Initiative, almost half of the funding provided by multilateral climate funds in 2019/2020 came from the GCF (Buchner et al., 2021). The second largest multilateral climate fund, the GEF, is an independent international financial mechanism with 184 member countries (Lattanzio, 2010; Roppongi, 2022). The GEF trust fund is managed by the World Bank and provides funding in the form of grants and concessional loans to cover the additional costs required to transform a project with national benefits into one with benefits for the environment. It does so in five focal areas: biodiversity loss, chemicals and waste, climate change, international waters, and land degradation (Lattanzio, 2010). The GEF’s mandate is therefore slightly broader than that of the GCF. In 2019/2020, 27% of total funding generated by multilateral climate funds came from the GEF (Buchner et al., 2021).

Private funding sources

Within analyses of climate finance flows that do not specifically target nature, the division between private and public funding sources is about equal (Buchner et al., 2021). In these analyses, corporations emerge as the biggest source of private finance, followed by commercial finance institutions and households. Investments made by institutional investors currently constitute the smallest share of private climate finance (Buchner et al., 2021). Nonetheless, it seems that climate finance flows for nature do not follow the same trends. Private finance currently makes up 14% of annual investments in NBS, a percentage far below the contributions made by actors within the public sphere (UNEP, 2021). According to the UNEP (2021) State of Finance for Nature report, such private contributions mostly come from investments in sustainable supply chains, environmental offsets and private equity impact investments. Sustainable supply chains include investments in sustainable forestry, agriculture or fisheries. Environmental offsets are typically applied in construction and development projects to achieve no net loss in biodiversity. Impact investments are also appearing within the field of biodiversity conservation due to a growing interest from private equity funds, incubators and venture capital firms. In addition to these top-three sources,

funding provided by conservation non-governmental organizations (NGOs), philanthropy and international market mechanisms such as voluntary carbon markets and Reducing Emissions from Deforestation and Forest Degradation (REDD) schemes, play a role. However, in comparison to public sources, private financing remains low (UNEP, 2021).

The comparatively low involvement of the private sector in climate finance flows for nature has been attributed to the mismatch between the demands of private sector investors and the specific features of NBS investments (Mayor et al., 2021). Two characteristics make NBS an unattractive investment opportunity. Firstly, NBS are public goods and generate benefits for multiple stakeholders. Their non-excludable nature limits the extent to which private actors can capture the returns of their investment (Calliari et al., 2022; Mayor et al., 2021). Secondly, in comparison to alternative investment opportunities, the return on investment for NBS is typically higher risk and longer term (Frantzeskaki et al., 2019). NBS benefits tend to accrue on a longer timescale and may not be immediately capturable by market actors (Toxopeus & Polzin, 2021). In addition, many of the benefits generated by NBS, such as psychological value, social cohesion and health improvements, are not easily monetized and thus not fully captured by markets (Mayor et al., 2021). These challenges disincentivize private investors from engaging with NBS, which explains why private sector contributions to climate finance for nature remain small.

Blended finance and shifting aid regimes

While private sector investments in NBS are currently quite modest, the prevailing discourse around climate finance envisions a much greater role for the private sector in efforts to upscale funding flows (Clark et al., 2018). To increase the volume of finance flowing into climate goals and stimulate private sector involvement, there are growing calls for 'blended finance' arrangements in which public funds are used to catalyze private finance (Clark et al., 2018). The concept of blended finance is central to the 'from billions to trillions' narrative that has emerged in debates on how to finance the Sustainable Development Goals (SDGs) (Clark et al., 2018; Mawdsley, 2018). By using concessionary capital to crowd-in private investments toward the SDGs, it is believed that such arrangements could contribute to filling existing financing gaps (Buchner et al., 2021; Clark et al., 2018). Also in climate finance for nature, blended finance is gaining traction. Goal 19 of the 2022 Kunming-Montreal Global Biodiversity Framework explicitly refers to the concept, calling for "leveraging private finance, promoting blended finance, implementing strategies for raising new and additional resources, and encouraging the private sector to invest in biodiversity" (CBD, 2022, p. 5). In addition, recent literature on the financing of NBS has advanced blended finance as a way to overcome the aforementioned challenges related to private funding. It is argued that blended finance schemes can reduce the risk of investment to any one actor within the arrangement, thereby making investments in NBS projects more feasible (Brathwaite et al., 2022; Moxey et al., 2021; Pascal et al., 2021; Xie et al., 2022).

Within the tradition of CPE, the growing popularity of blended finance is seen as a symptom of broader patterns in capitalist development. It has been observed not only within the sphere of climate finance, but also within discourses around development finance more generally. Brooks (2015) shows that as the SDGs succeeded the Millennium Development Goals (MDGs), there has been a shift in donor policy in accordance with the ‘beyond aid’ narrative. While financing for the MDGs was predominantly centered on Official Development Assistance (ODA), such traditional sources of finance are now being used to unlock private finance flows through partnerships with financial actors such as hedge funds, investment banks, sovereign wealth funds, corporations and accountancy firms (Brooks, 2015; Mawdsley, 2018).

Mawdsley et al. (2018) argue that these changing patterns in development aid have allowed for the subsidization of corporate capitalism by allowing the aid regime to adapt to emerging crises and opportunities within the capitalist system. They define an aid regime as the overarching principles and regulatory structure that shape overseas development assistance and identify four of such regimes between 1950 and the present: modernization (1950–1980), neoliberalism (1980–2000), neostructuralism (2000–2010) and retroliberalism (2010–present). Each of these regimes is influenced by the prevailing ideologies and circumstances of their time. Mawdsley et al. (2018) put forward the concept of ‘retroliberalism’ to explain how aid has been used to revive and sustain capitalism while benefiting private sector elites. They place the ‘beyond aid’ agenda central to the retroliberalist regime, which is driven by the idea that the state should facilitate economic growth by sponsoring the private sector. Within this regime, the private sector has become an active development partner, rather than a subject of development policy. The retroliberal regime differs from its neostructuralist predecessor in that it has come with a shift in focus from ODA-driven poverty alleviation to a ‘shared prosperity’ and ‘sustainable economic growth’ narrative. This has produced a new state-corporate nexus that shifts greater power to private actors. Moreover, Mawdsley et al. (2018) draw attention to the implications of this emerging aid regime, arguing that it has lost the objective of redistributing resources from the wealthiest to the poorest as it caters to the interests of the private sector. This, according to Mawdsley et al. (2018) produces widening inequalities, risk and precarity. The increasing popularity of blended finance mechanisms and growing calls for private sector involvement within climate finance for nature must thus be interpreted within the context of these broader aid regimes and the shifting power structures within them.

2.2.2 How is climate finance for nature governed?

Financial instruments in climate finance for nature

In addition to the sources of finance, the financial instruments used to direct funding to nature are also diversifying. Goal 19 of the Kunming-Montreal Global Biodiversity framework calls for the stimulation of innovative funding schemes for biodiversity, specifically

referring to payments for ecosystem services (PES), green bonds, impact funds, biodiversity offsets, biodiversity credits and benefit-sharing mechanisms as viable options (CBD, 2022). Table 3 summarizes the most common financial instruments currently used in NBS finance, adapted from the UNEP (2021) report on the State of Finance for Nature. The five main categories outlined in the UNEP (2021) report are national budget allocations, grants, equity, debt and risk mitigation. Each is discussed in more detail below.

Firstly, national budget allocations are made up of public budgets from various governmental departments and revenue schemes such as fees and charges designed to generate income earmarked to support nature (Deutz et al., 2020; Eiselin et al., 2022). Grants can be of a public or a private nature and include public subsidies, payment for results schemes – which disburse funding on the condition that specific results are achieved (e.g., REDD+ schemes) – and technical assistance for project implementers (Swann et al., 2021; UNEP, 2021). Equity can be provided by public and private actors in concessional or non-concessional format, where the former refers to finance that is below the market rate and generally more favorable than its non-concessional counterpart (Duarte, 2021).

Within the third category of debt are several traditional financial instruments such as loans, credit lines and securitization. Brears (2022) demonstrates how each of these is applied in the financing of NBS, such as to fund water management improvements by farmers and stimulate the uptake of conservation agriculture. Deutz et al. (2020) show how through securitization, small sustainable agriculture and forestry projects can be bundled to create larger pools of assets that represent more attractive investment opportunities. A less traditional finance instrument within this category is the use of debt-for-nature swaps, wherein a portion of a state's foreign debt is canceled in return for investments in nature conservation (Barbier, 2022). McGowan et al. (2020) illustrate how debt-conversions peaked in the 1990s but continue to be applied in innovative ways. For instance, in 2016 The Nature Conservancy (TNC) backed the first debt-conversion for ocean conservation, which expanded the Seychelles' marine protected area. Lastly, this category encompasses the use of environmental theme bonds (e.g., 'green' and 'blue' bonds) which function like a normal bond, but proceeds are used to finance projects, assets or business activities with positive impacts on the environment (Brears, 2022). While green bonds have a longer history of funding conservation, blue bonds, which specifically target ocean solutions, are an upcoming financial instrument with the potential to contribute to NBS in marine areas (Thiele & Gerber, 2017). For example, in 2018, the Seychelles blue bond was issued, which finances activities related to sustainable fisheries and marine conservation (Iyer et al., 2018).

The last category of financial instruments listed in the UNEP (2021) State of Finance for Nature report is risk mitigation. Two of the instruments within this category – offtake agreements and guarantees – are designed to de-risk NBS projects. For NBS that generate goods (e.g., seagrasses or fish), offtake agreements help to secure finance, as prospective buyers purchase a portion of the goods prior to production (Eiselin et al., 2022). For NBS projects that rely on loans, guarantees ensure that the lender is compensated by a third party, often an international financial institution, in case the borrower defaults. Both of these

instruments can help secure funding for projects that are risky or require large investments (Eiselin et al., 2022). The other two instruments within this category – insurance and catastrophe/resilience bonds – are unique in that they generate returns not on fixed assets but on complex (ecological) systems or modeled concepts such as vulnerability or resilience (Bracking, 2019). These types of instruments have emerged as financing options for NBS more recently and are slowly gaining popularity. An example of this type of risk mitigation instrument is the parametric reef insurance scheme set up by TNC in Quintana Roo, Mexico. In this scheme, the insurance payout is based on a statistical trigger; if a hurricane above 100 knots hits the area, an insurance payout is provided that can be used to finance the reconstruction of the reef (Christiansen, 2021b). Such types of insurance mechanisms for nature remain an emerging phenomenon but are increasingly seen as a tool for financing the SDG.

Table 2
Overview of financial instruments of NBS finance

Instrument	Category
National Budget Allocations	Revenue Tools
	Spending Tools
Grants	Subsidies
	Grants
	Payment for results
	Technical assistance
Equity	Concessional equity
	Non-concessional equity
Debt	Concessional loan
	Non-concessional loan
	Credit line
	Securitization
	Environmental theme bonds
	Debt-nature swaps
Risk Mitigation	Resilience or catastrophe bonds
	Insurance
	Guarantee
	Off-take agreement

Markets	Compliance carbon markets
	Voluntary carbon markets
	Payments for ecosystem services
	Biodiversity offsets

Note. Adapted from UNEP (2021) with addition of the ‘markets’ category

The UNEP (2021) State of Finance for Nature report does not report ‘markets’ as a separate category of financial instruments. However, it is argued here that for an examination of climate finance for nature, such a category cannot be excluded. In recent literature on the financing of NBS, there has been a growing focus on the use of market-based mechanisms such as PES (Brathwaite et al., 2021; Canning et al., 2021; Lau, 2013; Schirpke et al., 2018) and biodiversity offsets (Barbier, 2022; Brears, 2022; Deutz et al., 2020; Eger et al., 2020). In the former mechanism, markets for ecosystem services are created based on the principle that actors who provide ecosystem services through conservation or management should be compensated by those who benefit from these services. Under such PES schemes, buyers provide positive incentives to sellers to make behavioral changes that improve the quality of ecosystems, and hence their capacity to provide essential services (Brathwaite et al., 2021). In the case of biodiversity offsets, project developers compensate for the biodiversity losses they create in one place by investing in environmental conservation or restoration in another. Such markets can be both mandatory or voluntary and involve the sale of credits generated by mitigation banks or private agencies to developers wishing to offset their biodiversity impact (Brears, 2022).

In addition, carbon markets, which have played an important role in climate finance as part of the Kyoto Protocol’s Clean Development Mechanism and various other compliance and voluntary markets, can also play a role in generating resources for nature. Moxey et al. (2021) demonstrate how the voluntary carbon market has raised funding for peatland restoration. In addition, Vanderklift et al. (2019; 2022) show how carbon markets can fund NBS in marine areas through the sale of blue carbon credits generated by the conservation of ecosystems such as mangroves, seagrasses and tidal marshes. While blue carbon credits remain a niche opportunity mostly applied within voluntary carbon markets, Vanderklift et al. (2019) argue that their use is likely to grow as blue carbon markets develop further. In parallel to the use of carbon credits, there is also growing interest in tradable biodiversity credits. Rather than carbon emissions reductions, these credits represent improvements in the quality of a given habitat, usually measured through indicators such as species richness or ecological integrity (St. George, 2023). These types of biodiversity credits are one of the innovative financial mechanisms promoted in the Kunming-Montreal Biodiversity Framework (CBD, 2022).

Climate finance and the financialization of nature

Looking from a CPE perspective, the increasing prevalence of market-based instruments like PES, biodiversity offsets and biodiversity credits, along with the growing popularity of insurance schemes, are symptoms of a process termed ‘the financialization of nature.’ This process is enabled by the emerging discourse of nature as natural capital, wherein nature is understood as a stock of natural assets and a provider of ecosystem services that are of value to society (Dempsey, 2017; Sullivan, 2018). In addition, the concept of ‘nature as infrastructure’ is growing in popularity, highlighting how ecosystems are valued for their instrumental ecological functions and their role in securing particular forms of human and industrial activity (Nelson & Bigger, 2022). The normalization of this discourse allows financial institutions to configure natural capital as a new, dividend-generating asset class that enables financial investment in conservation measures and facilitates the emergence of markets for ecosystem services (Sullivan, 2013). Nature thus becomes subject to a process of assetization, whereby an asset that was previously unpriced is given a value and is subsequently used to produce an income stream, even if it only exists in virtual form (Bracking, 2019). In other words, nature becomes abstracted in ways that enable it to bear value that can be circulated and exchanged on financial markets (Christophers, 2018). Bridge et al. (2020) illustrate how assets can subsequently be capitalized through the issuance of loans, debt instruments or securities that enable it to realize returns into the future.

Bridge et al. (2020) emphasize that financialization is not the same as the commodification of nature. They draw attention to the definition provided by Ouma et al., (2018) who describe the financialization of nature as “a process of ontological reconfiguration through which different qualities of nature and resource-based production are translated into a financial value form to be traded in specialized markets” (p.501). Taking carbon as an example, Bridge et al. (2020) demonstrate that carbon markets with tradable permits have turned carbon into a commodity that can be traded and speculated upon. However, carbon markets do not enable the leveraging of debt against carbon. Once carbon becomes capable of generating future returns on capital, that is when it becomes an asset, as it can then produce financial value beyond its use or exchange value. The authors put forward green bonds as one example of how carbon becomes assetized and thereby capable of raising financing for low-carbon investments (Bridge et al., 2020). As green bonds are issued against the profile of the issuer rather than the project to be financed, they artificially lower the risk of an investment and thereby generate lower-cost financing (Bracking, 2019). Financialization is thus not just the buying and selling of commodified bits of nature, it is turning nature into an asset capable of leveraging debt against an expected income stream (Bridge et al., 2020).

The shapes and forms that such assets can take are quite diverse, and new financial products have emerged over time (Bracking, 2019). Ouma et al., (2018) link this to the significant growth of the financial sector in the neoliberal era, and the continuous search of financial capital for new investment opportunities and financial products that generate income. Bracking (2019) outline how this process has taken shape over time, identifying four

chronological but entangled phases in the financialization of nature and climate. The first phase refers to the emergence of carbon accounting, carbon markets, and certified emissions reductions as part of the Clean Development Mechanism. This phase is associated with the commodification and commercialization of carbon, which, according to Bracking (2019) remains central to the contemporary financialization of the climate. The second phase saw the emergence of the concept of ecosystem services and the creation of markets for such services, including PES schemes, REDD+ and biodiversity offsets. In the third phase, capital markets became involved in environmental management through the emergence of green bonds as a fixed-income asset class used to finance projects with positive environmental impacts. Finally, phase four is typified by the emergence of financial products such as catastrophe bonds, index-linked insurance and insurance-linked securities. Through these instruments, the valuation of nature and the prices paid for environmental services or green financial products are increasingly determined by financial risk calculations (Bracking, 2019). Bracking (2019) argues that this final phase represents a continued deepening financialization, characterized by a substantial growth in the influence of risk-denominated products on the delivery of climate finance. Similar to the influence of shifting aid regimes as explained above, an analysis of climate finance flows for nature from a CPE perspective must thus be aware of the shifting political economies associated with ongoing processes of financialization.

2.2.3 On whose behalf is climate finance for nature governed?

Flows and beneficiaries of climate finance for nature

The final question that must be addressed in a CPE analysis of climate finance for nature asks on whose behalf governing takes place. This entails examining how the processes described above influence where climate finance for nature is delivered, who can access it and who benefits from its distribution. It is important to note that existing research on these questions with regard to climate finance for nature in particular is rather scarce. Therefore, this analysis also draws some preliminary insight from analyses on climate finance flows in general. However, the preceding sections have already suggested there may be different dynamics at play when it comes to finance for nature, indicating that the analysis may uncover further discrepancies.

With regard to where finance is delivered, the Global Landscape of Climate Finance report (Buchner et al., 2021) provides an overview of geographic patterns in climate finance flows. It shows that in the year 2019/2020, the majority of climate finance investments were concentrated East Asia and the Pacific, the United States and Canada, with less than a quarter remaining for other regions. Interestingly, the report indicates that 75% of climate investments were domestic, meaning that funding was raised and disbursed in the same country. Furthermore, when international flows were incorporated, countries not part of the Organization for Economic Co-operation and Development (OECD) were shown to largely

fund their own climate needs. 80% of investments in non-OECD projects came from non-OECD sources (Buchner et al., 2021). Further insight into international finance flows is provided by the OECD (2022) report tracking the climate finance provided by developed countries for developing countries. In this report, Asia also emerges as the main beneficiary, followed by Africa and the Americas. In addition, the report analyzes the disbursement of climate finance in terms of country income-groups and finds that lower-middle income countries receive the biggest share of climate finance (43%), followed by upper-middle income countries (27%), low-income countries (8%) and high-income countries (3%). Small Island Developing States (SIDS) and Least Developed Countries (LDCs) are also analyzed as separate categories. The report finds that between 2016 and 2020, they received 2% and 17% of total climate finance mobilized respectively. Cipler et al. (2022) conclude that these country groups receive less funding than would be expected if funds were distributed equitably across developing countries. However, when analyzed in terms of population size, they receive slightly more funding per capita than would be expected in an equitable distribution (Cipler et al., 2022). Whether or not sufficient funding flows to where it is needed most thus depends on the perspective taken to the analysis of funding flows. However, these statistics provide a useful frame of reference to examine whether climate finance for nature follows the same distributional patterns.

As mentioned above, climate finance flows for nature must be analyzed within their surrounding context, including the increasing popularity of blended finance and processes of financialization. With regard to the former, Mawdsley et al. (2018) warn that the increasing focus on the private sector in development and the growth of blended finance arrangements is likely to predominantly benefit corporate elites. They show that the use of OECD aid to support blended finance schemes is enabling public money to be used for the promotion of private sector interests in donor countries. The ‘shared prosperity’ narrative that has shaped the provision of aid in the retroliberal regime has, according to the authors “allowed for the export of stimulus packages for domestic private enterprises” (Mawdsley et al., 2018, p. 39). The beneficiaries of such schemes are likely to be owners of capital, both in donor and recipient countries, rather than workers and citizens. The authors demonstrate this trend by analyzing the transformation of the aid regimes in the United Kingdom and New Zealand. However, they note that countries such as the Netherlands, Canada and Australia show similar tendencies. In addition, Attridge & Engen (2019) show that leveraging private finance is easier in middle-income countries and ‘hard’ economic sectors with a favorable investment environment. The extent to which blended finance will divert significant volumes of additional climate finance to nature in low-income countries can therefore be questioned.

Closely related to the growing popularity of blended finance are ongoing processes of the financialization of nature. Also these can have an influence on how and where climate finance is delivered. Bracking & Leffel (2021) show that the increased power of financial actors results in patterns of differential access to funds based on questions of creditworthiness. Financial products such as green bonds, for example, are much more accessible for cities in the Global North than those in the Global South. In addition, Sullivan (2018) warns that due

to the large stocks of natural capital remaining in the Global South, these countries are at risk of becoming indebted to investors applying new results-based financial products to fund conservation projects. Furthermore, van Veelen (2021) emphasizes the ‘agency of the object of investment’. New financial flows and instruments do not simply enter a new field (i.e., agriculture) where they introduce a new financial logic. Instead, local social, political and ecological conditions influence how such finance is shaped and where it is directed. In their analysis of carbon finance, Bridge et al. (2020) make a similar point, arguing that “the materiality and spatiality of carbon matter to the ways in which carbon finance is made, and to the political economies it enables” (p. 726). To answer questions about how flows of climate finance for nature are shaped and who benefits from them, it is thus important to be aware of the interactions between the financial instrument and the local context in which it is applied.

This sub-chapter provides an overview of the key themes that shape the political economies of climate finance for nature. Building on these insights, the next section performs a similar analysis of the political economies of TGIs to lay the groundwork for establishing connections between the two concepts.

2.3 The political economies of transnational governance initiatives

Following the exploration of the political economies of climate finance for nature, this sub-chapter moves on to the second central concept of the research: TGIs. It draws on existing research on transnationalism, transnational governance and transnational climate initiatives to address the three sub-questions: *who governs*, *how do they do so* and *on whose behalf*. Concerning the second sub-question, particular attention is paid to existing knowledge of TGIs' engagement with climate finance.

For the conceptualization of TGIs, this research draws upon a typology of transnational climate governance networks developed by Andonova et al. (2009). In the typology, transnational governance is defined as “interactions across national borders where at least one actor is a nonstate agent or at least one public actor is not operating on behalf of a national government or international organization, and where those interactions are designed to steer constituents authoritatively towards public goals” (p. 66). The first half of this definition outlines what it means for an initiative to be ‘transnational’ while the second half refers to the three features of governance: it pursues public goals, is intentional and is regarded as authoritative. In other words, for a transnational network to engage in governance, it must aim to tackle a public objective, it must steer the actions of its constituents in a particular direction, and it must be recognized as exercising authority over the network (Andonova et al., 2009). Bulkeley et al. (2014) observe that TGIs working within the climate domain have come to exercise authority over a range of actors, including individuals, corporations, states and intergovernmental organizations. In addition, they emphasize that TGIs collectively control a significant share of the resources allocated to

climate action. Hence, they argue that transnational climate governance is pervasive and constitutes a central element of the contemporary politics of climate change.

2.3.1 Who governs in transnational governance initiatives?

Transnational governance is a phenomenon observed across nearly all areas of global politics (Roger et al., 2017). Traditional means of governing cross-border issues such as climate change, conflict, trade and finance, including treaties and intergovernmental organizations, are increasingly being supplemented by transnational approaches. It is especially within the domain of climate change, however, that transnational governance has proliferated (Andonova et al., 2009). Andonova et al. (2009) give four main reasons why climate change has been conducive to the emergence of TGIs. Firstly, climate governance is highly exposed to the influence of non-state actors due to the diversity of actor groups implicated in the issue, many of which have cross-border interests. Secondly, the nature of the climate change problem is such that solutions require vertical and horizontal policy coordination, as well as cross-sector responses. This leads to collective action across borders, as interests are often concentrated around specific climate-related issues such as adaptation or carbon markets. Third, the climate regime endorsed market authority and the use of market mechanisms with the Kyoto Protocol, which invited the development of new institutions in support of this emerging market. Along with this process came new opportunities for cross-border cooperation between governments, intergovernmental organizations and non-state actors. Finally, the climate issue has provoked subnational actors to build transnational networks in an attempt to circumvent limited or insufficient action on behalf of certain nation-states. Biermann & Pattberg (2008) argue that these developments signal the emergence of an era of global environmental governance characterized by ‘agency beyond the state’ where agency is defined as “the power of individual and collective actors to change the course of events or the outcomes of processes” (p. 280). They argue that this power is increasingly located in the hands of non-state actors, resulting in a fragmented governance system that is both multi-level, referring to the different layers of authority (supra- to sub-national), and multi-polar, referring to the different sites of decision-making that operate in parallel.

To navigate how different state and non-state actors are involved in TGIs, this research draws upon the typology of transnational climate governance by Andonova et al. (2009). The first dimension of this typology categorizes TGIs based on the actors involved, thereby giving insight into the different forms of authority that exist within such initiatives. Three network types are distinguished in the typology: public, private and hybrid networks. Firstly, public transnational governance networks are composed of actors such as local governments, governmental sub-units, legislators or sub-units of intergovernmental organizations that pursue shared policy agendas. The second category encompasses private transnational governance networks, which are established and managed by non-state actors without interference from the public sector. These networks tend to be initiated by large

environmental NGOs or transnational corporations in voluntary alliances (Bulkeley et al., 2014). Finally, hybrid networks involve both public and private sector actors who work together towards the achievement of a set of governance objectives. Bulkeley et al. (2014) show that hybrid initiatives are often led by international organizations and states, who use such initiatives to steer transnational governance for climate change in a particular direction.

Several authors use these steering capacities to demonstrate that the emergence of agency beyond the state does not equate to a redistribution of power from state to non-state actors (Bulkeley & Jordan, 2012; Jordan & Huitema, 2014; Roger et al., 2017; Widerberg & Stripple, 2016). Instead, TGIs are seen as a means for states to exert influence through orchestration, a strategy whereby states and international organizations initiate, guide, or strengthen TGIs by non- and sub-state actors (Hale & Roger, 2014). This is done through interventions such as providing resources, promoting common standards, facilitating cooperation and building capacities. Jordan and Huitema (2014) therefore argue that the new types of governance and authority emerging in the transnational sphere are not isolated from the influence of states, but rather develop in the shadow of state action. The phenomenon is a two-way street. On the one hand, states orchestrate and steer the actions of TGIs led by non-state actors, while on the other hand, private actors can influence state action by pushing issues up the political agenda (Jordan & Huitema, 2014; Roger et al., 2017). Hence, the relationship between transnational governance and public policy is a synergistic one, rather than one characterized by substitution or diversion (Roger et al., 2017).

The ways in which this synergy materializes have changed over time along with changes in the actors leading and participating in TGIs. According to an analysis of 75 TGIs operating in the climate domain, the first wave of initiatives that emerged in the 1990s was mostly composed of public and hybrid initiatives, with very little evidence of TGIs that were purely private (Roger et al., 2017). This changed after the signing of the Kyoto Protocol, when the share of private initiatives started growing. Today, private TGIs represent the largest group, followed by hybrid initiatives and finally public initiatives, which comparatively represent a rather small share (Roger et al., 2017). A similar study by Bulkeley et al. (2012) analyzed which actors tend to initiate such TGIs and found that nonprofit organizations are the main initiators, followed by national governments, international organizations and regional governments. In contrast, local governments least commonly appeared as initiating actors. Finally, the study analyzed geographical patterns, revealing that the vast majority of TGIs are initiated by actors based in the Global North. As such, there are clear trends and patterns in the types and geographies of actors that govern TGIs within the climate domain.

2.3.2 How do transnational governance initiatives govern climate finance?

In addition to the three network-types, the typology of transnational climate governance initiatives by Andonova et al. (2009) distinguishes three governance functions through which TGIs pursue their goals: (i) information sharing, (ii) capacity building and implementation and (iii) rule setting. The first function, information sharing, entails the

generation and diffusion of knowledge with the intent to introduce new norms, build consensus or change behaviors among a network's constituents. Second, TGIs that engage in capacity building and implementation do so through the provision of resources such as funding, expertise, labor or technology. Such resources, both material and immaterial, are drawn from multiple actors involved in the TGI to steer a particular target group toward action. Finally, rule setting guides or constrains constituents' behavior and decision-making by establishing rules and regulations or endorsing particular norms. These rules are often of a softer nature than those set in international or domestic law and can both complement existing regulations or make up for their absence. TGIs can perform multiple governance functions simultaneously, although most focus their activities around one of the functional types (Andonova et al., 2009).

Since this research focuses on how TGIs shape flows of finance towards NBS, it narrows down on initiatives that engage in the provision of funding or financial services. With regard to the typology above, this function falls within the broader category of 'capacity building.' However, this category encompasses more than funding alone, which is why existing research (Bulkeley et al., 2012; Roger et al., 2017) often separates funding from other types of capacity building. To determine the extent to which TGIs engage in the provision of funding, the analyses by Bulkeley et al. (2012) and Roger et al. (2017) provide valuable insights. Bulkeley et al. (2012) find that initiatives that provide funding tend to be hybrid schemes, have on average been founded earlier than initiatives engaging in other functions and more commonly include actions on adaptation. Furthermore, the study finds that among those initiatives that provide funding, very few are of a private nature (Bulkeley et al., 2012). The study by Roger et al. (2017) gives additional insight into how the functions performed by TGIs have changed over time. They show that the first TGIs that emerged in the 1990s were mainly working on information sharing, with a small share engaging in rule setting. Around the year 2000, TGIs started emerging that provide more direct operational support and engaged in financing. By the year 2010, the authors demonstrate that rule setting became the most common governance function, followed by information sharing. Finance schemes, in contrast, represent the smallest group of TGIs (Roger et al., 2017). This finding is mirrored by Bulkeley et al. (2012) who conclude that TGIs which engage in the provision of financing are quite rare. However, this does not mean that the volumes of funding provided are insignificant. In fact, it has been suggested that transnational initiatives have provided substantial financial resources in the climate domain, especially TGIs linked to international financial institutions such as the World Bank (Bulkeley et al., 2014).

Deeper insight into how transnational climate networks influence the governance of climate finance is provided in a recent study by Kawabata (2021). As outlined in section 1.1c, this research identified three main ways in which TGIs can shape climate finance, illustrating that each of the three governance functions described above can be used in this regard. For example, information sharing can be applied to influence policymaking related to climate finance by public actors, while rule setting can be used to steer the behavior of financial institutions and investors. Third, TGIs can act as an intermediary or broker, helping to match

investors with climate actions. The direct provision of funding is thus only one of the ways in which TGIs shape climate finance. Among the 63 TGIs examined by Kawabata, direct funding provision is the most common within hybrid initiatives, followed by a slightly smaller share of public initiatives. Only 5% of private initiatives within the sample engaged in funding. This is in spite of the fact that along with hybrid initiatives, private TGIs were more likely to have financial institutions and investors among their members. The lack of engagement with financing in private initiatives mirrors the findings of Bulkeley et al. (2012) explained above. The fact that both Kawabata (2021) and Bulkeley et al. (2012) find that funding is most common among hybrid initiatives may point to the importance of public actors in enabling TGIs to provide finance. This mirrors the growing popularity of blended finance arrangements wherein public actors use their resources to leverage additional private finance (see section 2.2.c).

2.3.3 On whose behalf do transnational governance initiatives govern climate finance?

By examining on whose behalf governance by TGIs takes place, it is possible to gain insight into whose interests are represented and who benefits from such initiatives. The CPE perspective helps to situate the actions of TGIs in the neoliberal order and examine the extent to which these actions may be sustaining or reproducing neoliberal ideologies and power structures (Bulkeley et al., 2014). The emergence of transnational climate governance is often linked to a desire to make up for the limitations of international governance (Bulkeley & Jordan, 2012). Proponents argue that transnational governance can facilitate the direct involvement of a greater range of actors with the capability to act on climate change, particularly those from the private sector. Through measures such as voluntary targets, codes of conduct and rule setting, these actors can address and remediate environmental harm (Bulkeley & Jordan, 2012). On the other hand, critics of transnational governance question the extent to which a system with such disparate actions, sources of authority and means of implementation can create a coherent and integrated approach to environmental governance. Moreover, they emphasize that TGIs may lack legitimacy and could undermine more stringent interventions toward actors engaging in environmentally harmful behavior (Bulkeley & Jordan, 2012).

Bulkeley et al. (2012) argue that rather than challenging the existing international regime or operating independently from it, transnational climate governance has been strongly shaped by existing patterns of political economy. For instance, the actors involved in TGIs align closely with broader trends within the international regime. Bulkeley et al. reveal that TGIs are typically initiated by actors situated in the Global North, while Southern actors predominantly appear as participants. 77% of the initiatives in their database involved the participation of at least one Southern actor, with 57% of initiatives including at least two. Actors from the Global South are thus underrepresented as initiators of TGIs but are commonly involved in them as participants. Bulkeley et al. suggest that this trend could

perpetuate existing power dynamics within international politics, where the interests and agendas of actors in the North are prioritized over those from the South.

Furthermore, regional differences exist in TGI participation, even within the Global South. Initiatives that include Global South actors demonstrate high rates of participation from BRICSAM countries (Brazil, India, China, South Africa, and Mexico), with the share of initiatives including only Southern actors not part of BRICSAM being relatively small (Bulkeley et al., 2012). Broader patterns show that aside from North America and Europe, Asia emerges as the region that is most active in TGIs, followed by Latin America. In contrast, countries from Sub-Saharan Africa, Oceania, the Middle East and North Africa show lower participation rates. Participation in TGIs is thus concentrated in emerging economies (Bulkeley et al., 2014). From a CPE perspective, this can be linked to existing power structures in the global economy and regional patterns of exploitation. While new capitalist cores are emerging in Asia and Latin America, peripheral areas remain marginalized and exploited as power and wealth concentrates in the core (Bulkeley et al., 2014). The extent to which TGIs challenge the international regime and represent the interests of marginalized actors can therefore be questioned.

Further insight into this theme is gained by examining if and where TGIs have produced outputs. Pattberg & Widerberg (2016) examined a sample of 340 TGIs and concluded that these initiatives demonstrate only limited effectiveness. 38% of the partnerships show low or no measurable outputs five years after their inception. In addition, 42% of the partnerships that did produce outputs engage in activities that do not match their stated goals. The authors further emphasize that these partnerships have not been able to improve the participation and inclusion of marginalized actors in global governance (Pattberg & Widerberg, 2016). Similarly, a 2018 study by Chan et al. conducted an output-based assessment of a sample of 52 TGIs and uncovered patterns in output production depending on the initiatives' thematic focus. The study reveals that TGIs working in the energy domain are most successful in generating outputs that match their stated functions, with 90% of initiatives examined having done so. In contrast, only 52% of initiatives working on agriculture produced relevant outputs, with 33% not having produced outputs at all. The authors suggest that this variation could be partially explained by the age of the initiatives, as the TGIs in the energy domain had been operational for longer than those in other thematic areas. However, the study indicates that TGIs may experience greater success in some thematic areas than others. Finally, the study provides relevant findings related to the performance of initiatives that provide funding. Of the 14 funding initiatives in the sample, only four managed to raise or distribute funds, indicating that underfunding remains an issue in such TGIs (Chan et al., 2018).

In addition to uncovering differences in output production across thematic areas, the analysis by Chan et al. (2018) reveals geographical patterns. While Bulkeley et al. (2012; 2014) show that there are North-South gaps in initiation and participation in TGIs, Chan et al. (2018) demonstrate that such a gap also exists in implementation. They do so by comparing where initiatives plan to implement and where outputs are actually recorded. While planned

implementation rates were found to be distributed quite evenly across developed and developing countries, actual implementation rates were rather skewed. For instance, high-income countries represent approximately 25% of the planned locations of implementation in the sample, but account for 40% of the total number of locations where outputs were produced. In contrast, low and lower-middle income countries together make up about 50% of the planned locations of implementation but only 17% and 20% of actual implementation locations. Chan et al. suggest that the implementation gap could be due to TGIs experiencing implementation problems in developing countries, leading them to implement in developed countries instead. All in all, these studies indicate that TGIs are highly influenced by the neoliberal order and may contribute to reinforcing existing power structures and inequalities within it.

Through this exploration of existing research on TGIs by means of the three sub-questions, this section provides an overview of the most important aspects of transnational governance from a CPE perspective. In the next section, these insights are integrated with the main themes for the concept of climate finance for nature to provide a framework of reference for the subsequent phases of the research.

2.4 Bringing together climate finance for nature and transnational governance

To end this chapter, this final section brings together the main themes and findings from the literature on climate finance for nature and transnational governance discussed above. This results in an overview of the key dynamics in TGI-mediated climate finance for NBS from a CPE perspective, which are subsequently used to analyze the data that emerges in the quantitative and qualitative phases of the research.

With regard to the question of who governs, the literature highlights a significant reliance on public funding sources for investments into NBS, with private sector actors contributing comparatively fewer financial resources (UNEP, 2021). However, a notable trend is the growing popularity of blended finance schemes, which use public capital of a concessionary nature to crowd-in private investment and bolster the financial support provided by the private sector (Clark et al., 2018). As such schemes become more widespread, a broader range of private sector actors may become involved in shaping climate finance flows for nature. Linking this back to the literature on TGIs, it may indicate a need for more focused attention on hybrid initiatives, as their mixed public-private membership could be conducive to setting up blended finance schemes. However, the TGI literature emphasizes that even in hybrid TGIs with non-state actors, states and international organizations exert considerable steering influence (Hale & Roger, 2014). By selectively supporting TGIs, public actors can affect the shape and form of these initiatives, as well as the actions they undertake. It is therefore important to consider the dynamics between state and non-state actors in TGIs and how these influence actions and decisions about the allocation and disbursement of climate finance for nature.

Second, trends and patterns in how governance of climate finance for nature takes place include an increasing diversification of the financial instruments applied in the funding of NBS (Brears, 2022). This goes along with growing calls for the development and application of innovative financial instruments such as PES, green bonds and biodiversity offsets (CBD, 2022). Each of these innovative instruments, in turn, are linked to the financialization of nature, a process in which nature and its ecosystem services become assetized and capable of bearing value that can be circulated and exchanged on financial markets (Christophers, 2018). It is not yet clear what position TGIs take in this process, which leaves open the question of whether they actively contribute to the financialization of nature or rather rely on more traditional financial instruments. The TGI literature does reveal that funding is most commonly provided by hybrid initiatives (Bulkeley et al., 2012; Kawabata, 2021), which indicates that collaborations between public and private actors may be most productive in the generation of climate finance for nature. In addition, it shows that TGIs can influence climate finance in ways other than direct provision, such as through information sharing, networking and rule setting (Kawabata, 2021). An examination of how governance of climate finance is enacted in TGIs must therefore be attuned to the interplay between who is involved, how they exert influence, and which instruments they use to channel their funding.

Finally, the CPE perspective considers who are the beneficiaries of climate finance for nature and how TGIs influence the distribution of costs and benefits among stakeholders. There has so far been little research on the geographies and beneficiaries of climate finance for nature. However, there are several recurring reports that examine these trends and patterns for climate finance in general (Buchner et al., 2021; OECD, 2022). Therefore, the question arises as to whether the patterns observed in climate finance flows also apply to the finance directed toward nature. What can be inferred from existing research is that blended finance schemes along with patterns of financialization risk generating benefits for owners of capital and actors deemed 'creditworthy' rather than local workers and citizens (Bracking & Leffel, 2021; Mawdsley et al., 2018). This may reproduce or exacerbate existing North-South dependencies and inequalities. In addition, it emphasizes that the way finance is received and enacted is greatly influenced by local social and political conditions. The TGI literature similarly warns that transnational governance is influenced by existing patterns of political economy and could advance the interests of Northern actors in the Global South (Bulkeley et al., 2012). The fact that TGIs are predominantly led by Northern actors may indicate that these actors have a disproportionate influence on where funding flows. In addition, the implementation gap identified by Chan et al. (2018) demonstrates that funding could have a hard time reaching the places where it is needed most. The analysis must therefore consider that finance for nature may not follow the same patterns as finance for climate and that the interactions between the actors involved in TGIs and their beneficiaries are influenced by existing social relations and power structures.

Chapter 3: Methodology

This section elaborates on the methodological approach of the research. It starts with an explanation of the research strategy, after which it describes the main data source of the study: the C-CID. Next, it summarizes the case selection process in each of the three phases of the research. It then explains the research methods applied, the data collection process and the data analysis procedure.

3.1 Research strategy

This research is the first to draw connections between the concepts of TGIs, NBS and climate finance for nature from a critical political economy perspective. Therefore, the study is of an exploratory nature and seeks to build theory rather than test hypotheses. The research applied an iterative, mixed method approach in a comparative, multiple case study format. The research is iterative in the sense that it was conducted in a three-phase structure in which the findings of each phase were used to inform subsequent analysis. In addition, the data collection, data analysis and literature review were conducted in parallel to continuously draw connections between the data and the theory in an abductive manner (Clark et al., 2021). This allowed for the emergence of multiple explanations which could be examined in more detail across the three phases of the research.

The three-phase mixed methods approach followed an explanatory sequential design in which two main methods were applied (Clark et al., 2021). First, univariate statistical analysis was used to examine a broad sample of 96 TGIs working with NBS. Based on the outcomes of this analysis, a sub-sample of 46 TGIs – all of which engage in funding – was selected and analyzed using the same univariate statistical methods. In phase three, a third sub-sample of three TGIs was selected for an in-depth case study using a ‘follow-the-money’ methodology adapted from Hughes-McLure (2022). This part of the case study followed a hierarchical method in which the three cases were first analyzed independently and later compared with one another (Verschuren & Doorewaard, 2010). The purpose of this final phase was to provide deeper insight into the outcomes associated with the trends and patterns uncovered in the prior phases. In particular, it focused on how the funding activities of the three selected TGIs are structured in practice and how this impacts the social and economic relations related to climate finance for nature, the (re)distribution of resources and processes of financialization.

3.2 Case selection

3.2.1 Data source: the Climate-Cooperative Initiatives Database

This research draws on the Climate - Cooperative Initiatives Database developed by the German Institute for Development and Sustainability (Chan et al., 2022). The database

collects information on 100 variables from 600 International Climate Cooperatives (ICIs). For an initiative to be defined as an ICI, it must fulfill four requirements: (i) it involves two or more actors, (ii) it involves one or more non-state or sub-national actors, (iii) it implements in and/or involves partners from two or more countries and (iv) it works on climate mitigation, adaptation or both (Chan et al., 2022). The definition of an ICI within the database therefore aligns with the definition of a TGI as outlined previously. To avoid confusion, the remainder of the research refers to these initiatives as TGIs. The C-CID includes TGIs launched at a range of climate summits and other international processes, including the annual United Nations Climate Conference, 2014 UN Climate summit, Lima-Paris Action Agenda, Marrakech Partnership for Global Climate Action, 2018 Global Climate Action Summit, the Agenda for People and Nature and the 2019 UN Climate Action Summit (Chan et al., 2022). The database is longitudinal and collects time-series data on several of the variables included. Data collection started in 2013 and is complete and accurate until the year 2021.

This research draws on a subset of 96 initiatives within the C-CID that apply NBS to reach climate and biodiversity objectives. To identify these initiatives within the broader sample, IDOS researchers applied three key indicators: (i) the initiative implements at the landscape level, including bodies of water, (ii) the initiative engages in on-the-ground action aimed at protecting or transforming that landscape, (iii) the initiative has a stated objective to protect or improve biodiversity (A. Denault, personal communication, February 10, 2023). In addition, the researchers considered the issue of scale. Only initiatives that implement at a scale large enough to have an impact on patterns of biodiversity loss within a given area or landscape were included. For example, initiatives that involve actions such as the creation of a community garden or the construction of a green roof were excluded, unless these were part of an overarching project that implements across multiple locations or involves interventions large enough to produce scale-able biodiversity impacts (A. Denault, personal communication, February 10, 2023).

The data collected on the initiatives in the C-CID is categorized into seven sections. (i) basic information (organizational and institutional characteristics); (ii) actor data (actor types and geography); (iii) targets & plans (climate policy focus, thematic area, targets), (iv) functions (twelve possible functional types); (v) geographic information (planned implementation and location of outputs); (vi) outputs (funding disbursed) and (vii) COVID-19 responses. Category seven is beyond the scope of this research. However, the other six categories contain variables relevant to analyze TGI-mediated financing of NBS. These variables are outlined per section in Table 3.

Table 3

Relevant variables per data section in the C-CID

Section	Relevant variables
Basic information	Country location of secretariat/lead partner/focal point
	Launch year

	Expiry year
Actor data	Leading institutions (actor name, type and location)
	Funding institutions (actor name, type and location)
	Actor types included: <ul style="list-style-type: none"> • National governments • Subnational governments • Business & industry • Large investors • International non-profits & NGOs • Domestic non-profits & NGOs • International organizations • Research & education
Targets & plans	Thematic Area <ul style="list-style-type: none"> • Energy • Industry • Transport • Human settlements • Land use (<i>agriculture and forests</i>) • Oceans and coastal zones • Water
	Targets expressed in amount of funding to be mobilized/raised
	Actual funding: amount in USD, location, year
	Actual funding: raised/mobilized (output)
Functions	All functions
	Functions included: <ul style="list-style-type: none"> • Knowledge production • Knowledge dissemination • Technical implementation • Institutional capacity building • Norm & standard setting • Campaigning • Lobbying • Participatory management • Funding • Training • Product development • Policy planning
Geographic information	Countries where implementation is planned or ongoing
Outputs	Location of outputs
	Year of outputs
	Output type: funding distributed for new and existing projects relating to climate action

Note. Based on Chan et al. (2022)

3.2.2 Case selection phase 1

The first phase of the research relied on the sub-sample of 96 TGIs that apply NBS. The criteria used to create this sub-sample are outlined above and summarized in Table 4. For this phase, no additional criteria or specifications were applied to further narrow down the sample. This allowed for a first round of analyses to be conducted on all initiatives in the C-CID that work with NBS.

Table 4

Selection criteria and indicators for nature-cooperative initiatives

Criteria	Indicators
The initiative is an international climate cooperative	It involves two or more actors
	it involves one or more non-state or sub-national actor(s) (e.g., businesses, investors, NGOs, cities, regions, research institutions)
	it implements in and/or involves partners from two or more countries
	it addresses a climate aspect (e.g., mitigation, adaptation or both)
The initiative applies nature-based solutions	It implements at the landscape level (including bodies of water)
	It engages in on-the-ground action aimed at protecting or transforming a landscape
	It has a stated objective to protect or improve biodiversity

Note. Based on Chan et al. (2022) and A. Denault (personal communication, February 10, 2023)

3.2.3 Case selection phase 2

For the second phase of the research, the sample of 96 nature-cooperative initiatives was narrowed down to a selection of only the initiatives that have funding as one of their functions. As shown in Table 3, the C-CID classifies initiatives according to the main functions they perform. In total, there are twelve categories of functions that initiatives can fulfill in the context of climate governance. Of these twelve categories, ‘funding’ entails ‘the provision of funds or financial services and the raising of funds for climate projects’ (Chan et al., 2022). After filtering for the initiatives that have funding as a function, a sub-sample of 46 TGIs remained. This sample was subjected to the same analyses as the broader sample from phase one to uncover differences in trends and patterns between NBS initiatives in general and those that are engaged in the provision of funding. In addition, several extra analyses were conducted that were not applicable to the broader sample (see section 3.3 for more information).

3.2.4 Case selection phase 3

Following the explanatory sequential design of the study, the third and final phase of the research entailed the selection of three initiatives of interest for an in-depth case study analysis. These initiatives were selected from the sample of 46 funding initiatives, based on the outputs of the analysis in phase two. To ensure that the selected cases were similar and comparable, initiatives were selected from a single thematic issue area. The C-CID categorizes the initiatives into thematic areas based on Marrakech Partnership Action Agenda. There are seven categories: 'energy', 'human settlements', 'industry', 'land use', 'oceans and coastal zones', 'transport' and 'water'. For added detail, this research divided the 'land use' category into the themes of 'agriculture' and 'forests', and re-categorized initiatives accordingly¹. One initiative may work on multiple themes, meaning the categories are not mutually exclusive.

The phase two analysis revealed that funding initiatives are most common in the issue areas of 'water' and 'oceans and coastal zones.' Between these two issue areas, the initiatives working on oceans and coasts produced the greatest number of funding outputs. Therefore, this issue area was chosen for the selection of cases for the comparative case study in phase three of the research. An additional reason for this choice is that research indicates that in recent years, considerable financial innovation has taken place in projects applying NBS in oceans and coastal zones (Christiansen, 2021a, 2021b; Reguero et al., 2020; Thiele & Gerber, 2017). This makes it an interesting area of study to examine whether such innovation is also taking place in TGI-mediated projects.

Within the sample of initiatives working on the issue area oceans & coastal zones, six have produced funding outputs between 2013 and 2021. From this sample of six, three initiatives were selected for analysis. Three initiatives, Ecoshape, the Global Facility for Disaster Reduction and Recovery (GFDRR) and the West Africa Coastal Areas Management Program (WACA) were excluded. For Ecoshape, the reason for exclusion was that the provision of funding is not their main activity. Rather, their funding efforts apply only to a sub-component of one of their projects, which provided insufficient material for an in-depth analysis. For the Global Facility for Disaster Reduction and Resilience, the reason for exclusion was a lack of available information. While the GFDRR, in collaboration with the World Bank, funds the Global Program on Nature-Based Solutions, too little information was available on the workings, activities and outcomes of this program. WACA was excluded for similar reasons, while it runs a marketplace that matches coastal resilience projects with investors, too little public information was available to support an in-depth analysis. This left three remaining initiatives, as shown in Table 5.

¹ This decision was made for two reasons. Firstly, the 'land use' category was disproportionately large compared to the other thematic areas. Secondly, it was deemed beneficial to be able to discern between initiatives working on agriculture and forests, as these categories involve different types of NBS and are commonly analyzed separately in research on NBS. The re-categorization was done by examining initiatives' websites and/or available project documentation to determine their areas of application. Initiatives working on issues related to both forests and agriculture were included in each category.

For two of the three remaining initiatives, the Caribbean Challenge Initiative (CCI) and the Global Resilience Partnership (GRP), funding activities were associated with specific sub-projects. Since in both cases these sub-projects were large enough for a detailed analysis, it was decided to select the sub-project as case study rather than the entire overarching initiative. For the CCI, this sub-project is the Caribbean Biodiversity Fund (CBF). This fund was established in 2012 to support the CCI’s sustainable finance goal, which aims to establish a finance mechanism that provides long-term, reliable funding for the sustainable management of marine and coastal areas (CCID, n.d.). Today, the CBF plays a central role in supporting the CCI (CCID, n.d.). With regard to the GRP, the case study focuses on its sub-project the Ocean Risk and Resilience Action Alliance (ORRAA). While the GRP engages in various functions and issue areas, its actions on financing NBS in oceans and coastal areas are best captured by the ORRAA, which houses its secretariat within the GRP (ORRAA, 2019).

Table 5

Overview of oceans & coastal initiatives with funding outputs

Initiative	Included in final sample?
Blue forests project	Yes
Caribbean Challenge initiative (Caribbean Biodiversity Fund)	Yes
Global Resilience Partnership (Ocean Risk and Resilience Action Alliance)	Yes
West Africa Coastal Areas Management Program	No
Ecoshape	No
Global Facility for Disaster Reduction and Recovery (Global Program on Nature-Based Solutions)	No

3.3 Research methods

As this research takes a mixed-methods approach, both quantitative and qualitative methods were applied. Returning to the three phases of research as outlined in the research strategy, phases one and two were purely quantitative, while phase three was qualitative. With regard to the quantitative methods, this research applied univariate analysis to produce descriptive statistics that summarize the available data, one variable at a time (Clark et al., 2021). The analysis was conducted in Excel and was performed on the broader sample of 96 TGIs and the sub-sample of 46 funding TGIs. Since the purpose of these two sections was to provide a broad overview of trends and patterns within TGIs working with NBS rather than test hypotheses about the relationships between variables, a univariate analysis was deemed sufficient.

For the third phase of the research, in which an in-depth comparative case study analysis was performed on three selected TGIs, this study adapts the ‘follow-the-money’ methodology developed by Hughes-McLure (2022) to map and model flows of funds through critical financial analysis. The author was personally consulted through an online video

meeting to ensure the correct application of the methodology and tailor it to the present research. The value of the methodology, according to Hughes-McLure (2022), lies in its contribution to five main themes: (i) it provides a detailed empirical evidence base to understand the structure of financial transactions within a case study, (ii) it can show the (re)distribution of resources, 'revealing who benefits or loses, by how much, and where', (iii) it gives insight into the social and economic relations underlying financial transactions, (iv) it can analyze the processes and consequences of financialization and (iv) it can provide insight into financial risk. By addressing these five themes, the methodology can advance knowledge production relevant to questions within the field of (critical) political economy (Hughes-McLure, 2022). While the present study does not look into financial risk, the other four themes are relevant for the analysis of TGI-mediated financing of NBS.

The Hughes-McLure (2022) follow the money methodology is performed in three steps. First, it requires the mapping of the network of actors and money flows involved in a given case. This is done by means of qualitative document analysis, examining project documentation to create a detailed overview of which actors are involved, what their role is in the process and what their financial ties are to the project. In addition, this step examines where in space and time money flows are taking place between the actors involved and what kind of financial instruments are used to guide those flows. In the second step, the network map of actors and money flows is supplemented with financial data on the specific flows of money, by examining annual reports and financial statements. This provides a more detailed account of the financial relations between actors and the workings of the financial instruments applied. Third, the financial data collected in step two is inputted into excel to create a model of the flows of money between actors for the duration of the case study. This final step provides a quantitative account of the scale of financial transactions between actors, the accumulation of wealth and changes in such patterns over time.

In consultation with Hughes-McLure, the decision was made to only apply step one of the follow-the-money methodology. Step three is beyond the scope of this research, as the aim of the comparative case study is to give more detailed insight into how TGIs structure their funding activities and how this impacts the actors involved, rather than providing a detailed quantitative analysis of the transactions carried out within an initiative. Furthermore, Hughes-McLure explained that step two is mostly used to prepare step three and would be too time-consuming for the present research. Moreover, she emphasized that also by just performing step one, the methodology can still provide relevant insights into the five themes listed above (S. Hughes-McLure, Personal Communication, 27 March 2023). For each of the three selected cases, step one was performed individually, after which the final maps of actor networks and money flows were compared and contrasted. For each case, a spatial and temporal boundary was applied. The actors considered were limited to those funding the TGI, running the TGI and being targeted by the TGI. Temporally, the analysis tracked money flows from the point where they left donors to the point that they reached beneficiaries. In several cases, the TGIs used their funding to set up new financial instruments. Money flows

associated with these instruments were also included in the analysis, several of which resulted in returns for external actors.

3.4 Research materials, data collection and data analysis

For the univariate statistical analysis in phases one and two of the research, some additional data collection was required. While the C-CID contains information on a range of variables (see Table 3), it was not developed for the explicit purpose of conducting research on financing, which meant that some information was missing. For instance, the database does not collect information on the financial instruments used by TGIs to disburse funding. Therefore, an additional round of data collection from the sub-sample of 46 funding TGIs took place to supplement the database with this variable. Data collection was based on a document analysis of secondary sources such as initiative websites, annual reports, brochures, and other project documentation. The coding process resulted in three additional and related variables: (i) whether the project engages in direct funding or indirect funding, (ii) which financial instruments are used to provide funding and (iii) the types of financial instruments are supported through the funding².

Data analysis for phases one and two took place in Excel. A range of univariate statistical analyses were performed, an overview of which can be found in Table 6. In phase one, the statistical analyses were applied to the broader sample of 96 initiatives. In phase two, they were applied to the sub-sample of 46 funding initiatives. The analysis on financial instruments was exclusively performed in the second phase of the research, as it only applies to initiatives that engage in funding. Results of the analyses were visualized in appropriate graphs and tables.

For the follow-the-money approach in the third phase of the research, data collection took place by means of qualitative content analysis and semi-structured interviews. Firstly, the content analysis was guided by the requirements of the Hughes-McLure (2022) methodology, which proposes to structure data into four categories: (i) the actors involved, (ii) the financial connections between actors, (iii) the financial instruments that form those connections and (iv) the flows of money involved in those instruments. Data collection was based on a range of secondary sources, including initiative websites, donor/partner websites, annual reports, financial statements, impact reports, news coverage, audiovisual media and initiative newsletters. The range of sources consulted for each case study varied slightly depending on the detail and availability of project documentation. Second, interviews were conducted with representatives from two of the case studies, one interview with the BFP and two with the CBF (see Appendix A for details). The ORRAA was not available for an interview. The purpose of the interviews was to gain additional insight into the funding structure of each

² This third variable was added because several initiatives employ traditional financing instruments such as grants but use those to stimulate innovative financing instruments on the ground, such as PES or insurance schemes. Such conditional funding was also considered relevant for an examination of how TGIs structure the financing of NBS.

of the cases, after the first round of content analysis had been completed. Interviews were semi-structured as this allowed for targeted questions about elements in the funding structure that remained unclear while leaving room for additional topics to emerge that were not uncovered through the content analysis.

The subsequent data analysis took place in the online coding software Nvivo. Collected data sources were coded according to the four aforementioned categories, after which the information was used to create a visual map of each initiative's funding strategy. In line with the CPE perspective of this study, the findings were analyzed in accordance with the three sub-questions of the research: *who governs, how do they do so and on whose behalf*.

Table 6
Overview of univariate statistical analyses performed

Analysis	Measures	Sub-question addressed
Funder analysis	Actor type distribution, Actor type distribution per issue area, Geographical distribution, Geographical distribution per issue area, Top funders (names)	Who governs?
Leader analysis	Actor type distribution, Geographical distribution, Top leaders (names)	Who governs?
Functions analysis	Frequency count and shares of all functions, Share of initiatives with funding as a function, Funding prevalence per issue area, Frequency count and shares of functions per issue area	How do they govern?
Financial instrument analysis	Use or support of blended finance schemes, Proportion of direct to indirect funding initiatives, Frequency counts of financial instruments applied, Frequency counts of financial instruments supported,	How do they govern?
Output analysis	Geographical distribution of funding disbursed (per country income level), Top locations of funding disbursed, Planned locations of implementation v actual locations of implementation	On whose behalf?
Others	Initiative type distribution (public, private, hybrid), Frequency count of actors that are both leader and funder	Who governs?

Chapter 4: Results and discussion C-CID analysis

This chapter presents the results of the first two phases of the research. As explained in chapter three, this entails a quantitative analysis of two samples of TGIs in the C-CID: 96 TGIs that use NBS and 46 TGIs that provide funding for NBS. The results of both analyses are presented here. Mirroring the structure of chapter two, the results are organized according to the three sub-questions: *who governs? How do they govern? And on whose behalf?*

4.1 Who governs?

The first set of results provides an answer to the question: who governs in TGIs working with NBS? It starts by categorizing the initiatives according to the Andonova (2009) typology (public, private, hybrid). Next, it presents the analyses of the actors that lead the initiatives and the actors that finance them. For both groups, the study examined the types of actors involved, their geographical distribution and their frequency of occurrence. Finally, for all data related to funders, issue-area specific analyses were conducted to uncover differences in patterns depending on the thematic focus of the initiative.

4.1.1 Initiative types

The total sample of 96 TGIs was categorized into public, private and hybrid initiatives based on the leading actors of each initiative. For more information on which types of actors were included in each of the categories, see Appendix B. Private initiatives were most common in the sample (47%), followed by public initiatives (28%) and hybrid initiatives (25%). This contrasts with the findings of Roger et al. (2017). While they also identified private initiatives as the largest group of TGIs in the climate domain, this was closely followed by hybrid initiatives, with public initiatives constituting a significantly smaller share. This indicates that there may be a slightly different initiative type distribution for TGIs working on climate and TGIs working on joint climate-biodiversity projects. For more information on the distribution of initiative types in the funding sample, see section 4.2.1 on the functions analysis.

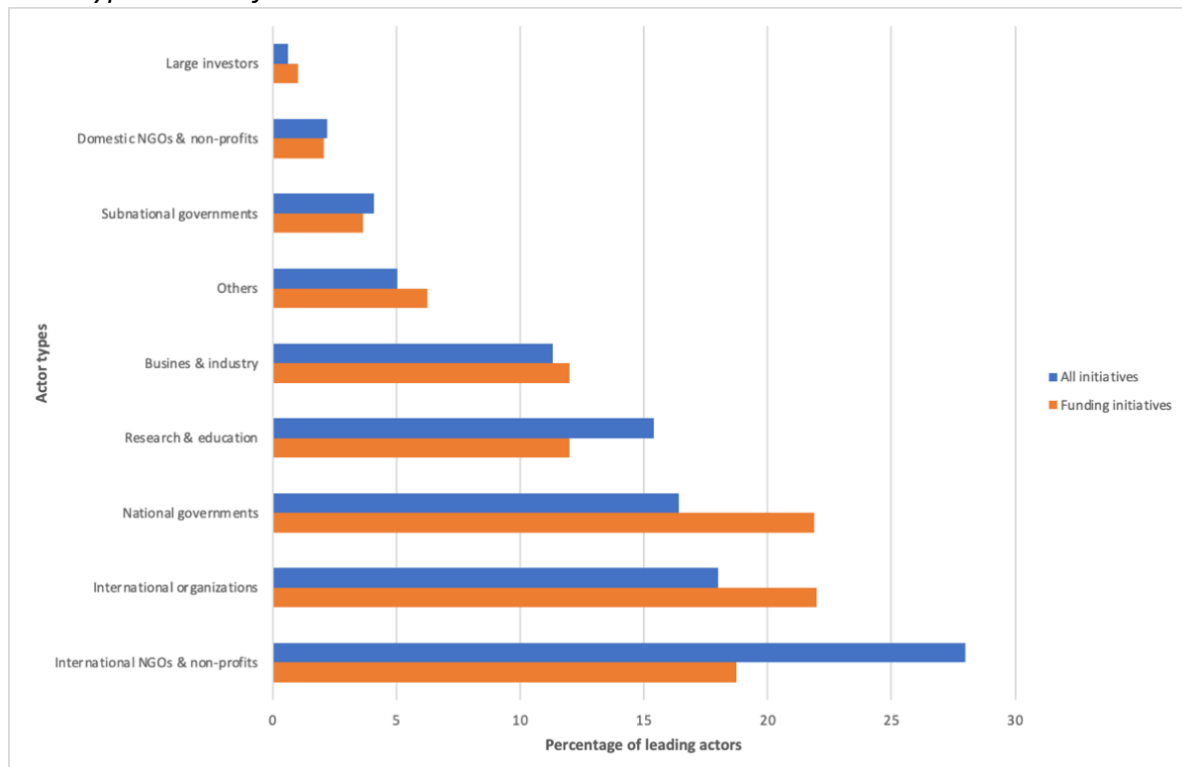
4.1.2 Leader analysis – actor types

For each initiative, the C-CID records which actors lead or coordinate it. Examining patterns and trends in leading actors can provide valuable insights into where initiatives get their authority, the extent to which initiatives are driven by Northern actors and whether they are orchestrated by states or international organizations (Chan et al., 2022). As shown in Figure 2, for the larger sample of TGIs, the top three leading actors are international NGOs and non-profits (28%), international organizations (18%) and national governments (16%). In the sample of funding initiatives, international NGOs and non-profits appear as leaders

slightly less frequently (19%), while international organizations and national governments are comparatively more common (22% each). In both samples, subnational governments, domestic NGOs and large investors were the least likely to take on a leading role. This mirrors research by Bulkeley et al. (2012), who similarly find that nonprofit organizations, national governments and international organizations are the main initiators of climate related TGIS, while local governments constitute the smallest group.

Figure 2

Actor type shares of leaders

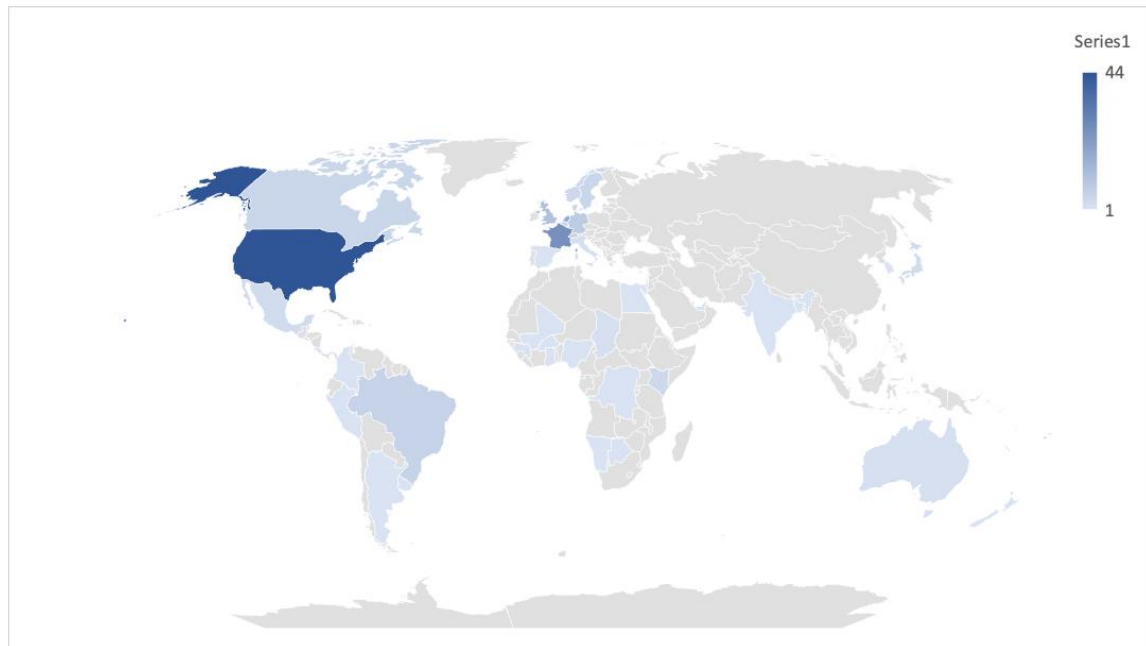


4.1.3 Leader analysis – geographical distribution

In addition to the actor type distribution, the analysis examined the geographical distribution of where leaders are based (see Figure 3). In total, there are 318 leading actors recorded in the larger sample. Of these, 126 (+/-40%) are classified as actors that operate internationally and are not based in one specific location. Of the remaining actors, 74% are based in the Global North, while 26% are based in the Global South. The sample of funding initiatives follows the same pattern. The top locations of leading actors are the United States (14%), France (8%) and the Netherlands (6%). These three countries were the top locations of leading actors in both samples. This is in line with Bulkeley et al. (2012) who find that the majority of TGIS are initiated by actors based on the Global North.

Figure 3

Geographical distribution of leaders



4.1.4 Leader analysis – top actors

Finally, the analysis examined which actors occurred most frequently as leaders. In the larger sample, there are 261 different leaders. On average, each individual actor within this group appears as a leader only once across all 96 initiatives. While the sample of funding initiatives has a smaller group of leaders (149), the average frequency with which these actors appear as a leader is also one. However, in both samples, there are a few actors who appear as leaders at a frequency that is above average. The top-5 leaders were the same in both samples. These included the World Bank, three United Nations-Agencies (the Environment Program, the Development Program and the Food and Agriculture Organization) and the IUCN. Three out of the four top leaders are thus international organizations, along with one international NGO (IUCN). The frequency with which these actors appeared as a leader in the larger sample ranged from 9 times for the World Bank to 5 times for the United Nations Development Program (UNDP). The sample of funding initiatives follows a similar pattern. Given the prevalence of international organizations among the top leaders, as well as the high representation of national governments as leading actors, public actors seem to exert considerable influence on the TGIs examined.

4.1.5 Funder analysis – actor types

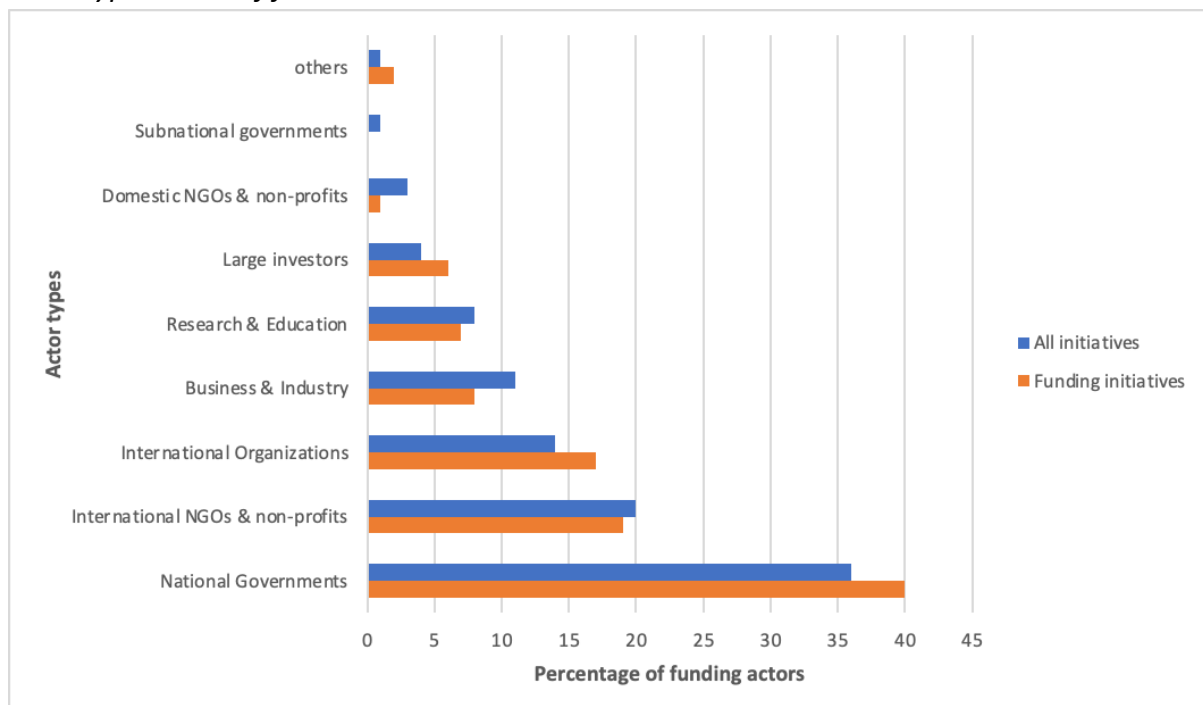
Actors characterized as funders in the C-CID are those that provide financial support to the initiatives. In the larger sample, there are 473 different funders. Looking at the types of actors represented among this group reveals patterns that are quite different from the leader analysis above. In particular national governments play a much bigger role as funders

than they do as leaders, accounting for 36% of funders among all initiatives and 40% among funding initiatives. As shown in Figure 4, the differences between the complete sample and the funding sample are minimal. However, national governments, international organizations, large investors and 'other' actors are slightly more common providers of finance in funding initiatives. It seems that the sub-sample of funding initiatives has a somewhat higher reliance on support from public actors than the larger sample. In contrast, private actors appear slightly less frequently within the funding sample, with the exception of large investors, whose contribution to supporting funding initiatives is slightly higher than the norm.

These findings are generally in line with expectations, as the UNEP (2021) report revealed that 86% of NBS investment comes from public sources, with domestic governments being the biggest contributors. However, what stands out is the prevalence of international NGOs as funders. The Buchner (2021) Global Landscape of Climate Finance report does not include any mention of the contributions of NGOs to climate finance, while the in UNEP (2021) report, they are listed as one of the smallest contributors to private finance. In contrast, this research finds them to be the second largest category of funders in both samples.

Figure 4

Actor type shares of funders



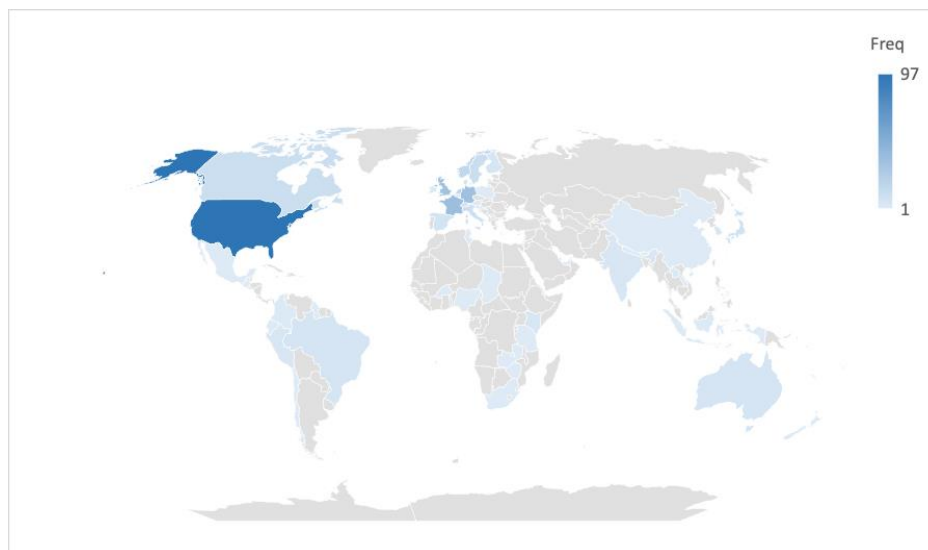
4.1.6 Funder analysis – actor types per issue area

In addition to a general analysis of the distribution of actor types, the data was disaggregated into 6 main issue areas (see section 3.2.4)³. This uncovered several notable differences in the actors involved depending on the type of NBS targeted. Firstly, while national governments were found to be the biggest funder in both samples, the issue-area analysis reveals that they are especially active in initiatives related to human settlements, agriculture and water. In contrast, they less commonly fund initiatives focused on biodiversity and conservation. These NBS are mainly funded by international NGOs and non-profits, who are also the biggest funders of initiatives on forests and oceans and coasts. Third, international organizations do not appear as the biggest funder in any of the issue areas but are most active in initiatives on water and oceans and coasts. Initiatives on agriculture and forests receive comparatively less attention from this actor. A final trend that stands out is the funding activities of large investors. While their involvement in most issue areas is small or absent, they are among the top-three funders of initiatives on forests, indicating that forest initiatives may represent more attractive investment opportunities to such actors. For a more detailed overview of the distribution of actor types per issue area, see Appendix C.

4.1.7 Funder analysis – geographic distribution

Figure 5

Geographical distribution of funders



In terms of geography, out of the total sample of funders, 94 (+/-20%) operate internationally and do not have a specific country of origin. Of the remaining actors, 89% are

³ While the C-CID differentiates TGIs based on 9 issue areas (see section 3.2.4). There were no or too few TGIs in the issue areas 'energy', 'industry' and 'transport'. Therefore, these three categories are excluded from the analysis.

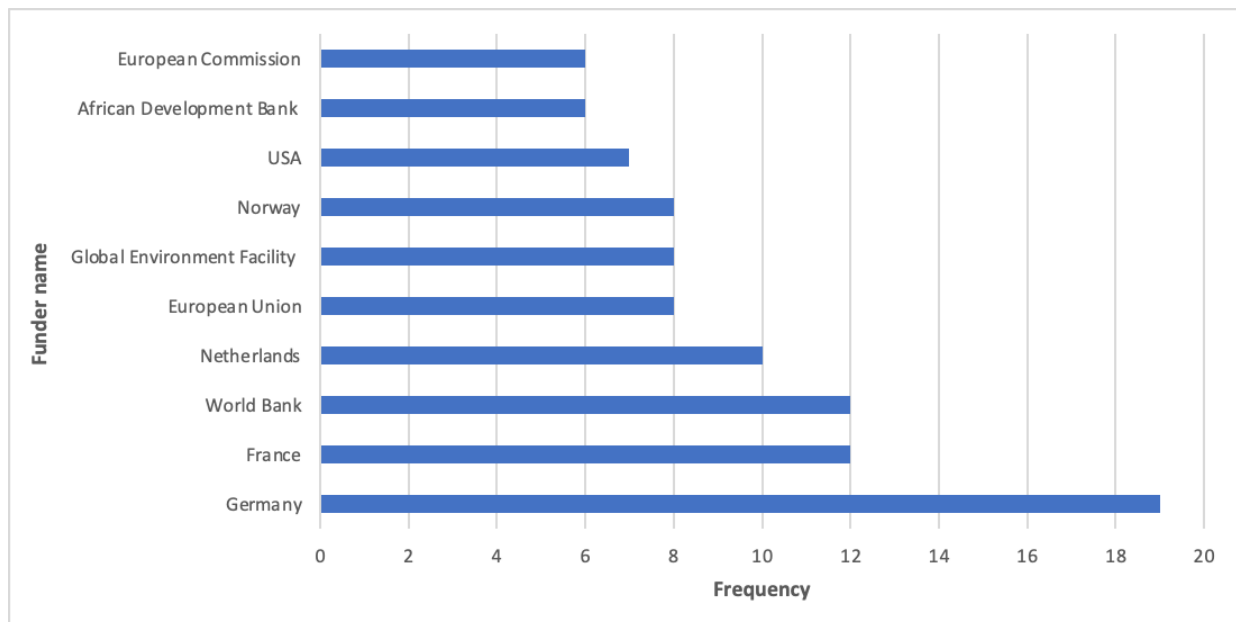
based in the Global North while 11% come from the Global South. The sample of funding initiatives follows the same pattern. See Figure 5 for an overview of the funders' geographical distribution. The top locations of funding actors include the United States (20%), France (8%) and Germany (7%). Within the sample of funding initiatives, the United Kingdom was also among the top-three actor locations, accounting for 7% of the funders. Among the funders from the Global South, the most common country of origin was Brazil (1% of all initiatives), followed by India, Kenya and Peru, which each accounted for 0.8% of the total locations. Two of the four top Global South funders are thus part of the BRICSAM group.

The same analysis was also conducted per issue area. For initiatives on forests, oceans and coasts, water and biodiversity and conservation, the share of funders from the Global South lies between 8 and 11%, with the remaining funders being located in the Global North (see Appendix D for more detail). These issue areas thus follow the general trend described above. However, two issue areas stand out. For initiatives on agriculture, 18% of funders were located in the Global South. In contrast, this is only 2% of for initiatives on human settlements. As such, there is some variation in the types of NBS being supported by funders in the Global South.

4.1.8 Funder analysis – top actors

Figure 6

Top-ten funding actors



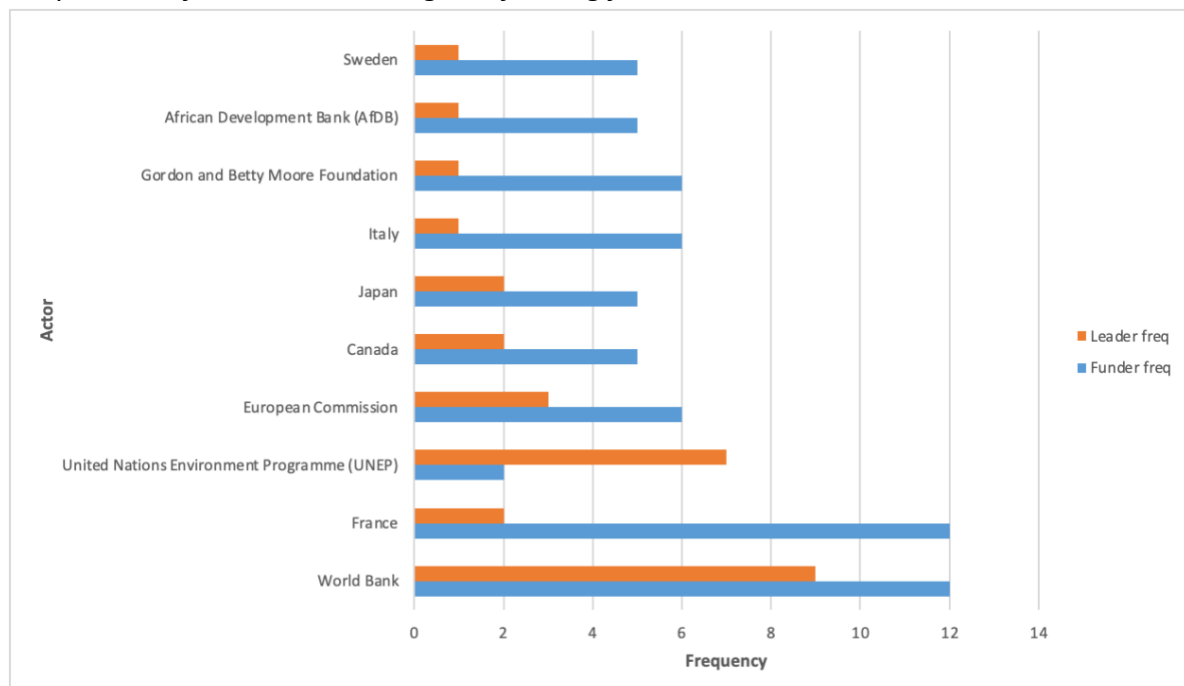
Finally, the analysis examined which specific actors occurred as funders most frequently. The larger sample of 96 TGIs included 287 unique funders which appeared in the sample with an average frequency of 1.7. The sample of 46 funding initiatives included 193 unique funders which appeared with an average frequency of 1.6. Similar to the top leaders, there are some funders that appear with a frequency that is above average. As shown in

Figure 6, the top ten funders of the larger sample of TGIs included a mix of national governments (Germany, France, the Netherlands, Norway, USA), the European Union (including the Commission as a separate funder), a multilateral DFI (the African Development Bank), a multilateral climate fund (the GEF), and one international organization (the World Bank). There was no significant difference between the top-funders of the larger sample and the sub-sample of funding initiatives. This distribution of top funders is in line with expectations. As described in section 2.2.1, public sources constitute the biggest share of investment flowing into NBS and the three main actors providing funding within the public sector are domestic governments, development finance institutions and dedicated climate funds.

4.1.9 Funder analysis – actors with a funding and leading function

Figure 7

Frequencies of actors in a leading and funding function



In addition to examining leading and funding actors individually, the analysis combined the data to investigate which actors appear in a leading function and a funding function. These actors may be important to study, as they both provide funding and have power over deciding how and where it is allocated. 61 actors appeared in the sample of leaders and the sample of funders. To determine the top-actors, the frequencies with which they appeared in both functions were aggregated. As shown in Figure 7, the resulting top-10 includes a mix of two international organizations (UNEP, World Bank), five national governments, one multilateral DFI (the African Development Bank), one philanthropic organization (the Gordon and Betty Moore Foundation) and the European Commission. There are several actors that did not appear among the top leaders or funders in the separate

analyses, such as the Gordon and Betty Moore Foundation, Canada, Japan, Italy and Sweden. However, since they appear as both leaders and funders, they may still exercise considerable influence.

4.1.10 Who governs? – blended finance

Finally, given the trends around the increasing popularity of blended finance identified in the literature, the analysis examined whether the initiatives engage with, or promote blended finance schemes. For this analysis, only the sub-sample of funding initiatives was used. To determine whether or not initiatives support blended finance, the analysis looked at whether initiatives use their funding activities to leverage additional private finance and stimulate the blending of public and private sources. It was found that out of the 46 funding initiatives, 16 (35%) include either an explicit mention of supporting blended finance in their project documentation or use their resources to leverage funding from private actors. As such, about a third of the TGIs in the funding sample pursue or enable blended finance schemes. While this remains a minority, it is a notable portion of initiatives, indicating that also TGIs play a role in the use of blended finance mechanisms.

4.2 How do they govern?

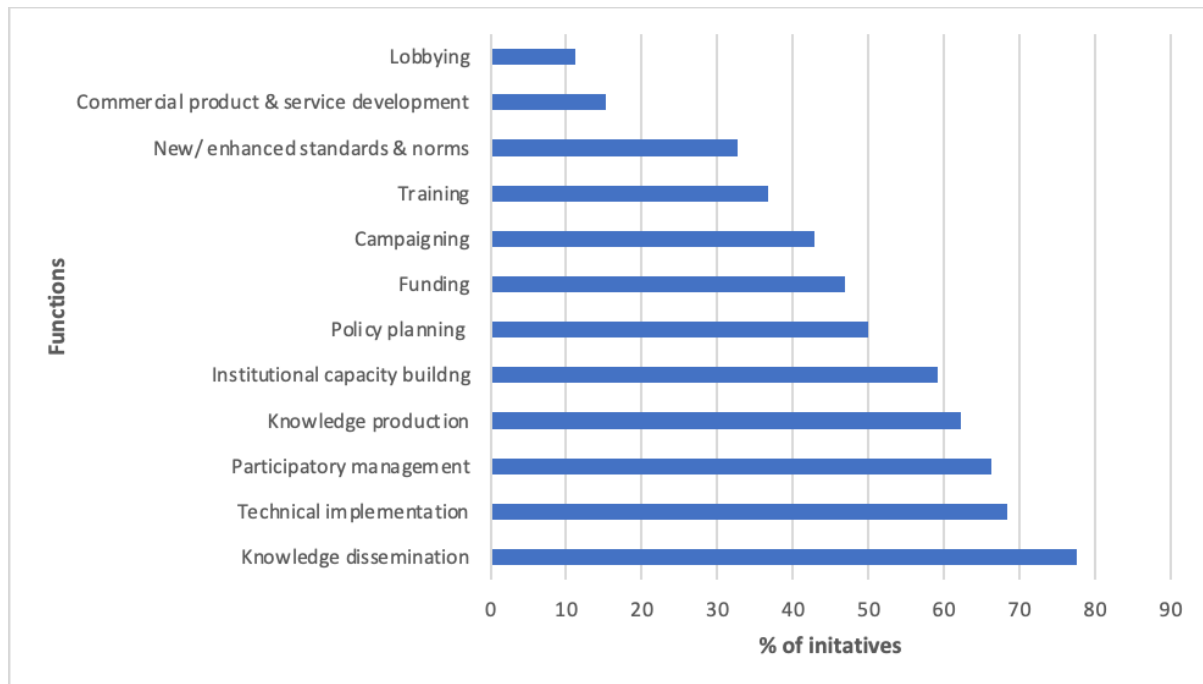
The second set of results provides insight into how the TGIs examined engage in the governance of climate finance for nature. This includes an analysis of the functions performed by the initiatives, which shows the extent to which TGIs engage in funding compared to other activities. In addition, this analysis was performed per issue-area to reveal differences in functions depending on the type of NBS that initiatives work on. Furthermore, the analysis narrows down specifically on the sample of funding initiatives to examine the financial instruments used by TGIs to channel funding, and the financial instruments that TGIs support in beneficiary locations.

4.2.1 Functions analysis – all initiatives

The C-CID collects information on 12 functional types. Figure 8 shows the shares of initiatives that engage in each of these 12 functions. It is important to note that one initiative can perform multiple functions simultaneously. The top-three functions performed by the TGIs working with NBS are knowledge dissemination (78%), technical implementation (68%) and participatory management (66%). In contrast, lobbying (11%) and commercial product development (15%) are relatively less common. The share of initiatives that engage in funding is 47%, making it the seventh most common function among the initiatives studied. The finding that funding is not among the most common functions mirrors research by Bulkeley et al. (2012) and Roger et al. (2017) who both conclude that TGIs engaging in the provision of funding constitute a rather small group compared to other activities.

Figure 8

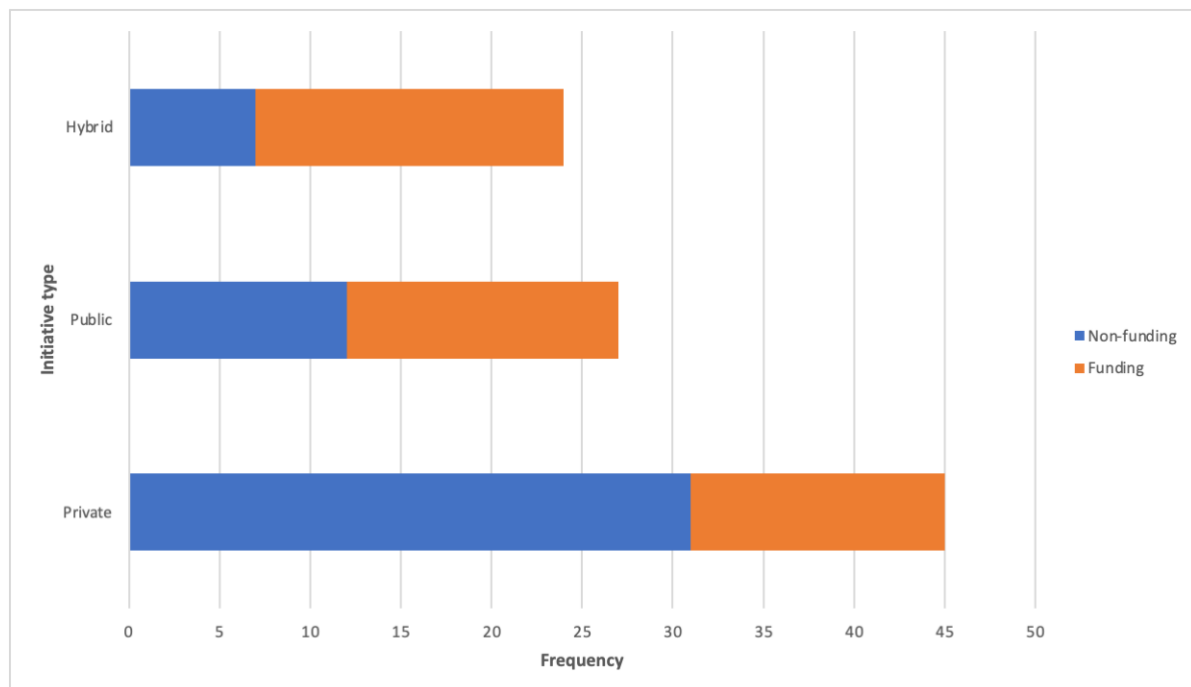
Distribution of functions among the sample of 96 initiatives



4.2.2 Functions analysis – initiative types

Figure 9

Frequencies of funding and non-funding initiatives per TGI-type



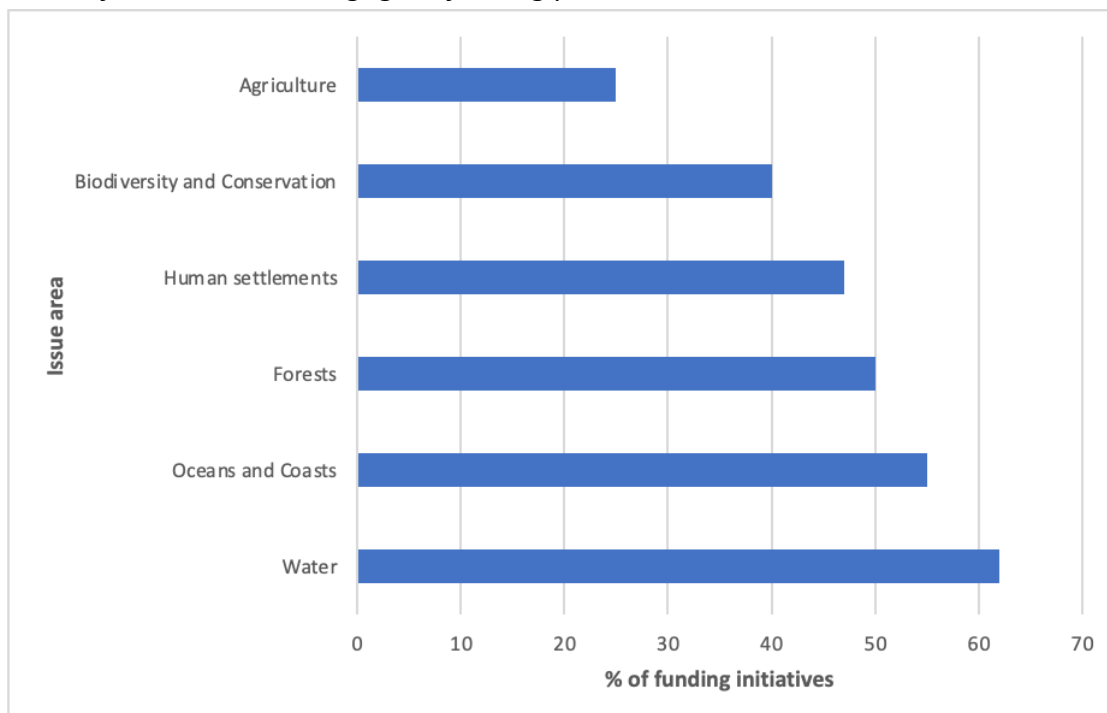
To gain more insight into the types of initiatives that engage in funding, the analysis examined the frequency with which public, private and hybrid initiatives report funding as a

function. As shown in Figure 9, hybrid initiatives most commonly provide funding (71%), followed by public initiatives (56%). In contrast, private initiatives least commonly engage in funding (31%). This is in line with expectations, as both Bulkeley et al. (2012) and Kawabata (2021) find that funding is most common among hybrid initiatives, while private initiatives are least likely to provide finance.

4.2.3 Functions analysis – issue areas

When disaggregating the data based on the issue-areas that the initiatives engage in, it appears that funding as a function is more common in some thematic areas than others. As shown in Figure 10, initiatives working on NBS related to water are the most active in providing funding (62%) followed by initiatives working on oceans and coasts (55%) and forests (50%). In each of these issue areas, the share of initiatives with funding as a function is larger than the average of the full sample (47%). In contrast, the provision of funding is notably less common in initiatives working on biodiversity and conservation (40%) and agriculture (25%).

Figure 10
Share of initiatives that engage in funding per issue area



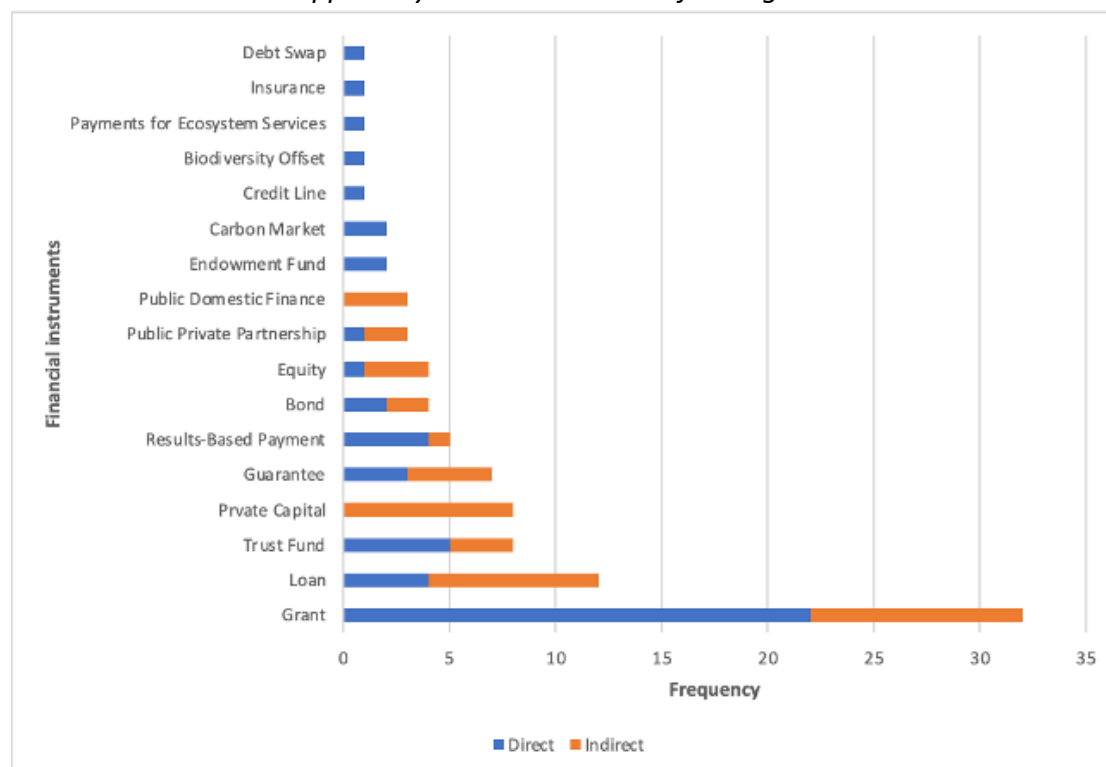
4.2.4 Financial instruments

Out of the sample 46 funding initiatives, 43 provide information on the financial instruments they apply to channel funding towards their beneficiaries. An analysis of this information uncovered that there are two types of initiatives in the sample: those that directly

fund their beneficiaries with resources provided by donors or obtained through other means, and those that indirectly fund their beneficiaries by facilitating access to external funding sources. In the sample of funding initiatives, 65% provide direct funding, 30% provide indirect funding and two initiatives (5%) provide both direct and indirect funding.

In terms of the financial instruments used, there is a relatively high reliance on more traditional instruments (e.g., grants, loans), while innovative mechanisms are less common. It is important to note that most initiatives use multiple instruments simultaneously. As shown in Figure 11, grants are by far the most commonly used instrument, with 32 initiatives (76%) using grants to fund their beneficiaries. Second, loans are used by 29% of initiatives, but are slightly more common in those that provide indirect funding than those that provide direct funding. A more detailed overview of the sources to which indirect funding initiatives provide access is provided below. Third, eight initiatives (19%) note that they make use of trust funds. These are commonly initiatives that provide grants. In the case of direct funding initiatives, trust funds are set up with contributions from several donors, after which the fund is used by the initiative for grant-making. In the case of indirect funding initiatives, access is provided to existing trust funds, often administered by the World Bank. Fourthly, guarantees emerge as a common financial instrument applied by both direct and indirect funding initiatives to de-risk NBS projects and stimulate greater private sector investment.

Figure 11
Financial instruments applied by direct and indirect funding initiatives



Overall, there is greater variety in the instruments used by direct funding initiatives. In contrast, indirect funding initiatives facilitate access to more traditional sources of finance

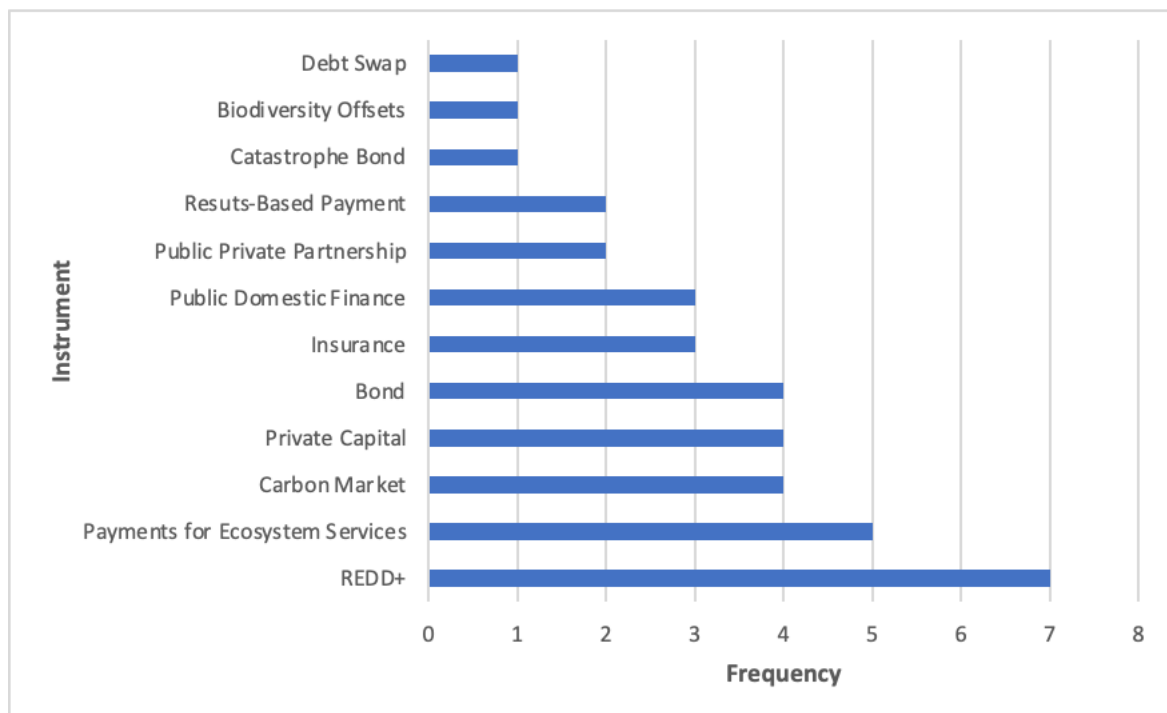
provided by development institutions, private sector partners and national governments. There are two instruments that are used exclusively by initiatives that provide indirect funding: private capital and public domestic finance. The former category refers to initiatives that connect beneficiaries with funding streams from private actors such as impact investors and businesses. The latter category refers to initiatives that aim to facilitate access to public budgets such as subsidy-schemes and other resources regulated by governments.

Innovative financial instruments such as insurance, PES schemes, biodiversity offsets and green/blue bonds appear less frequently in the sample. The majority of these instruments have a frequency count of only one. In addition, carbon market schemes are not commonly used by TGIs to channel funding to their beneficiaries, appearing as a financial instrument in only two initiatives. One instrument that is slightly more common is results-based payments, in which grants are awarded on the condition that certain targets or agreements are met. Five of the funding initiatives report using some type of results-based finance to fund their beneficiaries. All in all, the trends associated with the increasing financialization of nature, such as the diversification of finance instruments and the growing popularity of market-based and risk-based instruments are not readily observable in the funding instruments applied by TGIs, who predominantly rely on more traditional financial products.

4.2.5 Financial instruments – Supported instruments

Figure 12

Frequencies of supported financial instruments



The results show that innovative financial instruments are not commonly used by TGIs to disburse funding. However, several of the initiatives were found to use their funds to

stimulate the development and application of innovative schemes by their beneficiaries. In fact, 14 initiatives (33%) in the sample indicate that their activities include the design, development, or implementation of innovative financing schemes in their beneficiary locations. For example, an initiative may provide a grant to enable local project partners to set up a PES scheme. The analysis took a closer look at these initiatives and recorded which types of financial instruments they supported. As shown in Figure 12, a range of innovative financial instruments appear in this sample. The two most commonly supported financial instruments were REDD+ schemes (50%) and payments for ecosystem services (36%). In addition, the use of carbon markets, private capital and (blue/green) bonds for the funding of NBS were each supported by four initiatives (29% each). Finally, also risk-based measures such as insurance and catastrophe bonds were supported by several initiatives. This indicates that while the funding strategies of TGIs themselves are quite traditional, they can indirectly support the development of new and innovative financial products on the ground.

4.2.6 Indirect funding sources

Finally, for the sample of indirect funding initiatives, the study examined which sources of funding these initiatives provide access to. Not all initiatives provide information on this factor in the same level of detail, which prevented a strict quantitative comparison to be performed on this variable. For example, while some initiatives specifically name the financial actors with whom they have created partnerships and the funding sources they target, others remain vague, reporting that they ‘mobilize public and private finance’ or ‘facilitate access to domestic, regional and global funds.’ However, a few patterns emerged. Out of the 14 indirect funding initiatives, eight (57%) reported that through their activities, they aim to facilitate access to private resources. This ranged from engaging with local private sector actors, to leveraging investments from large impact investors and local, regional and global investment funds. Secondly, 47% of initiatives target bilateral and multilateral development finance institutions. Examples include the Nordic Development Fund, German Ministry for Economic Cooperation and Development and the French Global Environment Facility. Moreover, several initiatives targeted multilateral climate funds, with five initiatives (33%) facilitating access to the GCF, and three initiatives (20%) helping their beneficiaries to obtain grants from the GEF. Lastly, four initiatives (27%) reported that they target funding from the World Bank Group, including World Bank administered trust funds such as PROBLUE, which supports the development of a sustainable blue economy. Indirect funding initiatives thus facilitate access to the main sources of climate finance covered in section 2.2.1. What stands out is the relatively high engagement with private sector actors, which to date have played a comparatively smaller role in generating investments towards NBS (UNEP, 2021).

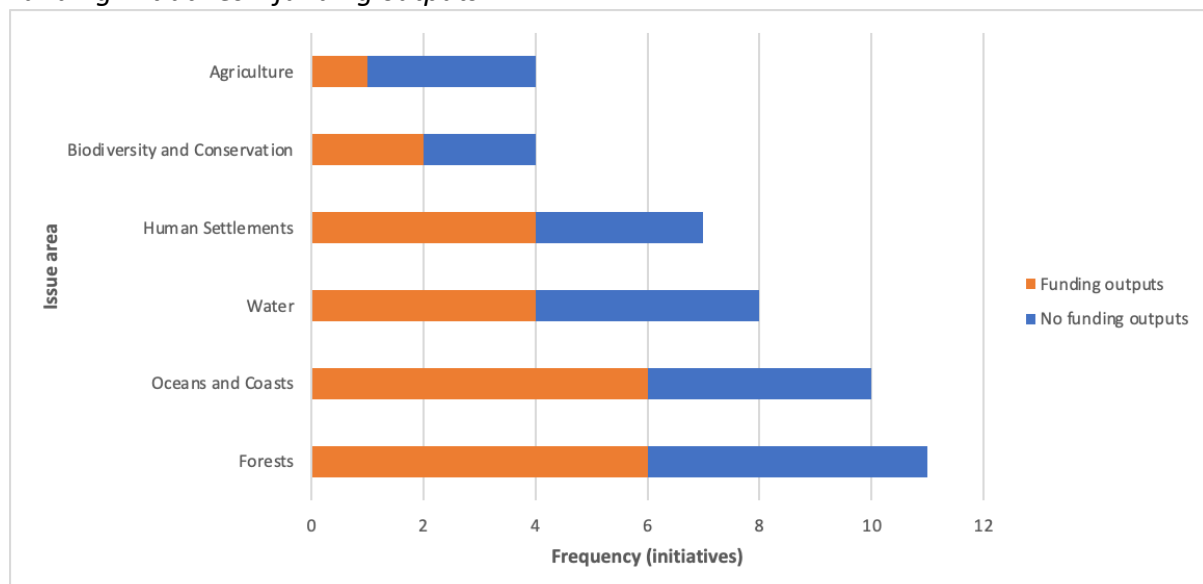
4.3 On Whose Behalf?

The final set of results demonstrates on whose behalf governance by TGIs takes place by examining factors related to their funding outputs. This part of the analysis was only performed on the sub-sample of funding initiatives. In addition, not all of these initiatives have recorded funding outputs, which means the sample was narrowed down further. The analysis explored which types of initiatives produced funding outputs, where such outputs are produced geographically and who are the top recipients of funding outputs. In addition, it looked into planned vs. actual implementation locations and disaggregated output data based on the issue-areas in which initiatives are active.

4.3.1 Output analysis – functions v outputs

Figure 13

Funding initiatives v funding outputs



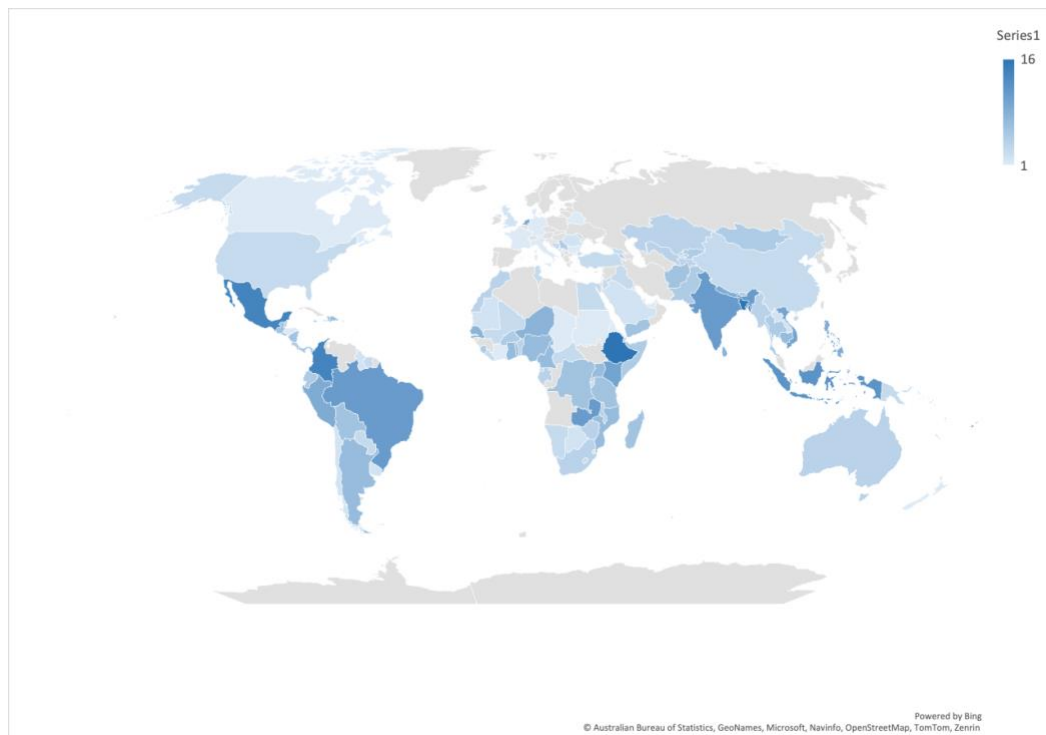
Out of the 46 initiatives that report funding as a function, 23 (50%) have produced funding outputs recorded in the C-CID. Previous research by Chan et al. (2018) indicates that the performance of TGIs in producing relevant outputs can differ across issue areas. Therefore, the data was disaggregated per thematic area to examine whether funding outputs were more commonly produced in some issue areas than others. Figure 13 shows the total number of initiatives that engage in funding in each of the issue areas and the number of those initiatives that have produced funding outputs. The analysis revealed that initiatives working on oceans and coastal areas are most successful in translating their commitment to financing into actual disbursements, with 60% reporting funding outputs. The second most successful issue area is human settlements, where 57% of funding initiatives have produced outputs. This stands in contrast with initiatives working on agriculture, of which only 25% have produced funding outputs. For the other three issue areas, the ratio of funding initiatives to funding outputs lies between 50 and 55%. It is important to note, however, that some

initiatives are older than others, which means that not all initiatives in the sample have had the same amount of time to fulfill their stated functions. The finding that initiatives working on agriculture are the least successful in producing outputs is mirrored by Chan et al. (2018), who also found that agriculture TGIs were less successful in the production of relevant outputs compared to TGIs working on other issue areas. However, aside from separating initiatives on agriculture, Chan et al. used different thematic categories, which means no further connections can be drawn with the present research.

4.3.2 Output analysis - geography

Figure 14

Geographical distribution of funding outputs



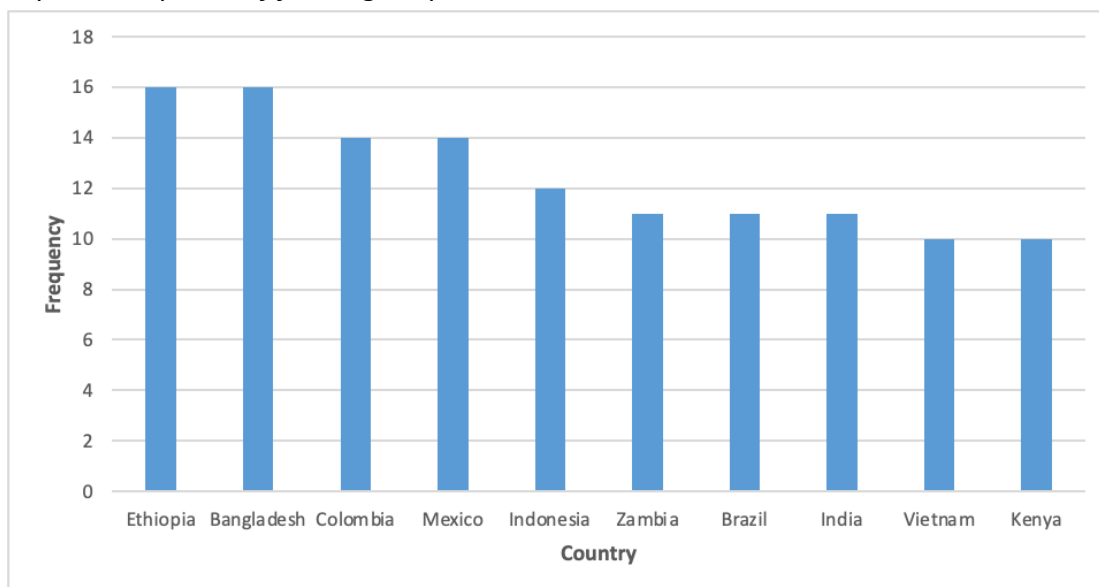
In addition to recording which initiatives have produced funding outputs, the C-CID collects data on the locations where these funding outputs were received. It should be noted that the output variable records the frequencies of funding outputs in a given country, but not the volume of funding. Therefore, the analysis can only reveal how often a country was the recipient of funding, not how much funding was received in monetary terms. As shown in Figure 14, the geographical distribution of outputs follows a different pattern from the geographical distribution of leaders and funders (see Figures 3 and 5). It was found that 3% of the funding outputs were not linked to a particular country, 92% of the outputs were produced in the Global South and the remaining 5% were produced in the Global North. Figure 14 shows that especially Middle and South America, South-East Asia and the Pacific are well represented. On the African continent, funding flows most commonly to countries on the Eastern Coast. Countries in the Global North are also recipients of funding outputs, but to

a lesser extent. The analysis further showed that funding outputs are disbursed over a broad range of countries. Out of the 636 instances of funding disbursed, the average frequency by which a country was the recipient of funds was five times, while the median was four. The two biggest recipients (Ethiopia and Bangladesh) each received only 2.5% of the total funding. As such, outputs were not concentrated in a select number of countries but rather dispersed over a larger group. To be exact, the C-CID records funding outputs in 132 different countries.

While funding outputs are generally broadly dispersed, a few countries stand out for receiving funding at a frequency that is above the average. Figure 15 shows the top-ten recipients of funding. The frequencies at which funding outputs were received these countries range from 16 instances or 2.5% of total outputs (Ethiopia, Bangladesh) to 10 instances or 1.6% of total outputs (Vietnam, Kenya). Each of the countries within the top-ten are located in the Global South. In addition, the group shows a mix of countries from East-Africa, South America, and South-(East) Asia.

Figure 15

Top-ten recipients of funding outputs

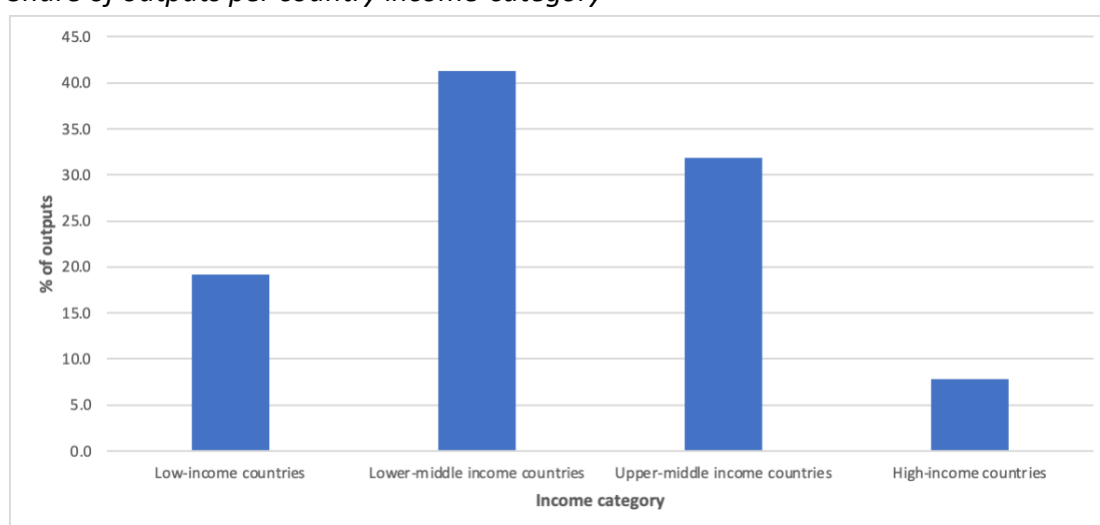


There are some notable differences between the geographic distribution of climate finance in general, as demonstrated in the Global Landscape of Climate Finance report (Buchner et al., 2021) and the trends and patterns of climate finance for nature uncovered in this research. Buchner et al., (2021) report that the majority of climate finance investments are concentrated in East Asia and the Pacific, the United States and Canada. While the present research similarly finds a high concentration of funding outputs in (South)-East Asia and the Pacific, neither Canada nor the United States receive considerable funding outputs (0.2 and 0.5% respectively). In addition, given that 89% of funders originate in the Global North and 92% of funding outputs were produced in the Global South, there do not seem to be considerable domestic investments. This stands in contrast with the Buchner et al. (2021) report, who find that 75% of climate investments were of a domestic nature.

4.3.3 Output analysis – income category

To gain insight into where funding flows beyond geography and the North-South dichotomy, the analysis classified the recipient countries according to the World Bank income categories. In doing so, it is possible to determine the share of outputs that flow to low, lower-middle, upper-middle and high-income countries. As shown in Figure 16, the biggest share of outputs (41%) flows to lower-middle income countries, followed by 32% to upper-middle income countries, 19% to low-income countries and 8% to high income countries. In addition, the analysis recorded the share of outputs flowing into SIDS and LDCs, which was 17% and 34% respectively. These numbers are generally in line with the findings of the OECD (2022) report tracking the climate finance provided by developed countries. However, the present research finds a higher share of funding flowing towards low-income countries (19%) compared to the 8% reported by the OECD. In addition, the share of outputs recorded in SIDS and LDCs is also higher than would be expected based on the OECD report, which found that they receive 2% and 17% of climate finance respectively.

Figure 16
Share of outputs per country income-category



4.3.4 Output analysis – planned v actual implementation

The C-CID records data on where initiatives report that they plan to implement, as well as where they produce outputs. The final analysis used this data to make two comparisons: (i) the planned locations of implementation of all initiatives compared to those of the funding initiatives and (ii) the locations where funding initiatives plan to implement and where they actually produce funding outputs. This was once again done using the World Bank classification of country income categories. As shown in Figure 17, which shows where initiatives plan to implement, there are some slight differences between the larger sample and the funding sample. In both samples, the largest shares of initiatives plan to implement

in lower-middle income countries (31% for all, 35% for funding initiatives). The second largest share of the 'all initiatives' sample plans to implement in high-income countries (27%), while for funding initiatives this is the upper-middle income countries group (26%). In the sample of funding initiatives, low-income and high-income countries receive equal attention (19% each). In contrast, the sample of all initiatives is much more focused on high-income countries (27%) than on low-income countries (17%). Upper-middle income countries receive a similar share in both samples (25% for all, 26% for funding initiatives).

Figure 17
Planned locations of implementation

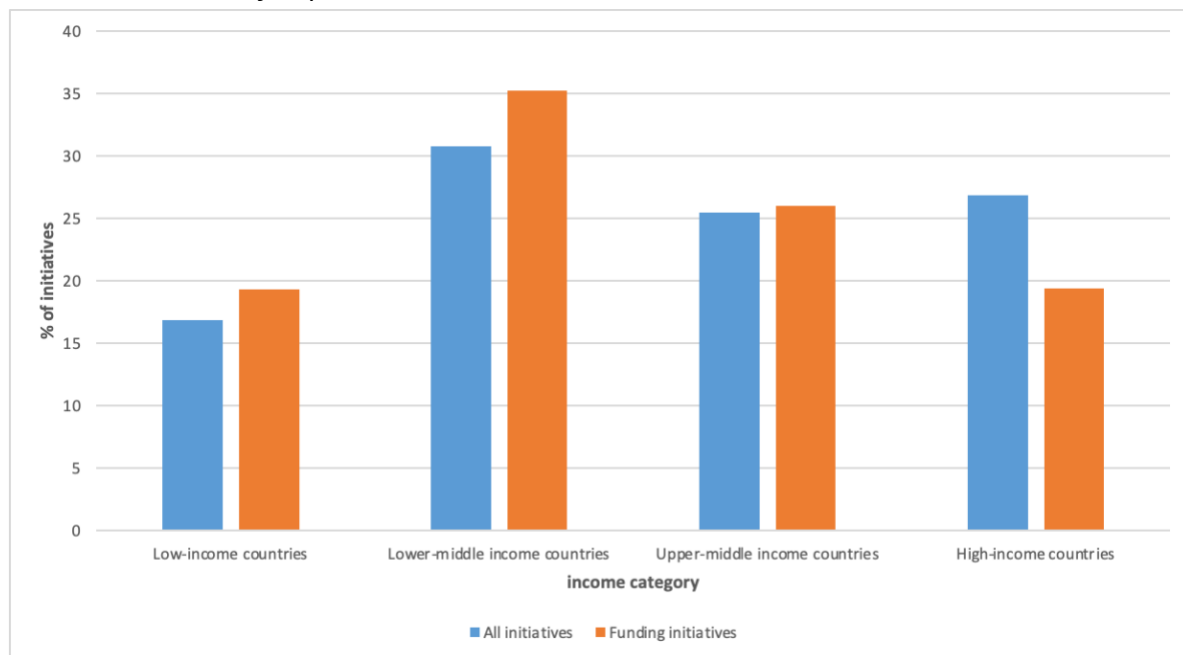
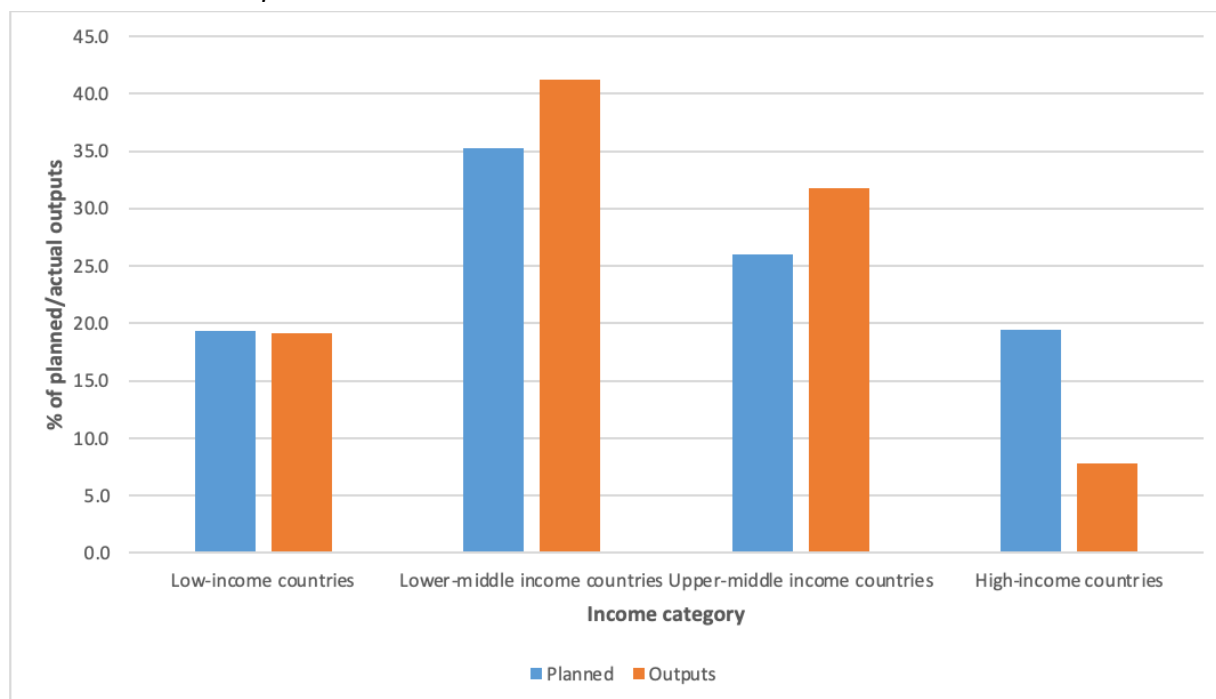


Figure 18 isolates the data for funding initiatives and compares the distribution of planned implementation locations with the distribution of funding output locations over the four country income-categories. The variables are recorded as the shares of all implementation locations and the shares of all output locations. The analysis reveals that the only income category where actual funding outputs do not match or exceed planned implementation is the high-income group. For all other categories, the shares of output locations recorded are equal to or larger than the shares of planned implementation locations. For low-income countries, the shares are exactly equal, while for both lower-middle income countries and upper-middle income countries, the share of recorded output locations exceeds the share of planned implementation locations by 6%. These findings stand in contrast with research by Chan et al. (2018) who found a considerable implementation gap in low and lower-middle income countries, where actual implementation rates were much lower than planned implementation rates. This research only finds evidence of an implementation gap in high-income countries, which represent 19% of the planned implementation locations, yet only 8% of the output locations.

Figure 18

Planned v actual implementation locations



4.4 Discussion

The results presented above provide new insights into the main trends and patterns in TGI-mediated financing of climate related NBS. The implications of these results are discussed by means of the three sub-questions guiding the research. In doing so, three key issues stand out. Firstly, while public actors exert considerable influence, TGIs also give agency to non-state actors, in particular conservation NGOs. Second, TGIs rely on traditional financial instruments but stimulate financial innovation among beneficiaries. Third, there are some discrepancies between patterns of climate finance and the patterns of climate finance for nature recorded in this research.

Concerning the question of who governs, the analysis reveals that public actors exert considerable influence, but also that NGOs play a role in governing through TGIs. National governments and international organizations are well represented among the leading and funding actors. The share of national governments among the funders significantly surpasses that of other actors, and international organizations lead and fund a considerable portion of the initiatives studied. In line with this trend, the initiative type analysis reveals that there appears to be a larger proportion of public TGIs in the sample than what earlier research on climate focused TGIs would predict (Roger et al., 2017). However, in parallel with this significant public sector influence, also international NGOs appear among the top leaders and the top funders. In fact, they appear more frequently than international organizations in both positions. While research on TGIs already identified this actor as an important player in initiating and leading such initiatives (Bulkeley et al., 2012), NGOs are not typically regarded

as influential in research on patterns of climate finance (Buchner et al., 2021) or finance for nature (UNEP, 2021). Thus, the finding that the majority of finance stems from public sources is in line with earlier research on NBS finance (Calliari et al., 2022; Frantzeskaki et al., 2019; UNEP, 2021). However, the substantial role played by NGOs has not been observed in research on climate finance so far (Buchner et al., 2021; UNEP, 2021). This could indicate that TGIs are a way for NGOs to exert influence on the governance of climate finance in a way that they have not been able to do individually and that through their involvement, TGIs channel private funding towards NBS.

A second trend examined by the analysis for the question of who governs is the use of blended finance. These schemes are typified by partnerships with actors from the finance sector and transnational corporations (Mawdsley, 2018). Regarding the former, the results show that the involvement of the 'large investors' category as leading actors is negligible. Among funders, they are slightly more prominent, although their overall share remains relatively small, ranging between four and six percent (all initiatives v funding initiatives). Actors from the business and industry category appear more frequently as leaders (11-12%) and as funders (8-11%). Looking at the types of actors that appear in this category, the majority are indeed transnational corporations such as Google, Microsoft, IKEA, Arup, Bayer, etc. As such, when it comes to collaborations with the private sector, TGIs show little engagement with the finance sector but some existing partnerships with large corporations. Furthermore, it was found that about a third of TGIs that provide funding pursue or support blended finance mechanisms. Given that the identified partnerships with private actors are predominantly with large transnational corporations rather than local businesses, TGI's engagement with blended finance may indeed be shifting power to large incumbents, following the trends of the retroliberal regime in development finance (Mawdsley, 2018). While TGIs engaging with blended finance currently remain in the minority, this trend is worth monitoring in the future.

The analysis for the second sub-question, which looks at how TGIs govern climate finance for nature, reveals that TGIs can provide finance directly or indirectly. Both types of initiatives mostly rely on traditional financial instruments. It is important to note that a little less than half of the TGIs in the sample provide funding or financial services. In line with previous research, funding is thus not a very common function among TGIs (Bulkeley et al., 2012; Roger et al., 2017). The TGIs that do provide funding follow the model of traditional development finance, primarily relying on conventional financial instruments such as grants and loans. As such, the direct funding activities by TGIs do not contribute to processes of marketization or assetization observed in the financialization of nature. On the other hand, a third of the funding TGIs indicate that they support the development or application of new financial instruments on the ground. A closer examination of this sample reveals that a range of innovative schemes are supported, including REDD, PES, carbon markets, bonds and insurance, each to varying degrees. These TGIs thus contribute to the creation of income streams that did not exist prior to their intervention. Moreover, the financial instruments supported each commodify and/or assetize nature in different ways, representing three out

of the four phases of financialization outlined by Bracking (2019). In particular, instruments associated with phase two (markets for ecosystem services), phase three (capital market products) and phase four (risk-denominated instruments) are represented among the supported financial instruments. Hence, it seems that indirectly, some TGIs contribute to the development of innovative financial instruments associated with the process of turning nature and ecosystems into assets that generate returns for investors. Nonetheless, it is important to note that these TGIs represent a small proportion of the overall sample, indicating that it is not their primary focus or activity.

Lastly, for the third sub-question, the analysis provides insight into whose interests are represented by the TGIs. The actor analysis reveals that 74% of leaders and 89% of funders originate in the Global North. In particular, the United States and Western European countries such as France, Germany, The UK and the Netherlands are well represented. In contrast, 92% of funding outputs are produced in the Global South, with Ethiopia and Bangladesh as the biggest recipients. Some of these findings are contrary to expectations based on existing research on climate finance. For instance, while Buchner et al. (2021) note that the United States and Canada are among the biggest recipients of climate finance investments, very little TGI-mediated finance for nature flows to recipients in the Global North (5%). In addition, Buchner et al. (2021) note that the majority of climate investment is domestic and that non-OECD countries largely fund their own climate needs, which does not seem to be the case in this analysis. This may be partially explained by the fact that only TGI-mediated financing is considered in this study, which inherently entails cross-border flows. However, the findings indicate that funding channeled through TGIs primarily flows from North to South, with the majority of decision-making power regarding allocation and disbursement residing with Northern actors. These findings mirror the conclusion by Bulkeley et al. (2012) who argue that TGIs are strongly shaped by existing patterns of political economy associated with the neoliberal order. Hence, TGIs may uphold existing North-South dependencies on finance and maintain a dominance of Northern interests shaping climate finance for nature.

Finally, concerning the recipients of the funding, the C-CID does not record the types of actors or entities among the beneficiaries. However, the analysis does shed light on how funding is dispersed among income groups. Compared to existing research on climate finance (OECD, 2022), low-income countries, SIDS and LDCs receive a relatively higher share of TGI-mediated funding flows for nature than would be expected. However, the bulk of climate finance for nature flows to lower- and upper-middle income countries, which is in line with expectations. In contrast to Chan et al. (2018) who identified an 'implementation gap' where TGIs planning to implement in low and lower-middle income countries failed to do so, shifting their focus to higher-income countries, this analysis identifies no such gap. However, the results reveal that only half of the funding initiatives have produced funding outputs, with some variations depending on the type of NBS targeted. This relatively low performance rate mirrors findings by Pattberg and Widerberg (2016) and Chan et al. (2018) who similarly report rather low levels of success among TGIs in the production of relevant outputs. The findings thus indicate that when funding is disbursed, it generally flows in line with plans and

expectations, but TGIs experience varying degrees of success in translating their commitment to funding into actual disbursements.

To provide further insight into how these patterns play out in practice, the next chapter presents the results of the qualitative case study analysis of three selected TGIs.

Chapter 5: Results and discussion case studies

This chapter presents the results of the qualitative case study analysis. It starts by examining each of the three case studies individually. In line with the three sub-questions guiding the research, each case study starts with an overview of the aims, objectives and activities of the initiative, after which the funding structure is deconstructed based on the questions: who governs? How do they govern? And on whose behalf? Following the individual analyses, the chapter ends with a discussion that compares and contrasts their main elements from a CPE perspective.

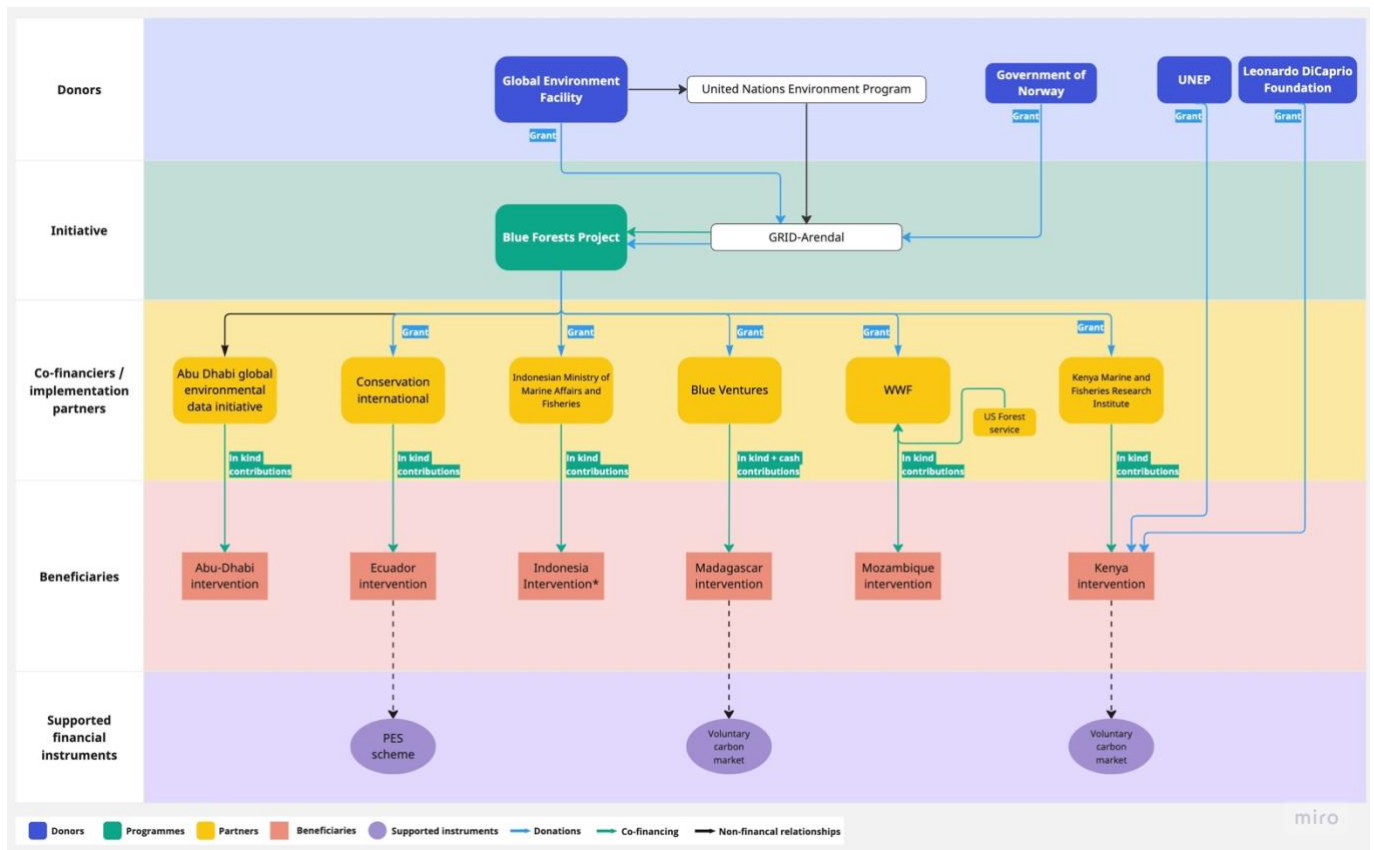
5.1 Blue Forests Project

The full name of the Blue Forests Project (BFP) is the ‘GEF Standardized Methodologies for Carbon Accounting and Ecosystem Services Valuation of Blue Forests’. The project, which ran between 2014 and 2021, was a global initiative that aimed to achieve improved ecosystem management by enabling stakeholders such as scientists, ecosystem managers and decision-makers to better harness the values of coastal ecosystem services (GRID-Arendal, 2015; UNEP, n.d.-b). Its core objective was to ‘apply methodologies and approaches for carbon accounting and ecosystem valuation in blue forests so as to provide evidence-based experience that supports replication, up-scaling and adoption of blue forests concepts by the international community and the GEF’ (UNEP, n.d.-b). By demonstrating working methodologies and approaches for carbon accounting and ecosystem service valuation in coastal environments, the project aspired to contribute to the development of standardized and internationally recognized methodologies that enable payments for marine and coastal ecosystem services to become widely applied and institutionalized around the world (UNEP, n.d.-b).

The project aimed to achieve these objectives through activities in five project-components: (i) developing guidance on carbon accounting and ecosystem services valuation for blue forests ecosystems, (ii) applying blue forests methodologies for carbon accounting and ecosystem services valuation on the ground in pilot interventions, (iii) improving the understanding of carbon storage and sequestration and ecosystem services of blue forests, (iv) exploring the adoption of methodologies and approaches by the international community and (v) monitoring the interventions while supporting information exchange and cooperation (UNEP, n.d.-b). In line with the purposes of this research, the case study narrows down on component two of the project, which entails the application and implementation of blue forests methodologies in six pilot interventions. Component two is isolated for analysis because it is the only project activity that entails the direct implementation of NBS on the ground. In addition, it encompasses discernible flows of funding from the project donors to select groups of beneficiaries. Specifically, the BFP supported interventions in Abu Dhabi,

Ecuador, Indonesia, Kenya⁴, Madagascar and Mozambique. Figure 19 gives an overview of the ‘follow-the-money’ analysis for this intervention, showing how the BFP funding flows to each of the six interventions. This structure is elaborated upon in the ensuing sections.

Figure 19
Funding structure of the Blue Forests Project



5.1.1 Who governs?

This first question examines the actors involved in funding, steering and implementing the project. Table 7 shows the four main actors that play a role in the BFP, along with their roles and responsibilities. Firstly, in accordance with existing research (UNEP, 2021; Calliari et al., 2022; Frantzeskaki et al., 2019) as well as the findings of the C-CID analysis, the main funder of the project was a public entity: the GEF. As one of the largest multilateral climate funds, the GEF is a key source of climate finance (Bracking & Leffel, 2021). It provided a grant of \$4,500,000 USD through the GEF trust fund (UNEP, n.d.-b). These funds were received by UNEP, the implementing agency, which channeled them to GRID-Arendal, a Norwegian not for profit environmental communications center. As executing agency, GRID-Arendal used the funds in accordance with the objectives and budget agreed upon in the program proposal.

⁴ Kenya is not one of the BFP’s five official intervention locations. It was implemented as a side project and received a smaller grant than the other interventions. However, it is regarded as one of the BFP’s most successful interventions, which is why it is included in the present analysis.

However, since GRID-Arendal is a partnership organization, they did not have boots on the ground in the implementation locations. Therefore, they channeled the funding to local implementation partners. Figure 19 shows which implementation partners were used in each of the pilot interventions. It is a mix of public organizations, state-supported research organizations and conservation NGOs. Given the mix of actors involved in the project, the BFP can be classified as a hybrid network following the Andonova (2009) typology.

Table 7

Actors involved in the BFP, their roles and responsibilities

Actor	Role	Responsibilities
The Global Environment Fund	Main funder	<ul style="list-style-type: none"> Channeling funding through one of the 18 GEF agencies
United Nations Environment Program	Implementing agency	<ul style="list-style-type: none"> Developing the program proposal Overseeing implementation Ensuring objectives and outcomes are met Transferring the funding to the executing agency Reporting back to the GEF
GRID-Arendal	Executing agency	<ul style="list-style-type: none"> Implementing the project according to the program proposal Spending the funds according to the program proposal & budget Channeling funding to local implementation partners Reporting back to UNEP
Implementation partners	Local implementer	<ul style="list-style-type: none"> Providing co-finance to the project Using the funds for local project activities Reporting back to GRID-Arendal

Note. Based on UNEP (n.d.-b).

In line with GEF policy, the implementation partners have to provide co-finance to the project. The GEF defines co-financing as “resources that are additional to the GEF grant and that are provided by the GEF Partner Agency itself and/or by other non-GEF sources that support the implementation of the GEF-financed project and the achievement of its objectives” (GEF, 2018b, p. 3). See Appendix E for an overview of the amount of co-financing provided by the implementation partners. The funding came from private and public sources, although the majority was of a public nature (UNEP, n.d.-b). In addition, some external actors provided co-finance, as shown in Figure 19. The reliance on external actors for co-finance sometimes led to instability and the need to revise budgets. For instance, while the project initially received co-finance from the US government, this funding was retracted during the Trump administration. In addition, the Indonesian government was unable to fulfill its co-financing commitment, which hindered the implementation of the intervention (Project

Representative, BFP, 6 April 2023, Online). In the case of changes in co-financing, final authority over the reallocation of funds lies with UNEP and the GEF.

5.1.2 How do they govern?

This section analyses the governance functions employed by the BFP and the financial instruments used to disburse funding to beneficiaries. In addition, it examines the funding structures of two financial instruments that the BFP supports in its pilot interventions: a voluntary carbon market scheme in Kenya and a PES program in Ecuador.

Blue forest project

The BFP engages in two of the functions delineated in the Andonova (2009) typology: information sharing and capacity building. Components one, three and four of the project (as outlined in section 5.1.1) fall under the category of information sharing. Each of these project components contributes to the diffusion of knowledge around the valuation of the ecosystem services provided by blue forests (UNEP, n.d.-b). Through these, the project aims to encourage the uptake of methodologies that value coastal ecosystem services. In line with Kawabata (2021) the BFP's information sharing function could therefore also have an influence on stakeholders' decision-making regarding how projects in such ecosystems are funded.

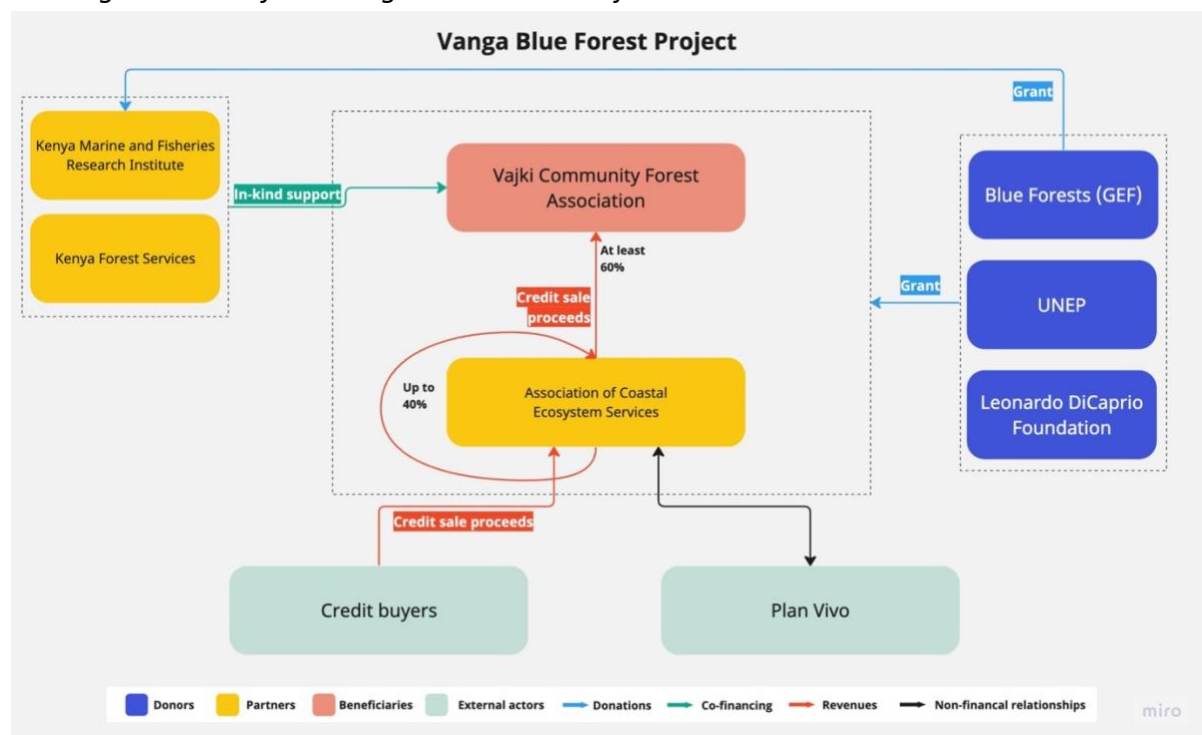
Component two of the BFP encompasses its capacity building function, including its funding activities. The funding provided by the GEF comes in the form of a grant with no expectation of repayment (UNEP, n.d.-b). The funds are then channeled to implementation partners also in the form of grants. The funding instrument applied by the BFP is therefore of a traditional nature and falls within the five most common instruments of climate finance for nature identified by UNEP (2021). The amount of the grant disbursed to each of the six intervention locations differs, an overview is provided in Appendix E. Additionally, each intervention also received co-financing from the implementation partners and external actors. The GEF accepts co-financing in a range of formats, including grants, loans, equity investments, guarantees, in-kind financing and public investment (GEF, 2018a). In the case of the BFP, most co-financing was received in-kind, which entails non-monetary contributions such as salaries, wages, office space, utilities and other goods and services (GEF, 2018a). In addition, some co-financing was provided in the form of grants (UNEP, n.d.-b; Project Representative, BFP, 6 April 2023, Online).

Pilot intervention - Kenya

While the funding instruments applied by the BFP are traditional, the project supported the development of innovative financial instruments in its implementation locations. The purpose of these interventions was to “set up financial mechanisms for self-

sustainability” (Project Representative, BFP, 6 April 2023, Online). In Kenya, the BFP advanced the sale of blue carbon credits on the voluntary carbon market, which was identified in the literature as a rather niche opportunity that is slowly gaining in popularity (Vanderklift et al., 2019). The intervention, named the Vanga Blue Forest project, is focused on preventing deforestation in the local mangrove forest and stimulating community-based reforestation activities (Association for Coastal Ecosystem Services [ACES], 2020b). Figure 20 shows how the BFP structured the project. The BFP provided grant funding that was disbursed to two local partners, enabling these to offer technical support and in-kind funding to the Vajiki Community Forest Association (CFA), which was responsible for governing the project on the ground (ACES, 2020b). To connect the CFA with the voluntary carbon market, ACES, a Scottish registered charity was brought into the mix. ACES is responsible for project coordination and serves as the link between the Plan Vivo Foundation – the selected carbon trading standard – and the CFA.

Figure 20
Funding structure of the Vanga Blue Forest Project

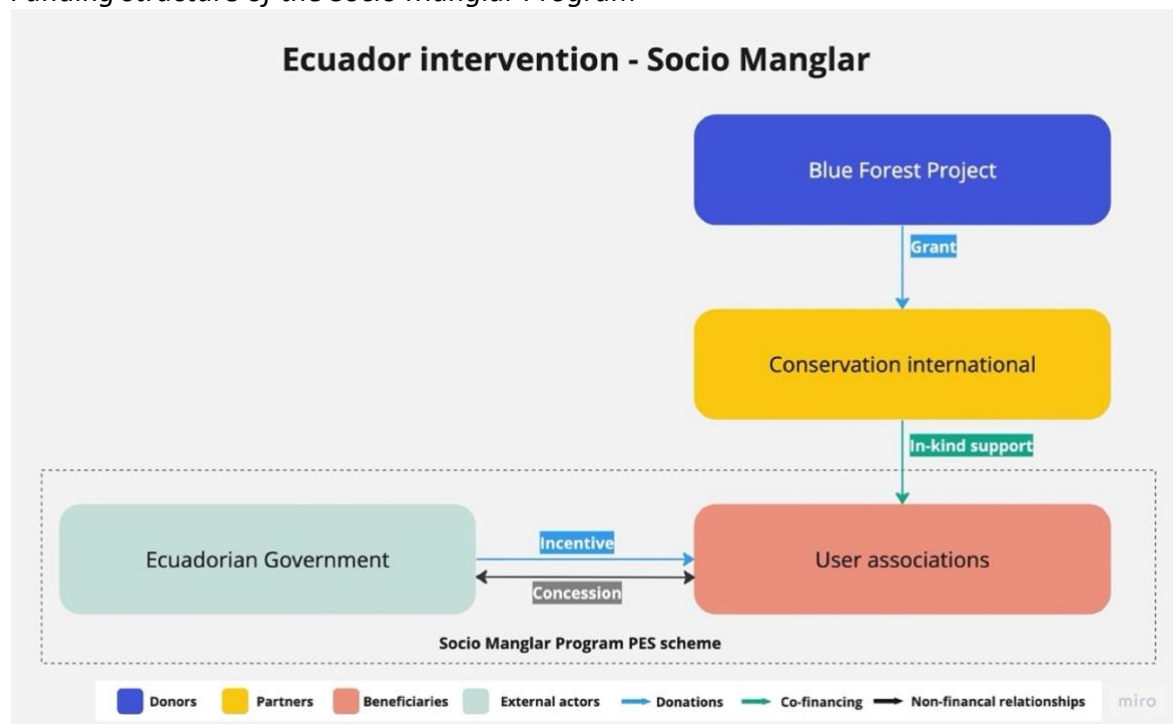


The Plan Vivo foundation issues Plan Vivo Certificates (PVC) on an annual basis on the condition that the project’s annual workplan is implemented successfully and predetermined outputs are met (ACES, 2020). One PVC is equivalent to 1 ton of CO₂ either sequestered or mitigated (Plan Vivo Foundation, 2017). The project relied on an ex-post methodology, which entails that it only claims credits that have been verifiably achieved at the date of issuance based on monitoring of field data (ACES, 2020b). Following the issuance of the PVCs, ACES is responsible for negotiating with buyers and facilitating the sale of PVCs (ACES, 2020b). The credit buyers include a mix of carbon offsetting firms, private companies, funds, foundations,

educational institutions and private individuals (see Appendix E for an overview) (Mwafrica et al., 2022). ACES holds the funds from sales of carbon credits in an independent and transparent account, and transfers these to the CFA on the condition that annual targets are met (ACES, 2020a). In the case of failure to meet annual targets, the funds are held by ACES in trust (Mwafrica et al., 2022). More details on how the income generated from credit sales is invested is provided in section 5.1.3.

Pilot intervention – Ecuador

Figure 21
Funding structure of the Socio Manglar Program



In its Ecuador intervention, the BFP supports the upscaling of an existing PES scheme from the Ecuadorian government. This is another innovative financial instrument that is increasingly being applied to drive investments into NBS (Brathwaite et al., 2021; Schirpke et al., 2018). The program, named Socio Manglar, provides monetary incentives to local organizations to support the implementation of sustainable mangrove management plans (GRID-Arendal, 2021). The incentives are provided based on a mangrove concession, an agreement between the Ecuadorian Ministry of Environment and Water and local user associations that grants communities exclusive access to the sustainable extraction of mangrove resources. Concessions are granted on the condition that the community presents a management plan which outlines the actions they will take on three fronts: (i) sustainable use of resources, (ii) control and surveillance and (iii) monitoring and evaluation (Rodríguez, 2018). Incentives are then provided on an annual basis to aid the community in the implementation of these activities (GRID-Arendal, 2021). The amount of the incentive they

receive under the scheme depends on the area covered by the agreement. Moreover, the payments are dependent on conservation performance.

Figure 21 demonstrates the flows of funds between the actors involved. The BFP grant was channeled to local implementation partner Conservation International, which had a history of engagement with local community and fisheries associations in the area (Project representative, BFP, 6 April 2023, Online). Using the funding, Conservation International helps local communities to form user associations eligible for participation in the program (Vandervelde, 2015). In addition, the funding was used to assess the effectiveness of existing management plans, improve the valuation of the ecosystem services provided by mangroves in the plans and facilitate the development of new plans (UNEP, n.d.-b). The funding thus helped to evaluate the program, improve its valuation of ecosystem services and upscale it to additional resource users.

5.1.3 On whose behalf?

This final section evaluates whose interests are represented by the BFP and who benefits from the project. This includes an examination of the outputs that the initiative has (or has not) been able to produce, and where those have been produced in geographical terms. In addition, it zooms into the beneficiaries of the two supported financial instruments in Ecuador and Kenya and examines if and for whom these instruments generate returns.

Blue forest project

Looking at beneficiaries, the BFP's pilot interventions target actors such as national and local governments, ministries, local universities and local communities (UNEP, n.d.-b). At the national level, the interventions aim to stimulate the incorporation of blue carbon and ecosystem services into policymaking on climate and mangroves. At the local level, improved capacity for ecosystem management is the main intended outcome (UNEP, n.d.-b). Geographically, the planned intervention locations are all in the Global South, spread over East Africa, South-East Asia, South America and the Middle East. In terms of income groups, the interventions support projects in two low-income countries that also fall into the LDC group (Madagascar, Mozambique), two lower-middle income countries (Kenya, Indonesia) and one upper-middle income country (Ecuador). While the BFP also supports a project in the United Arab Emirates, a high-income country, no financial resources were channeled to this location as it was funded through 100% co-finance (UNEP, n.d.-b). The Abu Dhabi intervention is therefore excluded from this analysis. The distribution of funding outputs by the BFP in geographical terms is generally in line with expectations of climate finance flows provided by developed countries for developing countries, as outlined in the OECD (2022) report.

In terms of actual outputs, a final evaluation of the BFP interventions has yet to be completed. Consequently, data on the outcomes produced in the interventions is scarce. However, the interview gave some initial insights on what the project has been able to

achieve, and the challenges it experienced. It was emphasized that each project started with a different baseline scenario and varying levels of capacity (Project Representative, BFP, 6 April 2023, Online). In interventions such as Kenya and Ecuador, the BFP was able to replicate or upscale existing work. In this process, it relied on implementation partners that already had a history of engagement with local communities, which allowed the BFP to utilize their experience and know-how to efficiently introduce new concepts and instruments related to mangrove ecosystem valuation. Other projects, such as the intervention in Mozambique, started from a baseline of zero, with lower levels of knowledge and capacity to build on. Hence, while the Kenyan project was successful in setting up a new carbon finance scheme, the project in Mozambique only went as far as introducing the topic of blue carbon to the government and supporting their ambitions at the UNFCCC (Project Representative, BFP, 6 April 2023, Online). In line with research by Van Veelen (2021) and Bridge et al. (2020), the work carried out by the BFP in setting up new financial instruments was thus significantly influenced by local social, political and ecological conditions. These conditions acted as both constraining and facilitating factors in determining the extent of the BFP's capabilities.

Pilot intervention – Kenya

For the Vanga Blue Forest Project in Kenya, at least 60% of the income from the sale of carbon credits must flow to the community, while up to 40% can be retained by ACES for administrative purposes (ACES, 2020b). The Vajiki CFA is the recipient of funds, which are used to support community development projects in areas such as education, water and sanitation and environmental conservation. The procedure for the allocation of funds is based on a consultation process in which community members propose projects that are evaluated by the CFA and then put to vote (ACES, 2020b). This ensures that the allocation of funds occurs in accordance with priorities set by the community. In addition, the project planned to employ six local people and generate additional employment opportunities for community members through involvement in mangrove nursery establishment, reforestation and monitoring efforts. The project design document anticipates that 26% of the income will flow towards community projects, while 36% will be spent on employing local workers in surveillance, restoration and reforestation activities (ACES, 2020b).

Aside from the local communities, an additional actor category that benefits from this project is the carbon offsetting companies buying the credits. Among the buyers of the Vanga Blue Forest credits are two commercial carbon offsetting firms: Zero Mission, a Swedish company offering carbon accounting and offsetting services and Yacht Carbon Offset, which sells carbon offset certificates to the superyacht community to help them counterbalance their emissions (Mwafrica et al., 2022). Both of these companies buy the credits from ACES and subsequently sell them to their clients, making returns in the process. In this sense, the carbon credit scheme contributes to what Büscher and Fletcher (2015) term 'accumulation by conservation.' This process sustains existing structural power relations and dependencies as Northern actors invest in the conservation of natural resources in the Global South and

thereby displace the impacts of taking such actions domestically (Büscher and Fletcher, 2015). Simultaneously, these activities generate profits that flow back to Northern-based carbon offsetting firms and allow for the continuation of high-emitting practices in the Global North, exemplified in this instance by the activities of the superyacht community.

Pilot intervention – Ecuador

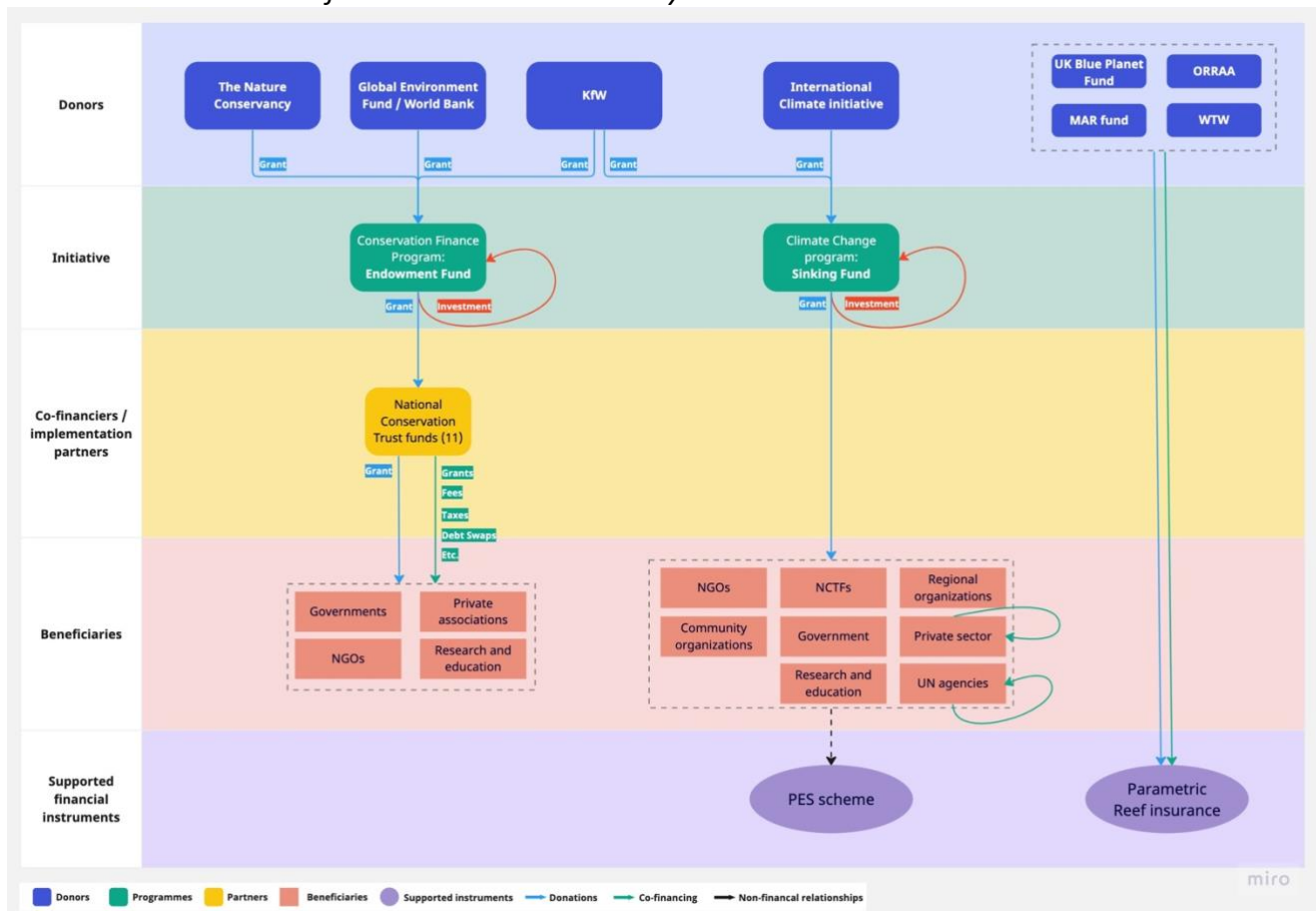
In the case of the Ecuador intervention, the project benefits the Ecuadorian government and the community associations involved. By assigning responsibility to local resource users, the government saves costs on the management and monitoring of mangroves. In addition, the community benefits from the monetary incentive received, which helps them cover expenses and investments associated with surveillance, monitoring, administration and technical implementation of the mangrove management plans (GRID-Arendal, 2021). Additionally, funds may be used for ‘the total or partial financing of productive or social projects for the benefit of associates’ (GRID-Arendal, 2021). Aside from the financial incentive, the program grants exclusive access to mangrove resources to the community associations, who may resultingly benefit from income-generating activities such as fishing and crab farming (GRID-Arendal, 2021). The project thus generates benefits that are absorbed locally.

Pilot interventions – Indonesia and Madagascar

While the Ecuador and Kenya interventions both generated benefits for the local communities involved, this has not been the case for all interventions. Due to the inability of the Indonesian government to fulfill its responsibilities as implementation partner, the intervention was not executed (Project Representative, BFP, 6 April 2023, Online). Another example is the project in Madagascar, which aimed to set up a blue carbon credit scheme on the voluntary carbon market similar to the Kenyan model. While the project was successfully registered under the Plan Vivo standard in 2020, political conditions at the national level are currently preventing the project from requesting the issuance of PVCs. The Malagasy government is developing a new decree regulating the sale of verified carbon credits. However, delays in the finalization and enactment of the degree have resulted in all sales of verified carbon credits by the project being paused (Blue Ventures, 2022a, 2022b). This has caused the project to come to a standstill, as no requests for PVCs or payments have been made since its last annual report in 2020. This project demonstrates what van Veelen (2021) terms the ‘agency of the object of investment’ as local political conditions shape how the newly introduced financial instrument is received and enacted, preventing it from generating funding according to the plans and expectations of the BFP.

5.2 Caribbean Biodiversity Fund

Figure 22
Financial structure of the Caribbean Biodiversity Fund



The CBF is a regional environmental fund launched in 2012 to support the activities of the Caribbean Challenge Initiative (CCI) (UN, n.d.). The CCI is a platform that unites governments, civil society and the private sector in protecting the Caribbean’s marine and coastal resources (CCI, 2020). One of its central goals is to establish ‘fully functioning finance mechanisms that provide long-term, reliable funding to ensure marine and coastal areas are sustainably managed into the future’ (CCI, n.d.). To support the achievement of this goal, the CBF was established. Its mission is to ‘ensure continuous funding for conservation and sustainable development in the Caribbean’ (CBF, 2022a).

The CBF currently runs three programs in line with this mission (CBF, 2023). Firstly, the Conservation Finance Program provides financial resources to National Conservation Trust Funds (NCTFs) operating in the Caribbean region for activities such as protected areas management, natural resources management and community engagement. Second, the Climate Change Program supports ecosystem-based adaptation (EbA) strategies such as ecosystem restoration, rehabilitation and the installation of green-gray infrastructure. Third, the Nature Based Economies program aims to advance circular economy principles and contribute to the reduction of marine litter. In addition to these three programs, the CBF

works on several side-projects in collaboration with local and regional partners. For example, the 'Reef Resilience and Risk Financing in the Greater Caribbean' project was executed in collaboration with Meso-American Reef (MAR) Fund and Ocean Risk and Resilience Action Alliance (ORRAA). It aimed to build capacity among local stakeholders around the use of parametric reef insurance and to develop a risk financing concept for reefs in the Caribbean.

In line with the purposes of the present research, this case study only focuses on the programs that use or support NBS and that involve a financing element. Therefore, the Nature-Based Economies program is excluded. Instead, the case study covers the Reef Resilience and Risk Financing project, as it aims to introduce an innovative financing instrument for reef protection. An overview of the 'follow-the-money' analysis for the Conservation Program, Climate Change Program and the Reef Resilience Project is provided in Figure 22. The individual components of this structure are elaborated upon in the following sections.

5.2.1 Who governs?

This section maps out which actors are involved in the CBF and how these are related to one another. It starts with a general overview of the CBF as a whole and then zooms in specifically on the conservation finance program, climate change program and reef resilience project.

Caribbean Biodiversity Fund

There are two main groups of actors involved in the activities of the CBF: its donors and its partners. The main donors are demonstrated in Figure 22. They include a mix of bilateral development institutions, international NGOs, international organizations and several entities associated with the German government⁵. The public sources of finance are in line with earlier research on climate finance for nature, but the involvement of a conservation NGO as a central donor is not (UNEP, 2021). The CBF's key partners are the NCTFs. They receive funds from the CBF through the conservation finance program, contribute to side-projects and are involved in the governance of the organization. There are currently 11 NCTFs associated with the CBF (see Appendix F for a full overview) (CBF, 2022a). The CBF is governed by a board of directors comprised of representatives from both of these actor groups: one director appointed by the German Development Bank (KfW), one by TNC and one by each of the NCTFs. The majority of directors on the board cannot be associated with governments of the participating countries and must be representatives of civil society including NGOs, research organizations and the private sector (CBF, 2018a). However,

⁵ Figure 22 only includes the donors contributing to one of the three programs covered by this case study. Some additional donors contribute to other projects within the CBF or to the activities of the secretariat, but these fall within the same categories mentioned above.

governmental representatives do participate and also the KfW is a public actor, making the CBF a hybrid initiative according to the Andonova (2009) typology.

In terms of geography, the main donors of the CBF are located in the Global North, while its key participants are Southern actors. However, through their inclusion on the board of directors, the NCTFs also have an influence on the governance of the initiative, indicating that Southern actors have a degree of decision-making power within the CBF. Moreover, the CBF's initiator – the CCI – is a regional organization established by five Caribbean countries (CCI, n.d.). Considering that TGLs have mainly been found to be initiated by Northern actors (Bulkeley et al., 2012), CBF thus represents one of the exceptions. For added detail, each of the three programs covered in this case study is discussed individually.

The Conservation Finance Program

The Conservation Finance Program works by channeling funding to NCTFs in 11 different Caribbean countries. It does so using an endowment fund with sub-accounts for each of the countries involved. The endowment fund was launched in 2012 with a US\$42 million donation from the KfW, TNC and the GEF (through the World Bank and UNDP) (CCI, 2020). Rather than being equally distributed among the accounts, the funding was distributed according to specific country allocations determined by the donors. It is important to note that the donations are made for participating countries, not for a specific NCTF. However, to gain access to the funds in their sub-account, each participating country is required to set up a NCTF. In cases where such an organization does not yet exist, the CBF provides advisory services and financial support to local stakeholders to guide them in establishing such an organization (CBF, 2018b; CBF, 2022b). To be eligible for receiving funds from the CBF, the NCTF needs to meet several criteria (CBF, 2018b): (i) its purpose must be aligned with the objectives of the CBF, (ii) its governing body needs to have majority civil society membership, (iii) it needs to have the ability to make grants to government and civil society entities, (iv) it must commit to an annual external audit and independent asset control and (v) it must be able to generate match funding (more on this in section 5.2.2). Once the NCTF is able to demonstrate that it meets these criteria, a partnership agreement is signed that governs the transfer of funds from the CBF to the NCTF for a period of five years (CBF, 2018a). In the event that a NCTF is unable to fulfill the eligibility criteria, or any other requirements stipulated in the partnership agreement, it will not receive the funds, which will remain in the country sub-account until an institution is set up that is eligible to access them (Program manager, CBF, 11 April 2023, Online).

The Climate Change Program

The Climate Change program was established in 2016 with a US\$25 million donation by KfW, which was used to set up an EbA Facility. In 2019, the program received an additional donation of US\$20 million from the International Climate Initiative of the German Federal

Ministry for the Environment, Nature Conservation, Nuclear Safety, and Consumer Protection (CBF, 2023). The EbA Facility disburses funds to local, regional and national projects that support climate change adaptation and poverty alleviation through biodiversity conservation and ecosystems management (CBF, 2022a, 2023). The Facility works through calls for proposals (CfPs), of which the fourth iteration closed in January of 2023 (CBF, 2022c). The management of the Facility is entrusted to the EbA Committee, which is responsible for ensuring effective project execution and the selection of grantees (CBF, 2023). It is made up of the CBF's Chief Executive Officer, along with representatives from several NGOs, including the World Wildlife Fund (WWF), IUCN and TNC, the World Bank and two educational institutes (one local, one US-based) (CBF, n.d.-c). Moreover, KfW is an observer to the committee, but they are not involved in the selection or review of projects (Program manager, CBF, 25 April 2023, Online).

The Reef Resilience and Risk Financing project

In the Reef Resilience project, the CBF was not a grantee or recipient of funds (Program manager, CBF, 11 April 2023, Online). Its donors, a mix of public and private organizations, are shown in Figure 22. The project facilitated a strategic partnership among the Mesoamerican Reef (MAR) Fund, the CBF and Willis-Towers-Watson (WTW) with the aim of expanding the reach of the MAR Fund's risk financing innovations (Wharton, n.d.-a). The MAR fund is a private fund driving conservation and restoration efforts in the Mesoamerican reef, while WTW is a global advisory firm with expertise in innovative ecosystem risk financing. The project involved a strong capacity building element around the use of innovative financial mechanisms such as parametric reef insurance. Additionally, it diffused expertise and practical lessons around coral reef risk modeling, risk financing instrument design and in-the-water reef protection interventions (Wharton, n.d.-a). While the CBF did not provide any financial resources to this project, its technical capacity building activities helped to introduce the concept of parametric reef insurance to the region.

5.2.2 How do they govern?

Knowing which actors are involved in decision-making around the disbursement of funds in each of the CBF's projects, this section examines the financial instruments used to do so. For the Climate Change Program and the Conservation Finance Program, the CBF makes use of grants. However, the conditions under which beneficiaries receive such grants and the internal management of the funds differ for each of the programs. For the Reef Resilience program, the CBF does not actively provide finance. However, it does support the development of a new insurance instrument, which is covered in more detail below.

It is important to note that the provision of funding is not the only governance activity that the CBF engages in. Aside from financial support, the participants in each of the programs receive non-monetary contributions as well. For example, the CBF provides technical support

for project implementation and regularly organizes workshops and webinars on priority topics according to the needs of the grantees (Program manager, CBF, 11 April 2023, Online). The governance functions performed by the CBF thus also include elements of capacity building aside from funding and knowledge sharing. However, these functions are not necessarily applied to influence the governance of climate finance in the ways outlined by Kawabata (2021).

The Conservation Finance and Climate Change Programs

Table 8

Financial details of the CBF's endowment fund and sinking fund

Program	Conservation Finance	Climate Change
Type of fund	Endowment fund	Sinking fund
Investment Managers	Metzler-Payden & Deutsche Bank	Deutsche Bank
Investment policy	Long-term investment strategy with aim of 7% returns on investment while the initial donation is kept in place	Shorter term investment strategy focused on generating liquidity for CfPs, both the revenue and principal are used to make payments, will be fully expended by 2026
Financial instruments	Grants	Grants
Grant details	Grant amount is determined by the 36-month average of a country's sub-account of which 4% can be paid out to the NCTF on an annual basis	Large grants: between US\$1 million and US\$2 million for regional, national and seascape-scale projects, Medium grants: between US\$ 250,000 and US\$ 1 million for smaller projects with seascape-scale and site-scale impacts
Conditions	1:1 match funding must be provided by the NCTF	50% co-financing required for private sector applicants and UN agencies, for other participants co-financing should be identified whenever possible but is not mandatory

While the Conservation Finance Program works with an endowment fund, the Climate Change Program uses a sinking fund. Accordingly, the financial management of the programs differs, as well as the conditions under which funding is disbursed. Table 8 shows the main differences between the funding strategies of the programs. Both work with external investment managers that adhere to a specific investment policy (CBF, 2021). While the conservation finance program is focused on keeping the donation to its endowment fund in place in perpetuity, the sinking fund is expected to be fully disbursed by its end-date in 2026 (CBF, 2021; Program manager, CBF, 25 April 2023, Online). Disbursements from the endowment fund are made on an annual basis and are used by the NCTFs for grant-making

at the national level (Lieuw, 2023). However, on average NCTFs do not request payments every year due to the time required to set up grant making programs and allocate the funding received (Program manager, CBF, 11 April 2023, Online). In contrast, the sinking fund works with two types of grants that are disbursed to grantees in installments over a 36-month period (CBF, 2022d). The number of disbursements received over that timeframe depends on how each project foresees to spend the money (Program manager, CBF, 25 April 2023). While there are differences in how funding is disbursed under the two programs, they are similar in that they both rely on traditional financial instruments, as grants were identified as one of the most common instruments used in climate finance for nature (UNEP, 2021).

Both programs have conditions under which their grants can be accessed. In the conservation finance program, each NCTF needs to meet the CBF's matching requirement. The objective of this requirement is to stimulate NCTFs to outgrow the CBF and ensure that they are not solely dependent on CBF resources (Program manager, CBF, 11 April 2023, Online). Under the requirement, NCTFs need to demonstrate that they can leverage new and additional funding that must match the grants received with a 1:1 ratio (CBF, 2022e). The CBF expects the partner NCTFs to fulfill the matching requirement by targeting funding that is long-term and recurring in nature. The matching requirement policy refers to three potential eligible categories of finance mechanisms: (i) short term finance mechanisms such as grants and one-time payments by external donors, (ii) existing finance mechanisms such as fees or taxes and (iii) new sustainable finance mechanisms that generate long-term funding such as user fees, debt swaps and other payment mechanisms (CBF, 2022e). Through this matching requirement, the CBF thus creates incentives for NCTFs to explore other sources of funds and financial mechanisms, including potentially more innovative ones. Debt-swaps, for example, were identified in section 2.2.2 as a less traditional financial instrument that can be implemented in innovative ways (Barbier, 2022; McGowan et al., 2020). In the case of the climate change program, co-financing should be identified by the grantee whenever this is possible. Two types of applicants in particular: private sector actors and United Nations Agencies, are required to provide at least 50% co-financing. For other beneficiaries, co-financing is welcomed but not mandatory (CBF, 2022d).

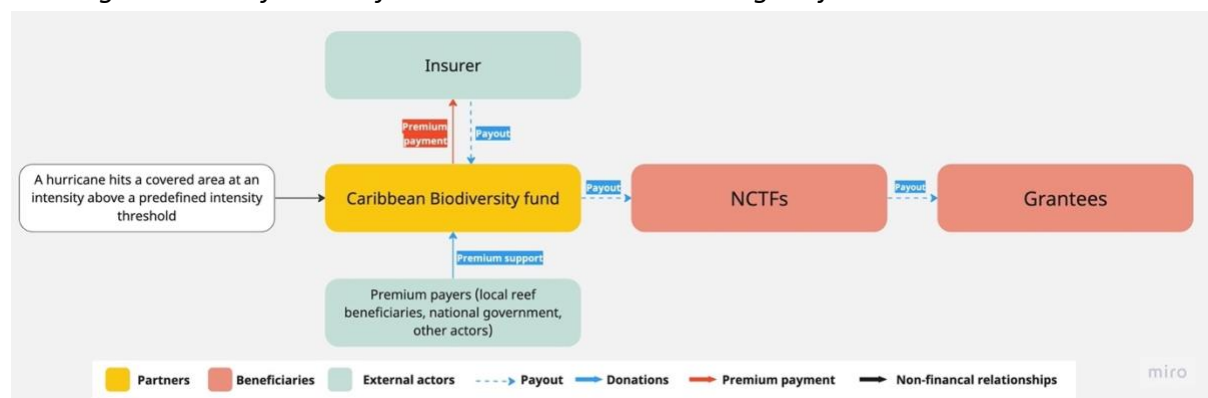
The Reef Resilience and Risk Financing project

For this project, the CBF did not disburse funding, but it supported the development of a new financial instrument. Along with WTW and the MAR fund, a proof-of-concept reef insurance program was designed for potential pilot implementation (Wharton, n.d.-a). The program is based on a parametric insurance instrument that would be used to trigger rapid payouts to cover the cost of post-hurricane reef response actions in three pilot countries: Jamaica, Saint Lucia and Saint Vincent and the Grenadines. The instrument (visualized in Figure 23) would be implemented by the CBF in collaboration with the NCTFs. It involves regular premium payments to a risk-taker, the insurer, which provides access to contingent finance in the case that a pre-defined insured event occurs (Wharton, n.d.-a). The insurer has

not yet been selected. In addition, the proof-of-concept does not specify who will be responsible for making the premium payments, although two different options are discussed. For the smaller islands of Saint Lucia and Saint Vincent and the Grenadines, a national-level program is proposed in which premiums would be centrally funded. Due to the more centralized national response capacity, this was considered a more efficient option. For Jamaica, in contrast, where reef management is more decentralized, site-specific coverage is suggested in which local reef beneficiaries play a role in paying the premiums (Wharton, n.d.-a).

CBF will be the policyholder, which means that they would receive the payout (Wharton, n.d.-a). The payouts would be based on a ‘cat in nested circles’ parametric structure, in which payouts increase proportionally to the intensity of the hurricane and its proximity to the reef. The intensity of the hurricane is measured through wind-speed thresholds. The CBF would then disburse the payout to the NCTFs involved in the program, which subsequently channel it to local implementation partners performing immediate reef response interventions (Wharton, n.d.-a). The CBF, along with the NCTFs involved, is currently identifying potential implementing and government partners to support the initiative. Future activities will involve engagement with these partners to explore options for the implementation of the proof-of-concept in the three pilot sites (CBF, 2023). Parametric insurance schemes such as this example were identified in the literature as a new and upcoming financial instrument for funding NBS that has been linked to advanced stages of financialization (Bracking, 2019). Through their support for this initiative, the CBF thus stimulates financial innovation and contributes to the financialization of nature.

Figure 23
Funding structure of the Reef Resilience and Risk Financing Project



5.2.3 On whose behalf?

Lastly, it should be considered for whom all mentioned above is taking place. Each of the three programs involves a different set of beneficiaries. Moreover, the conservation finance program and the climate change program are designed to support different types of projects, have distinctive requirements for their grantees and have produced varying outputs.

The beneficiaries, requirements and outputs for each of the programs are outlined below. What they have in common is that all beneficiaries are located in SIDS. In terms of income-categories, the CBF predominantly supports upper-middle income countries (57% of beneficiary locations), followed by high income countries (36%) and one lower-middle income country (7%). The distribution of funding is therefore slightly different from patterns on climate finance, which sees the greatest volumes of funding flowing to lower-middle income countries (OECD, 2022). However, this discrepancy may be explained by the fact that the CBF specifically targets SIDS in the Caribbean.

The Conservation Finance Program

Under the Conservation Finance Program, grants are provided to NCTFs, who use the funding to support local projects. In total, 55 different projects have been financed through the endowment fund so far (CBF, 2022a). Since the amount of the grant is dependent on the initial donation made to the country sub-account in the endowment fund, not every NCTF receives the same amount of funding. An overview of the volumes of funding channeled to each of the partner NCTFs can be found in Appendix F. The amounts range from \$20,000 to the newly joined Dominica NCTF (smallest recipient), to \$1,344,149 to Fondo Nacional para el Medio Ambiente y Recursos Naturales in the Dominican Republic (biggest recipient).

The NCTFs can allocate the funding according to their own plans and priorities. While existing research warned of TGIs promoting the interests of Northern actors in the Global South (Bulkeley et al., 2012), the CBF may have a lower risk of doing so due to the autonomy it gives to NCTFs over the use of the grants. However, NCTFs do have to adhere to a number of requirements set by the CBF. The NCTF grantees can include government agencies, non-governmental organizations, small private associations and research and academic institutions (CBF, 2022a). In the case a government agency is the beneficiary, funds can only be used for direct implementation costs that are additional to existing government budgets. In the case of civil society beneficiaries, both direct and indirect project implementation costs can be supported (CBF, 2018a). Moreover, projects must be consistent with a set of internationally recognized environmental and social safeguards and may not support, either indirectly or directly, the extraction of non-renewable natural resources (CBF, 2018a). The projects implemented by the NCTFs range from the restoration of ecosystems such as coral reefs and mangroves to education and training of local communities around biodiversity conservation and the improvement of protected area management (CBF, n.d.-b).

The Climate Change Program

The beneficiaries of the grants channeled through the EbA Facility can include NGOs, NCTFs, community-based organizations, government agencies, regional organizations, private sector companies, academic institutions and consortia of organizations (CBF, 2022a). In addition, beneficiaries must be from a country qualified for ODA and located in the insular

Caribbean (CBF, 2022d). For the most recent CfP, 14 countries were eligible⁶. An overview of the beneficiaries that have received grants through the climate change program to date is provided in Appendix F. Between 2016 and 2021, the EbA Facility disbursed a total of US\$5,968,986.59 to its grantees and beneficiaries (CBF, 2021). This funding has been divided over two CfPs and 19 grants in 11 different countries. The third CfP is expected to add another eight grants, while selections for the fourth are currently in progress (CBF, 2022d). As aforementioned, the selection of grantees is the responsibility of the EbA committee, made up of representatives from international conservation NGOs, the World Bank, one local and one US-based educational institution (CBF, n.d.-c). Unlike the conservation finance program, there is thus lower involvement of local actors in decision-making around the allocation of funds.

Further insight into whose interests are represented is provided by the EbA Facility's eligibility criteria. Applicant projects must contribute to the Facility's strategic objective, which is "to sustainably manage EbA supporting marine and coastal zone habitats, including rehabilitating key high biodiversity ecosystems and incorporating social and economic resilience to climate change" (CBF, 2022d, p.2). The types of projects to be supported with EbA grants can fall within one of three categories: (i) the protection of habitats through improved management, restoration and rehabilitation to reduce climate risks, (ii) community engagement in restoration and rehabilitation to reduce climate risks and (iii) the testing and development of new EbA models that could be scaled up in the future (CBF, 2022d). As shown in Figure 22, one of the programs supported through the EbA fund set up a PES scheme to protect mangroves in Haiti (CBF, 2022a). Even though this is not among its central objectives, the Facility has thus contributed to the implementation of one of the innovative financial instruments mentioned in the Kunming-Montreal biodiversity framework (CBD, 2022). See Appendix F for more information on the types of projects supported so far.

The Reef Resilience and Risk Financing project

The Reef Resilience project was implemented with three NCTFs already linked to the CBF through the conservation finance program (CBF, 2023). While beneficiaries in the project did not receive funds, they were involved in a range of capacity building activities. In particular, the project targeted local communities, the private sector, governments and environmental funds. Through activities such as direct engagement with beneficiaries and online training courses, the project facilitated the sharing of knowledge and building of strategic alliances between relevant stakeholders. In addition, the project involved in-the-water training of reef responders (Wharton, n.d.-a). In the long-term, the project aims to increase the resilience of coastal communities by ensuring that funds for rapid response activities are provided in a timely and predictable manner (CBF, 2023). At this stage in the

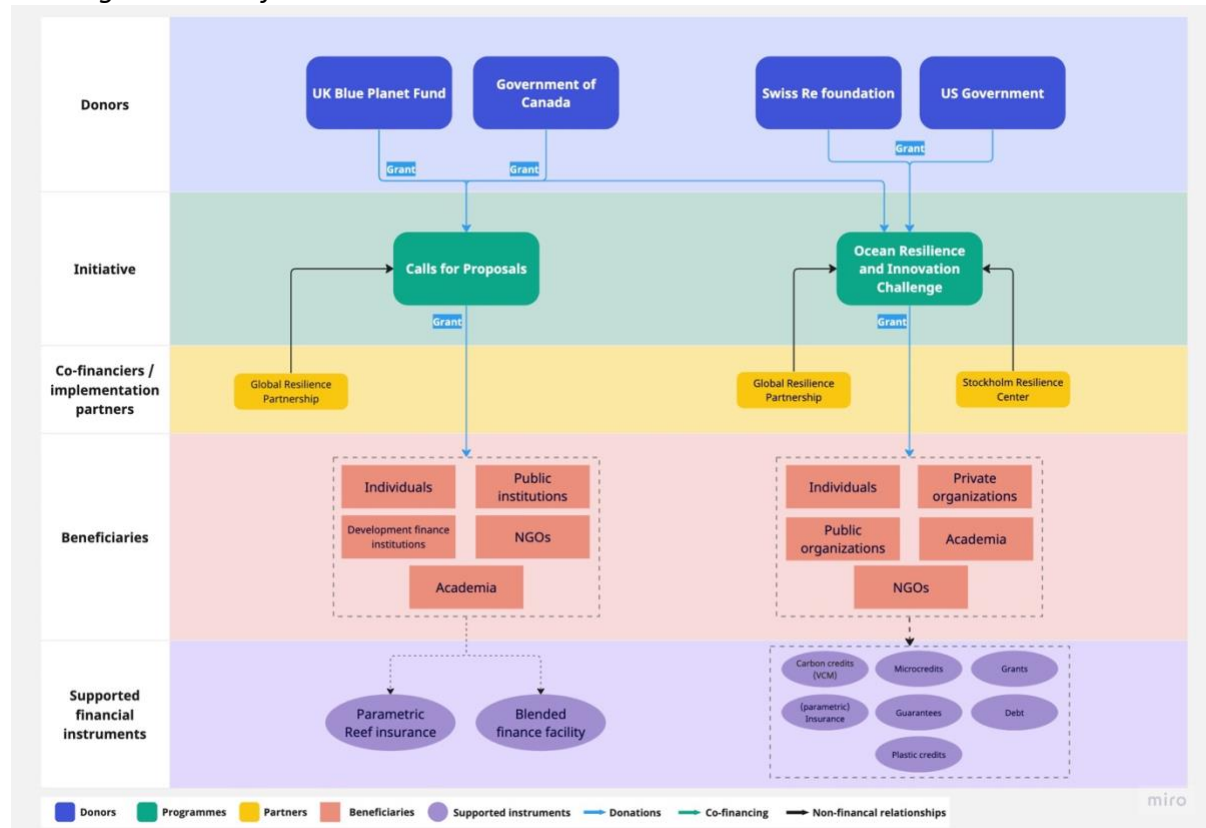
⁶ Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, Saint Lucia and St. Vincent and the Grenadines are primary beneficiaries. In addition, Antigua & Barbuda, The Bahamas, Barbados, Trinidad and Tobago and St. Kitts and Nevis can be involved in regional projects with primary beneficiaries.

project, there are no returns flowing to external beneficiaries. However, this may change once an insurer becomes involved and the scheme starts generating premium payments.

5.3 Ocean Risk and Resilience Action Alliance

Figure 24

Funding structure of the Ocean Risk and Resilience Action Alliance



The ORRAA is an international multi-sector collaboration that brings together stakeholders from the finance and insurance sectors, governments and non-profits to develop new finance products that incentivize greater investment into ocean and coastal NBS (ORRAA, 2023f). The goal of the alliance is to “activate at least US\$500 million of investment into coastal and ocean resilience through finance and insurance products by 2030 and in so doing, build the resilience of at least 250 million climate vulnerable coastal people” (ORRAA, 2023a, p.8). To reach this goal, the alliance works through three priority pathways: (i) ‘financial innovation’, which entails developing innovative and scalable finance and insurance products that protect and restore natural assets in coastal and marine ecosystems while delivering returns on investment, (ii) ‘science and research’, which is focused on stimulating knowledge development on ocean risk resilience and improving modeling efforts to inform financial and policy innovation and (iii) ‘policy and governance’ in which the initiative informs and encourages policy commitments by public and private actors that value nature and its ecosystem services (ORRAA, 2023b). To accomplish these goals, the ORRAA has set up a ‘Project Portfolio Pipeline’ that is designed to stimulate, expand and expedite investment in

coastal and marine natural capital (ORRAA, 2023e). The pipeline is supplied with projects through two main channels: regular CfPs and the Ocean Resilience and Innovation Challenge (ORIC). Both of these programs aim to support and scale ‘community-led finance and insurance products that build ocean and coastal resilience’ (ORRAA, 2023e). However, the manner in which they provide support to their beneficiaries differs.

This case study elaborates on the CfPs and ORIC, with a focus on how these programs align with the ORRAA’s financial innovation pillar. Two projects supported through these mechanisms were selected for an in-depth analysis. These include a blended finance facility established by ORRAA-partner Blue Finance and a parametric insurance product developed in collaboration with the MAR-fund. Figure 24 provides an overview of the ‘follow-the-money’ analysis for the ORRAA, the elements of which are discussed in the following sections.

5.3.1 Who governs?

The ORRAA was launched at the UN Climate Action Summit in 2019 through joint efforts by the Government of Canada, insurance company AXA XL and Ocean Unite, an ocean conservation and advocacy organization (ORRAA, n.d.-a). In addition, several other founding actors played a role in the conceptualization of the alliance (see Table 9). The secretariat of the alliance is housed within its co-host the Global Resilience Partnership (GRP) a non-profit that aims to advance resilience on a global scale by scaling innovations, generating knowledge and shaping policy (GRP, n.d.). The governance of the initiative is in the hands of its steering council, which sets the agenda and provides guidance to the secretariat, and a funder advisory board that guides the alliance in the production of outputs in line with its priority pathways (ORRAA, n.d.-a). The steering council is made up of representatives from national governments, NGOs, private corporations, banks and a UN agency, while the funder advisory board contains governments, private corporations and a philanthropic organization.

Table 9

Actors involved in the governance of the ORRAA

Actor group	Members
Founding members	Government of Canada, AXA XL, Ocean Unite, WTW, TNC, Inter-American Development Bank, Bank of America, KfW, UNDP, RARE
Steering Council	Government of Fiji, Conservation International, Clyde & Co LLP, WTW, AXA, TNC, Commonwealth Secretariat, Global Island Partnership, WWF, Bank of America, UNDP, Insurance Development Forum, GRP, Government of Canada, RARE, Government of Palau, Deutsche bank, UK government

Funder Advisory Board

Gordon and Betty Moore Foundation, government of Canada, UK government, Iqoniq capital, Deutsche Bank, AXA, Builders Initiative

In addition to the actors involved in the governance structure, the alliance has 71 members that participate in its projects. Of these, 17 are from the finance sector, 14 are governments, 26 are NGOs, 5 are international organizations and multilateral development banks, 5 are non-finance corporates and 4 are academic institutions (ORRAA, 2023a). See Appendix G for a full overview. Members provide monetary or in-kind support and play a direct role in the implementation of projects (ORRAA, n.d.-a). Given the mix of public and private actors involved in the initiative as governing partners and members, the TGI is classified as a hybrid initiative according to the Andonova (2009) typology. In addition, in line with expectations of previous research (Bulkeley et al., 2012) the founding members originate in the Global North, while Southern actors appear only as participants (see Appendix G).

Calls for Proposals and ORIC

The main donors of the ORRAA's two central programs are shown in Figure 24. Both have been supported with public resources, while ORIC received additional support from a philanthropic organization (ORRAA, 2023f, 2022, n.d.-c). In line with expectations (UNEP, 2021; Calliari et al., 2022; Frantzeskaki et al., 2019), the majority of funding is of a public nature. In addition, existing research recognizes the role of philanthropy as a private source of funding that can contribute to financing NBS, although it is not among the top private funding sources (UNEP, 2021). Several additional actors are involved in the selection of beneficiaries in the programs. Project selection under the CfP is done by the ORRAA secretariat in collaboration with the GRP. Proposals that get shortlisted are subsequently considered for financial support by the ORRAA and the funder (ORRAA, 2023f). In the ORIC, the Stockholm Resilience Centre is also involved in the selection of proposals (ORRAA, 2023b).

Financing Mesoamerican reef resilience to extreme climatic events

This project was a recipient of financial support from Global Affairs Canada, through the ORRAA's first call for proposals (ORRAA, n.d.-b). It was implemented by the ORRAA-partner MAR fund, with support from WTW. Together, they developed a parametric insurance product for four reef sites in the Mesoamerican reef. The product involves AXA Climate as capacity provider. In addition, the purchase of the insurance policy is financially supported through a grant from the InsuResilience Solutions fund, which is financed by KfW. Using this grant, the MAR fund pays the insurance premium to the insurer through their broker WTW (Wharton, n.d.-b). Hence, funding for this project is mainly public, while implementation is done by private actors. The financial support obtained through the ORRAA helped to further develop the financial instrument into a more advanced parametric index

structure, and expand it to cover seven sites in Mexico, Belize, Guatemala and Honduras (Wharton, n.d.-b). More information on the structure of the parametric scheme is provided in section 5.3.b.

Blended finance facility

The blended finance facility was also a finalist of the ORRAA's CfP in collaboration with the government of Canada. The project is implemented by Blue Finance, a social enterprise that works to build and manage 'bankable' marine protected areas (MPAs) on behalf of governments in the Caribbean, East Africa and South-East Asia (UNEP, n.d.-a). The facility is designed to provide up-front concessionary capital for the management of MPAs, while delivering returns on investment through sustainable sources of finance. The ORRAA funding was used to replicate the Blue Finance blended finance facility set up in the Turneffe MPA in Belize in additional MPA networks, starting in three sites in Indonesia, the Philippines and Tanzania (ORRAA, n.d.-b). More information on the design of the facility is provided in section 5.3.b.

5.3.2 How do they govern?

This section discusses how the ORRAA engages in the governance of climate finance for nature by examining the financial instruments used to disburse funding to beneficiaries. The ORRAA provides financial support primarily in the form of grants. The size of these grants and the conditions under which grantees become eligible for financial support differ across the CfPs and ORIC. These are elaborated upon below. In addition, this section outlines the financial structure of the blended finance facility and the reef resilience project to provide further insight into how the ORRAA stimulates the emergence of new and innovative financial instruments on the ground.

In terms of functions, the ORRAA engages in several governance activities in addition to the provision of funding. For instance, its 'science and research' and 'policy and governance' pathways include efforts on information sharing and capacity building that aim to influence innovation and policymaking around finance for ocean and coastal resilience. Hence, in line with Kawabata (2021) these other governance functions are also applied to influence climate finance for nature.

Calls for Proposals

In the CfPs, funding is delivered to beneficiaries in the form of grants. Projects can apply for two types of grants: a pilot grant or a project grant. Pilot grants represent smaller amounts of funding and are 'tailored for organizations to test and pilot innovative solutions' (ORRAA, 2023f). For more projects that are more established, project grants support grantees in scaling up innovative solutions and replicating them in new contexts. The funding is

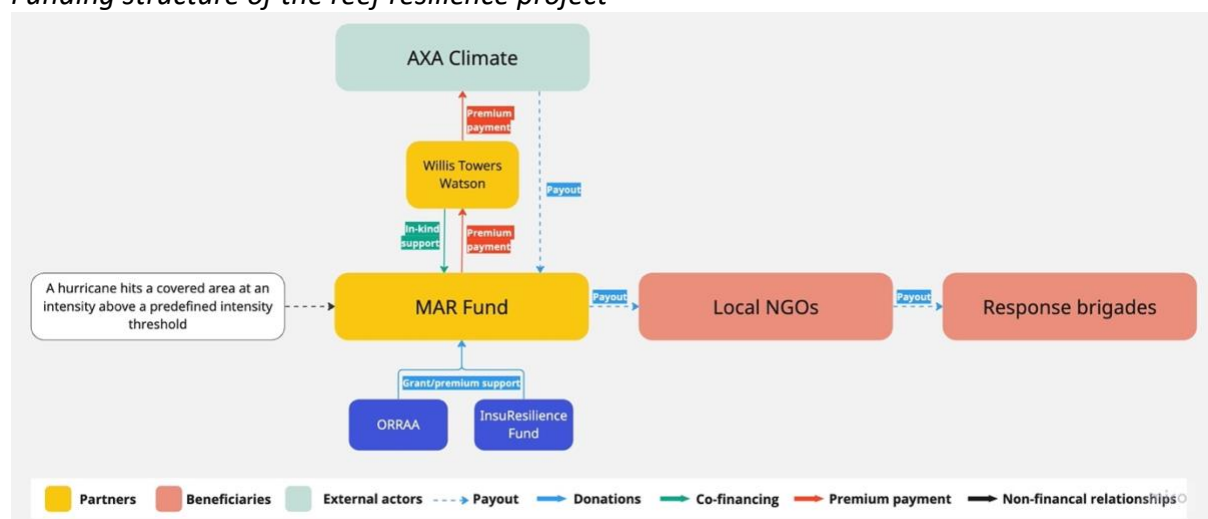
typically disbursed over a period of up to 24 months (ORRAA 2023f, 2022). The financial instrument applied in the CfPs is thus of a traditional nature, and one of the most common instruments observed in financing NBS (UNEP, 2021).

Ocean Resilience and Innovation Challenge

While the ORIC has a funding component, the program’s main aim is to make selected solutions ‘investment ready’ through mentoring, communications and leadership support, and the facilitation of networking with potential investors (ORRAA, 2023b; 2023d). The challenge involves capacity building activities that are tailored towards helping initiatives to ‘maximize their scalability, investability and potential for impact’ (ORRAA, 2023b). Over the course of three months, finalists receive mentoring from experts and consultants associated with the ORRAA. In addition, they participate in a ‘leadership academy’ supporting their personal and professional development. Finalists that complete the capacity-building portion of the challenge and meet pre-agreed criteria are awarded next stage grant funding of up to US\$50,000 to support the implementation of the project over the course of 12 months (ORRAA, 2023b). Moreover, ORIC has an indirect financing component wherein it connects initiatives with potential investors through an investors forum where finalists can pitch their projects to partners. Hence, the ORRAA also demonstrates the brokerage function identified by Kawabata (2021).

Financing Mesoamerican reef resilience to extreme climatic events

Figure 25
Funding structure of the reef resilience project



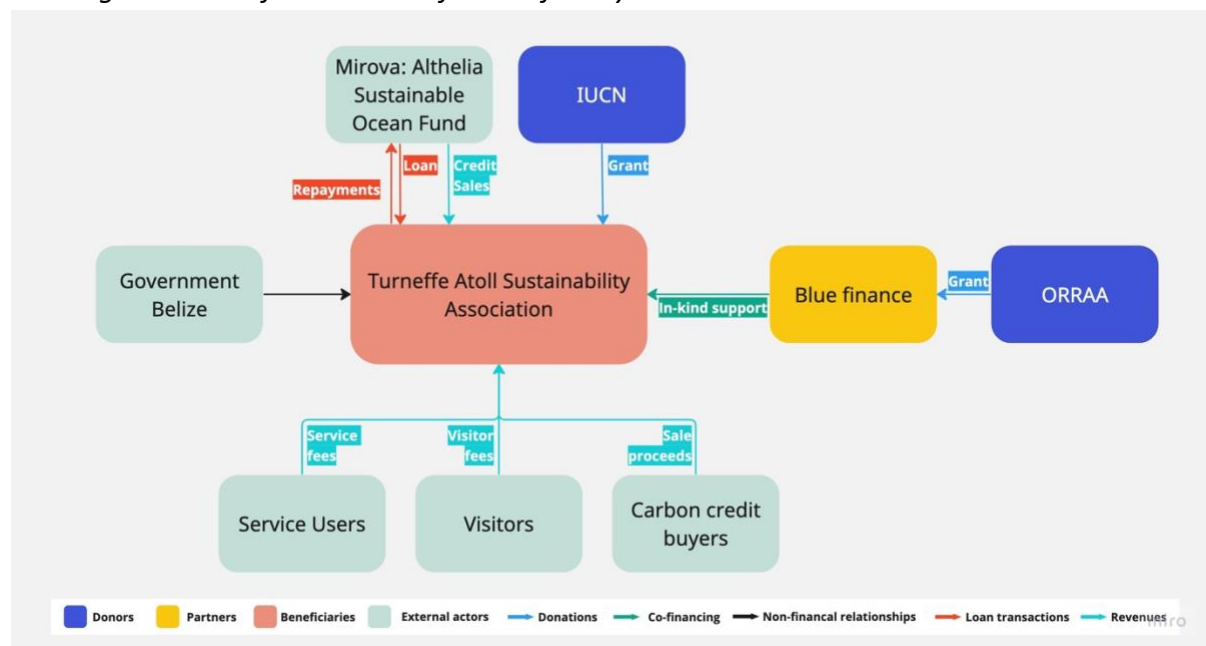
The parametric reef insurance program supported by ORRAA has a similar structure to the reef resilience and risk financing project by the CBF. Using a ‘cat in nested circles’ parametric product, payouts are dependent on the location and the intensity of the storm (Wharton, n.d.-b). The MAR fund pays premiums to insurance provider AXA through its broker

WTW. In the case of the occurrence of an insured event, MAR fund is the recipient of the payouts, which are channeled to its Emergency Fund. The payouts are then distributed to local NGOs for the implementation of reef response interventions according to existing fund distribution processes and protocols. While premium payments are currently supported by a grant from the InsuResilience fund, MAR fund is engaging with local governments, communities, tourists, businesses and other resource users to develop a self-sufficient and sustainable premium financing strategy in the long-term (Wharton, n.d.-b). Through this project, the ORRAA supports the creation of new income streams from the seven reef sites involved and thereby contributes to the financialization of ocean ecosystems. Specifically, this project aligns with financialization phase four, which is characterized by the increasing reliance on risk-based instruments in financing nature (Bracking, 2019).

Blended finance facility

Figure 26

Funding structure of the blended finance facility



Across the three case studies, the ORRAA is the only initiative that makes explicit use of blended finance, indicating that it may not be as pervasive among TGIs as expected based on recent trends (Clark et al., 2018). However, this project gives an example of how the TGIs that support such schemes engage with them. The ORRAA funding allowed for the replication of the Turneffe Atoll blended finance facility by Blue Finance in several additional MPA sites. The Blue Finance model relies on a long-term co-management lease between the government and a local non-profit entity in a public-private partnership agreement (IUCN, 2021; UNEP, n.d.-a). In the case of Turneffe Atoll, this is the Turneffe Atoll Sustainability Association (TASA) (Blue Natural Capital Financing Facility (BNCFF), n.d.). Blue Finance then sets up a blended impact investment facility that leverages public and private capital along with catalytic grant

funding. The Turneffe Atoll blended finance facility is financially supported through a grant from IUCN and a loan from Mirova Natural Capital through its Althelia Sustainable Ocean Fund (IUCN, 2021). This funding is used to set up revenue-generating activities within the MPA to generate returns for the investors contributing to the facility. In the Turneffe Atoll, this includes a blue carbon project, a business model that generates user fees from nature-based tourism and a revenue sharing mechanism based on sustainable aquaculture (UNEP, n.d.-a). The aim of these revenue-generating activities is to enable the MPS to become financially independent from short-term grants and public money. In the case of Turneffe Atoll, it is expected that the MPA will become financially self-sufficient by 2024 (UNEP, n.d.-a).

5.3.3 On whose behalf?

To answer the question of ‘who benefits’ from the ORRAA’s funding, this final section examines the types of actors eligible for support and the types of projects supported under the CfPs and ORIC. Both ORIC and the CfPs are quite similar in this regard, with some minor differences. The two programs are therefore discussed together. In addition, the section zooms into the flows of benefits associated with the reef insurance project and the blended finance facility.

Calls for Proposals and Ocean Resilience and Innovation Challenge

Table 10

Beneficiaries eligible for support under ORIC and CfPs

Program	Eligible beneficiaries
ORIC	Individuals, consortia of individuals, public organizations, private organizations, NGOs, academic institutions
Calls for proposals	Individuals, public institutions, development finance institutions, civil society, NOT private sector

The CfPs and ORIC differ slightly in the beneficiaries they target. The actor types eligible for support under each program are shown in Table 10. In addition, applicants to both programs must demonstrate that the focus of their projects aligns with requirements set forth by the ORRAA. For the most recent CfP, projects must fall within one of the ORRAA’s three priority pathways and “promote the development of ocean and coastal nature-based solutions, habitat protection practices and sustainable management, support adaptation and/or mitigation of climate change, or mitigate risk multipliers like overfishing and pollution” (ORRAA, 2023f, p. 6). Aside from this general focus, projects must align with the needs and interests of local stakeholders and show that they improve the resilience of coastal communities, are biodiversity positive and net zero (ORRAA, 2023f). ORIC uses the same eligibility criteria and project requirements. However, it only provides support to proposals

that fall within the financial innovation priority pathway. Proposals must put forward innovative finance or insurance solutions or develop new business models that build resilience to ocean risk in vulnerable communities (ORRAA, 2023b). To ensure that projects represent the interests of local communities, proposals under the CfPs and ORIC are required to include organizations from the Global South as lead or supporting partners. In addition, they must be able to clearly demonstrate how they will involve and engage local stakeholders (ORRAA, 2023f). While the ORRAA itself is not led by Southern actors, they may thus have a greater influence at the implementation stage. This is in line with previous research which reveals that Southern actors predominantly appear as participants in TGIs, rather than as their leaders or initiators (Bulkeley et al., 2012).

In geographical terms, the countries targeted by the CfPs and ORIC are quite similar. For both, proposed solutions must be located or deployed in countries that are eligible for ODA (ORRAA, 2023c, 2023f). Both programs also note that they give special consideration to projects located in SIDS and coastal LDCs (ORRAA, 2023b, 2023f). The income group distribution of the eligible countries shows that a little more than 10% are classified as low-income countries, about 40% as lower-middle and upper-middle income countries respectively, and 2% as high-income countries. In addition, the share of LDCs among the beneficiary countries lies between 26% and 28%, while the share of SIDS lies between 31% and 34% for both programs. The fact that middle income countries receive the bulk of finance is in line with expectations (OECD, 2022). However, the share of LDCs and SIDS targeted lies slightly higher than trends recorded in earlier research (OECD, 2022).

In terms of outputs, the ORRAA does not share how many projects receive finance under each of its calls for proposals. However, it does provide detailed information on the finalists involved in ORIC. Across three ORIC rounds, 17 different projects have received support through the ORRAA (see Appendix G for a full overview). The challenge has grown over time, with the first round resulting in three finalists, the second in five and the most recent challenge producing nine. Grantees include NGOs, non-profits, social enterprises, private companies and a research and policy organization. While there are no restrictions regarding who can apply, there has been little engagement with actors from the public sector.

Financing Mesoamerican reef resilience to extreme climatic events

The parametric insurance scheme of the reef resilience project was first triggered in November 2022 when Hurricane Lisa hit the Turneffe Atoll MPA (Wong & Conway, 2023). The payout process that occurred after this event, as outlined by Wong and Conway (2023), provides insight into where the money flows, and who benefits from the scheme. After the hurricane hit on the second of November, MAR fund issued a notice to its insurance broker WTW notifying them of the event. WTW then calculated the payout and found that US\$175,000 was warranted. The payout calculation was subsequently shared with all partners involved in the scheme, and a formal notification claim was sent to AXA by the seventh of November. The full payout was received by MAR's emergency fund by the 15th of November,

which it transferred to local reef response brigades within 48 hours. The brigade members are all certified first responders that received training under the MAR insurance program. Their activities include assessing the damage to the reef and carrying out first response activities such as stabilizing and repositioning fragments of coral. In the case of a delay in the insurance payout process, MAR fund has procedures in place that allow the brigades to receive an advance from its Emergency Fund to commence activities as soon as conditions allow. However, this was not needed in the present case, meaning that no existing funds from the Emergency Fund were used (Wong & Conway, 2023). The payout received through the scheme is absorbed by local actors. Given that the insurer, AXA, is a Northern firm, this is a case of North to South finance flows. However, it is important to also consider the premium payments made by the MAR fund to AXA. Currently, these are North-North money flows, as MAR fund receives premium support from the InsuResilience fund. As this grant is replaced by local funding, however, it will entail benefits flowing from the South to the North.

Blended finance facility

In the blended finance facility, revenues flow in two directions. On the one hand, the revenue-generating activities set up under the guidance of Blue Finance generate returns for the investors involved (UNEP, n.d.-a). Moreover, since the blended finance scheme is partially funded through a loan, revenues are used to make repayments to the impact investor, Mirova. For this loan, TASA received a 2-year repayment holiday and interest payments are at below market levels (BNCFF, n.d.). In addition, through the partnership agreement, Mirova gained the right to purchase part of the carbon credits generated through the blue carbon project being implemented in the MPA. Based on preliminary calculations, Mirova expects an internal rate of return from loan and carbon revenues of 7% between year four and year ten of the project (BNCFF, n.d.). The remaining revenues flow back to TASA to support the management of the MPA. While there is little information on the actual use of revenues to date, the initial business model reports that annual revenues are expected to cover over 80% of TASA's annual management budget. The scheme is expected to allow TASA to break even three years post the initial investment, after which additional revenues will be used for community development activities (BNCFF, n.d.). The blended finance scheme thus results in benefits flowing to a Northern impact investor and local communities. It does not seem that the blended finance facility promotes particular private sector interests from donor countries, as warned by Mawdsley et al. (2018). Benefits for local communities, however, only appear later on and are contingent on the success of the scheme.

5.4 Discussion

The three case studies examined above provide deeper insight into how TGIs that provide finance for NBS structure their funding activities, specifically within the issue area of oceans and coasts. Comparing and contrasting the findings of these cases through the core

questions of the thesis reveals key issues relating to climate finance for nature and its political economies. In particular, it shows how TGI-mediated financing is influenced by the social dynamics and power relations associated with the neoliberal organization of the modern global economy.

Table 11
Case-study comparison: who governs?

	BFP	CBF	ORRAA
Sources of finance	Governments, International organizations, Philanthropy, NGOs	Governments, International organizations, NGOs, Bilateral development banks	Governments, Philanthropy
Actors involved	International organizations, Non-profit organization, NGOs, State supported research institutes	International organizations, NGOs, Academic institutes, National conservation trust funds,	Governments, NGOs, International Organizations, Multilateral development banks, Commercial bank, Insurance firms, Academic institutions
Network type	Hybrid	Hybrid	Hybrid

Concerning the first sub-question, Table 11 compares the sources of finance, main actors and network type of the cases. In line with existing research on the financing of NBS (UNEP, 2021; Calliari et al., 2022; Frantzeskaki et al., 2019), the main source of funding for the initiatives is public. The three main public sources of finance for nature identified in Chapter 2 are each represented among the initiatives' main funders: governments, development finance institutions and dedicated climate funds. While the bulk of funding in the three cases is public, they also receive varying amounts of additional finance from private actors, including conservation NGOs (BFP, CBF) and philanthropic organizations (BFP, ORRAA). The fact that private funding comes from these sources is interesting considering that existing literature on climate finance identifies corporations, commercial finance institutions and households as the three biggest private sources (Buchner et al., 2021). None of these actors provide funding to the cases studied. This indicates once more that the dynamics at play in climate finance for nature may diverge from those observed in climate finance in general. Moreover, it could suggest that TGIs invite the influence of a different set of private actors on governing finance flows compared to more traditional arrangements. Finally, the analysis

provides insight into TGI engagement with blended finance schemes. Only one of the three cases (ORRAA) actively makes use of blended finance in its projects. While the CBF also provides funding to private actors, they do not provide concessionary funding with the objective of leveraging additional funds. Similar to the findings of the CCID analysis, it thus appears that TGIs use blended finance, but such schemes are not yet a mainstream occurrence. Hence, the increasing calls for the deployment of blended finance (CBD, 2022; UNEP, 2021) have not yet significantly influenced the funding strategies of TGIs.

In addition to the sources of finance, the analysis shows which other actors are involved in steering funding flows. In each of the three cases, this is a mix of public and private organizations. Accordingly, they are all classified as hybrid networks (Andonova, 2009). The fact that all cases are hybrid is in line with expectations, as earlier research identified that among TGIs working in the climate domain, hybrid initiatives most commonly engage in the provision of funding (Bulkeley et al., 2012; Kawabata, 2021). In each of the initiatives, public actors have considerable power over the allocation and disbursement of funding. In the BFP, the budget allocation was drawn up by UNEP, which was also responsible for approving changes in the use of funds. In the CBF, the KfW decided on the country-allocations of its donation to the endowment fund, determining how much funding is available to each country. Finally, in the ORRAA, the governments of the UK and Canada are involved in the selection of grantees under the CfPs and have selectively supported projects in line with their interests. Hence, following Jordan and Huitema (2014) the governance of climate finance for nature by TGIs does not occur in isolation from the influence of states. However, the TGIs also give agency to non-state actors, particularly conservation NGOs. These are involved in the initiatives as providers of (co-)finance (BFP, CBF), governing partners (ORRAA, CBF), implementation partners (BFP, CBF, ORRAA) and members of grantee-selection committees (CBF). While Bulkeley et al. (2012) identified NGOs as one of the main initiators of TGIs, this research indicates that they may also take on other roles, through which they can subsequently influence the governance of climate finance for nature.

Table 12
case-study comparison: how do they govern?

	BFP	CBF	ORRAA
Governance functions	Funding, Information sharing, Capacity building	Funding, Information sharing, Capacity building	Funding, Information sharing, Capacity building
Financial instruments	Grants Co-finance (cash) Co-finance (in-kind)	Grants, Match funding (grants, taxes, user fees, debt swaps, etc.), Co-finance (cash)	Grants

Supported financial instruments	Blue carbon credits, Payments for ecosystem services	Parametric insurance, Payments for ecosystem services	(Parametric) insurance, Blended finance (grants, loans, public revenue, etc.), Carbon credits, Guarantees, Microcredits
--	--	---	---

For the question of how TGIs govern climate finance for nature, the analysis provides insight into the governance functions they employ. The results indicate that in addition to providing funding, the initiatives also perform other governance functions outlined in the Andonova (2009) typology. In particular, each of the cases also engages in information sharing and capacity building (beyond funding). In line with Kawabata (2021) the initiatives employ these functions to govern climate finance for nature. For example, the BFP and the ORRAA use information sharing to influence policymaking around climate finance by public and private actors. In addition, both the CBF and the ORRAA provide considerable non-monetary support to their beneficiaries to enhance their capacity to attract and absorb funding. Finally, the ORRAA also acts as a broker connecting its beneficiaries to potential investors. While the present research mainly focuses on the direct funding activities of TGIs, these findings indicate that such initiatives can influence the governance of climate finance for nature through multiple channels.

Second, the analysis shows which financial instruments are used and supported by the initiatives and how these could contribute to the financialization of nature. To disburse funding to their beneficiaries, the initiatives rely on traditional financial instruments. The bulk of finance in each of the cases is disbursed in the form of grants following conventional practices in development finance. In the BFP and CBF, some additional funding is provided through co-finance and match funding, but also these funds are raised using rather traditional means. The direct financial instruments used by the initiatives thus do not contribute to the marketization or assetization of nature. However, the initiatives support interventions that do by attaching conditions to how their funding can be used and accessed. In the BFP, for instance, funding must be used for the ‘application of blue forests methodologies for carbon accounting and ecosystem services valuation’ (UNEP, n.d.-b). Similarly, applicants in the ORRAA’s ORIC project must demonstrate that their proposals develop innovative finance or insurance solutions. While the CBF does not require funds to be used for the development of new financial instruments, its match requirement adds an element of conditionality to the process of accessing the funding. NCTFs are obligated to demonstrate their ability to secure long-term and recurring co-finance through a combination of existing and new sustainable finance mechanisms. By attaching conditions to their funding, the initiatives thus contribute to the development of new financial instruments that were not present prior to their intervention.

In doing so, the cases contribute to the marketization and financialization of nature. However, the extent to which nature is financialized in each of the initiatives varies. This is most clearly demonstrated using the four phases of financialization identified by Bracking (2019). The BFP's supported financial instruments fall within financialization phase two (markets for ecosystem services). Blue carbon credits and PES create markets in which previously unpriced nature is given a value that can be circulated and exchanged (Bracking, 2019). Hence, they marketize elements of natural ecosystems. However, these instruments are not 'assetized' as they do not leverage debt against an expected income stream (Bridge et al., 2020). The ORRAA's and CBF's financial instruments go deeper into the financialization process, reaching phase four, which is typified by the emergence of risk-based instruments. In these instruments, natural risks, such as the occurrence of a hurricane, are transformed into an asset class for financial capital (Bracking, 2019). None of the initiatives engage with financialization phase three (capital market products). Financialization therefore occurs to varying degrees and under different conditions.

One potential explanation for this variation is offered by the actors involved in the initiatives. Among the three cases, the ORRAA stands out for endorsing the widest range of innovative or 'financialized' funding instruments. Notably, it is the only initiative that includes stakeholders from the finance and insurance sectors among its members. It is plausible that these actors exert influence on the ORRAA to take on projects aligned with their interests and contribute knowledge and expertise for the development of innovative schemes. Similarly, also the CBF's parametric insurance scheme was developed in collaboration with an actor from the insurance sector. In contrast, the actors involved in the BFP may lack the incentive, knowledge or resources to engage with these types of instruments. An alternative explanation is provided by the objectives of the initiatives and the funding gaps they aim to fill. The BFP aims to develop standardized tools for carbon accounting and ecosystem service valuation, making carbon credits and PES logical options. In contrast, the CBF aims to overcome short-termism in funding for coastal management, providing long-term and reliable sources of finance, while the ORRAA catalyzes investment into ocean and coastal resilience. These latter two objectives inherently allow for greater flexibility and innovation as they take a broader and longer-term perspective.

Interestingly, financialization phase three, characterized by the use of environmental theme bonds, is represented in none of the initiatives. There is no evidence of engagement with capital market products such as green bonds or derivatives. A potential explanation may be offered by Thiele and Gerber (2017) who indicate that (blue) bonds are particularly suited for projects that have already been successfully established and deliver predictable cash flows. In contrast, the BFP, CBF and ORRAA mainly focus on testing, piloting and developing new projects or helping them scale or replicate their activities. Therefore, phase three instruments may not be considered viable options. However, also the relative novelty of the use of bonds for marine conservation projects could play a role in their absence (Thiele & Gerber, 2017).

When interpreting these findings, it is important to take into consideration that these cases were selectively picked from the ‘oceans and coasts’ thematic area. This issue area stands out as the one with the greatest number of initiatives with a funding function, and has been identified as a hub of financial innovation in existing literature (Christiansen, 2021a, 2021b; Reguero et al., 2020; Thiele & Gerber, 2017). In contrast, the C-CID analysis reveals that other issue areas such as agriculture have much fewer initiatives with a funding function and lower engagement with innovative finance. Some projects thus lend themselves more easily to financial innovation than others, and processes of financialization are not uniform across all types of NBS.

Table 13

Case-study comparison: on whose behalf?

	BFP	CBF	ORRAA
Beneficiaries	Government, NGOs, Local communities	Government, NGOs, Private sector organizations, Research organizations, NCTFs, Regional organizations	Individuals, Civil society, NGOs, Academia, Private sector organizations, Public institutions, Development finance institutions
Direct returns	-	-	-
Returns supported financial instruments	<i>Carbon credits:</i> Sales proceeds → local community, Resales proceeds → carbon offsetting companies	<i>Parametric insurance:</i> premiums → insurer	<i>Parametric insurance:</i> premiums → insurer <i>Blended finance facility:</i> loan & carbon revenues → investor, Revenue generating projects → MPA management + community

Finally, for the last sub-question, the analysis shows geographical patterns in the flow of outputs and the sources of power in the initiatives. For each of the cases, the geographical distribution of outputs is generally in line with patterns of climate finance provided by developed countries for developing countries (OECD, 2022). Most of the funding flowing through the initiatives originates in the Global North and is disbursed in the South. There is

some evidence of domestic funding supplementing the donations, notably in the BFP, where some public actors provided co-finance, and the CBF, where NCTFs provide match funding. However, in the BFP, this funding was rather unstable as not all partners fulfilled their co-financing requirements. Moreover, in the CBF, match funding can also come from other external donors and is not exclusively from domestic sources. The patterns observed in the Global Landscape of Climate Finance report (Buchner et al., 2021) regarding domestic and non-OECD funding are thus not mirrored by the present research. Closely related is the finding that two out of three TGIs (BFP, ORRAA) are initiated and managed by actors in the Global North. Both initiatives also involve actors from the Global South, but mostly as participants in projects rather than partners in governance. In contrast, the CBF is the only case that was initiated by Southern actors and also includes local actors in the governance of the initiative. With the exception of the CBF, which is relatively more locally governed, most of the power over the allocation of benefits thus lies in the hands of Northern actors. Similar to Bulkeley et al. (2012) these results indicate that the actors involved in TGIs align closely with existing patterns of political economy. The dominance of Northern actors in leading, funding and governing the initiatives could indicate that TGIs uphold existing North-South dependencies.

Second, the analysis shows the beneficiaries targeted by the initiatives and the flows of returns to the stakeholders involved. Concerning beneficiaries, a wide range of actors across the public sector, private sector and civil society are represented. Since the initiatives take on a more traditional development finance stance based on grant-making, issues related to unequal access to funding based on questions of creditworthiness or access to capital as outlined by Bracking and Leffel (2021) and Mawdsley et al. (2018) are less of a concern. In addition, the grant-based funding structure means that there are no direct returns flowing back to the initiative, its members or its donors. In contrast, the initiatives' supported financial instruments do generate returns. These flow back to local communities, but also to Northern actors such as donors and investors. For example, the blue carbon credit project by the BFP benefits the community involved, but also generates returns for carbon offsetting companies and enables the continuation of certain high-emitting activities in the Global North. Another example is the blended finance facility supported by the ORRAA, which results in flows of returns to Northern impact investors. In the long-term, however, it also results in benefits for the MPA management organization and local communities. The scheme does not seem to promote the interests of particular private sector actors in donor countries, as warned by Mawdsley et al. (2018). A final example is the parametric insurance scheme developed by the ORRAA, which entails premium payments to the French insurer AXA in return for rapid payouts to local actors following hurricane events. Hence, while the four initiatives do not result in direct returns, they stimulate money flows to Southern beneficiaries and Northern investors. The exact balance in costs and benefits between the actors involved, however, is a question for further research.

Lastly, the examination of the initiatives' efforts in setting up new financial instruments reveals that the 'agency of the object of investment' as outlined by van Veelen (2021) has a considerable influence on what they can achieve. This is most clearly

demonstrated in the BFP, where local conditions influenced the implementation and success of the initiative's projects. The Mozambique intervention shows that there needs to be a foundation of understanding, capacity and infrastructure for new financial instruments to be introduced. Because this was lacking, the BFP only got as far as laying the groundwork for potential future interventions. In parallel, their Madagascar intervention shows that even when such a foundation is present, local political conditions must be favorable to the instrument to enable it to operate. The BFP thus shows that there is more to setting up innovative financial instruments than providing the funding to do so and there is a need for significant preparatory work with local stakeholders. This is also demonstrated by the parametric insurance scheme by the CBF, which entailed considerable capacity building exercises to ensure that funding flows to the right places in the event of a payout and can be put to productive use. This project has currently reached the proof-of-concept stage but requires further work to enable it to be put into practice. Local social, economic and political conditions thus have a significant influence on whether, how and where benefits flow.

Chapter 6: Conclusions

Integrating the main findings of the quantitative and qualitative analyses provides an answer to the three sub-questions of the research: *who governs, how do they do so and on whose behalf*. In addition, it allows for a reflection on the methodological limits of the study and the identification of suggestions for further research.

In general, the findings of the quantitative and qualitative analyses reinforce and supplement each other. The comparative case study shows several of the same trends uncovered through the C-CID analysis and offers further insight and potential explanations for the patterns uncovered. Concerning the first sub-question, the research reveals that hybrid TGIs in which public and private actors collaborate are most engaged in the provision of funding. In contrast, TGIs composed of private actors contribute little to the financing of NBS. Within funding TGIs, public actors, in particular national governments and international organizations, exert considerable influence on the governance of climate finance. However, also international conservation NGOs play a significant role. They do so by contributing to the initiation of initiatives, providing funding and steering decision-making regarding the allocation and disbursement of funding. In contrast, actors such as businesses, industry and institutional investors are less engaged. Interestingly, blended finance arrangements in which public funding is used to leverage additional private finance are not pervasive among the sample of TGIs examined here. While some of the funding TGIs indicate that they use or support blended finance mechanisms, these remain in the minority. In general, funding TGIs seem to follow a model that resembles traditional development finance, a trend that is also observed in the analysis for the second sub-question.

Regarding the question of how TGIs govern climate finance for nature, the research shows that they mostly rely on traditional finance instruments associated with conventional practices in development finance. Grants emerge as the most commonly used financial instrument, while innovative instruments are relatively uncommon. However, several initiatives use their funding to support financial innovation on the ground. The three case studies show that this is done by attaching conditions to their funding. These conditions specify how beneficiaries can use the funding, for example to pilot, replicate or scale up particular financing mechanisms. In this way, several innovative financial instruments are supported, including PES, carbon credits and parametric insurance. These financial instruments in turn are linked to the ongoing process of the financialization of nature. TGIs contribute to this process by creating income streams from nature and ecosystems that did not exist prior to their intervention. However, the extent to which initiatives financialize nature varies and occurs to different degrees under different conditions. Moreover, the proportion of TGIs that support innovative finance within the larger sample is quite small, indicating that this is not a typical activity among TGIs operating in the climate domain. Finally, funding is not the only way in which TGIs govern climate finance for nature and other functions such as information sharing and capacity building can also be applied to influence finance flows.

Lastly, the research provides insight into whose interests are represented by TGIs working with NBS. It shows that TGIs are influenced by, and potentially reinforce, existing power structures associated with the neoliberal global order. TGIs are mainly initiated and led by actors from the Global North, while Global South actors participate but have less decision-making power. Moreover, funders and donors are also predominantly located in the Global North, while the finance they provide flows to beneficiaries in the Global South. Hence, Southern beneficiaries are dependent on the choices of Northern donors regarding the allocation and disbursement of funding. Accordingly, the geographical distribution of outputs is in line with trends of climate finance flows from developed to developing countries. The bulk of finance flows to lower and upper-middle income countries. However, LDCs and SIDS receive a slightly higher share of funds than expected. In two of the cases examined, SIDS are explicitly targeted, while coastal LDCs receive special attention. Notwithstanding, the results also indicate that not all TGIs are equally successful in translating their commitment to funding into actual outputs. Closely related is the finding that local social, economic and political conditions have a significant influence on the types of projects that TGIs are able to implement in beneficiary locations and the success of those interventions. Finally, the study shows that the financial instruments set up by TGIs result in returns that flow to local beneficiaries but also to donors and investors in the Global North.

In summary, this research provides an initial examination of the ways in which state and non-state actors collaborate in the governance of climate finance through TGIs. In addition, the NBS-focus of the study results in an exploration of finance flows that address climate and biodiversity in an integrated manner. Finally, the CPE lens of the study results in an explicit consideration of the social relations and power structures at play in TGI-mediated governance. The findings show that climate finance for nature provided by TGIs in many ways resembles traditional development finance, including the sources of funds, the financial instruments used and the geographical flows of finance. However, TGIs also give agency to non-state actors such as conservation NGOs and they stimulate financial innovation in beneficiary locations through unique partnerships between the actors they unite. Nonetheless, TGI-mediated governance does not seem to break with existing patterns of political economy, and they may risk upholding existing North-South power structures and dependencies.

6.1 Limitations and further research

There are several limitations associated with the methodological approach taken in this study that affect its validity and reliability. Regarding the quantitative analysis, it is important to note that the data on finance in the C-CID is limited. For example, while the database collects information on variables such as budgets, funding targets and funding raised, the data that initiatives provide on these aspects is restricted and inconsistent. This hampers the reliability of the data and makes several variables incompatible with a systematic analysis. As a result, the present research only analyzed the data that could be compared

across the two samples. Further research could conduct data collection on additional financial metrics and indicators to allow a broader range of variables to be explored. However, this type of research is contingent on the transparency of the TGIs studied.

A second limitation is related to the validity of the funding outputs variable. This variable measures the frequency at which funding outputs are recorded in a particular location but does not indicate the volumes of funding disbursed. This may give a distorted perspective on funding outputs as certain locations may receive frequent funding outputs in smaller volumes, while others may be infrequent recipients of large donations. While the overall picture of the geographical distribution of funding remains insightful, further research could collect additional data to explore how much funding flows through TGIs and how these volumes are dispersed geographically. Closely related is a third limitation which pertains to the identification of beneficiaries. The C-CID currently collects information on where funding outputs are produced geographically, but not on the actors that receive the funding. This prevented a more detailed 'follow-the-money' analysis tracking funding flows from the donor to the beneficiary. To enable this type of analysis, further research may expand the C-CID with information on the actor types at the receiving end of the funding. In general, it is worth diving deeper into the 46 funding initiatives to examine their funding structures in more detail.

Concerning the qualitative analysis, the external validity of the findings is limited by the small sample size taken. The fact that all cases were selected from the issue area of oceans and coasts improves their comparability but reduces the extent to which findings can be generalized to other types of NBS. In addition, even within the selected issue area, the sample size of three is relatively small. Therefore, caution should be exercised when interpreting the results. Future research may build on this initial examination by conducting a similar case study analysis on different initiatives working on oceans and coasts, or by exploring initiatives in another issue area. One potential option is to examine TGIs working in forests, which also showed high engagement in funding and financial innovation in the quantitative analysis. Another interesting question is why initiatives working with NBS in agriculture are less engaged with the provision of funding and less successful in generating finance. This may call for a comparative case study comparing initiatives across different issue areas.

Second, the amount of data gathered for the case studies differs due to variations in data availability and transparency. The three cases demonstrated different levels of transparency about the amounts of funding they receive and disburse to their beneficiaries. For example, while the CBF and BFP either publish financial statements or detailed documentation of project budget allocations, the ORRAA does not publish information on the volumes of funding that it receives and how it allocates these among projects. Therefore, the robustness of the data is not equal across the three case studies. In addition, while for the CBF and BFP, data was triangulated by combining document analysis with interviews, this was not possible for the ORRAA. Therefore, the validity of this particular case study may be lower as assumptions could not be double checked with a representative from the initiative. Finally, this study only conducted step one of the follow the money methodology by Hughes-McLure (2022), which entailed mapping the network of actors and funding flows involved. Future

research could extend the analysis by performing steps two and three of the methodology. This would provide insight into which actors bear the costs, reap the benefits and how this balance is struck.

Reference list

- Andonova, L. B., Betsill, M. M., & Bulkeley, H. (2009). Transnational Climate Governance. *Global Environmental Politics*, 9(2), 52–73. <https://doi.org/10.1162/glep.2009.9.2.52>
- Association of Coastal Ecosystem Services. (2020a). *Plan Vivo Project Design Document Mikoko Pamoja—Mangrove conservation for community benefit*. <https://www.planvivo.org/Handlers/Download.ashx?IDMF=3faf7087-dec2-41ca-8a67-42a98e21c59d>
- Association of Coastal Ecosystem Services. (2020b). *Vanga Blue Forest Project—Project design document*. <https://www.planvivo.org/Handlers/Download.ashx?IDMF=aae86576-2a6e-4eab-ac62-8f47dbf4b881>
- Attridge, S., & Engen, L. (2019). *Blended finance in the poorest countries*. Overseas Development Institute. <https://odi.org/en/publications/blended-finance-in-the-poorest-countries-the-need-for-a-better-approach/>
- Barbier, E. B. (2022). The Policy Implications of the Dasgupta Review: Land Use Change and Biodiversity. *Environmental and Resource Economics*, 83(4), 911–935. <https://doi.org/10.1007/s10640-022-00658-1>
- Biermann, F., & Pattberg, P. (2008). Global Environmental Governance: Taking Stock, Moving Forward. *Annual Review of Environment and Resources*, 33(1), 277–294. <https://doi.org/10.1146/annurev.enviro.33.050707.085733>
- Blue Natural Capital Financing Facility. (n.d.). *Nature based tourism-funded Marine Protected Area management: Using blended finance to tap into the potential*. https://bluenaturalcapital.org/wp2018/wp-content/uploads/2021/09/08-Blended-Finance-Conservation-Belize_final.pdf
- Blue Ventures. (2022a). *2019 Plan Vivo Annual Report Tahiry Honko*. <https://www.planvivo.org/Handlers/Download.ashx?IDMF=bf4cd544-38cd-43cb-942d-5a3918410664>
- Blue Ventures. (2022b). *2020 Plan Vivo Annual Report Tahiry Honko*. <https://www.planvivo.org/Handlers/Download.ashx?IDMF=3052ae06-ab65-4178-886a-8bf3af852492>

- Bracking, S. (2019). Financialisation, Climate Finance, and the Calculative Challenges of Managing Environmental Change. *Antipode*, 51(3), 709–729.
<https://doi.org/10.1111/anti.12510>
- Bracking, S., & Leffel, B. (2021). Climate finance governance: Fit for purpose? *WIREs Climate Change*, 12(4), e709. <https://doi.org/10.1002/wcc.709>
- Brathwaite, A., Clua, E., Roach, R., & Pascal, N. (2022). Coral reef restoration for coastal protection: Crafting technical and financial solutions. *Journal of Environmental Management*, 310, 114718. <https://doi.org/10.1016/j.jenvman.2022.114718>
- Brathwaite, A., Pascal, N., & Clua, E. (2021). When are payment for ecosystems services suitable for coral reef derived coastal protection?: A review of scientific requirements. *Ecosystem Services*, 49, 101261.
<https://doi.org/10.1016/j.ecoser.2021.101261>
- Brears, R. C. (2022). *Financing Nature-Based Solutions: Exploring Public, Private, and Blended Finance Models and Case Studies*. Springer International Publishing.
<https://doi.org/10.1007/978-3-030-93325-8>
- Bridge, G., Bulkeley, H., Langley, P., & van Veelen, B. (2020). Pluralizing and problematizing carbon finance. *Progress in Human Geography*, 44(4), 724–742.
<https://doi.org/10.1177/0309132519856260>
- Brooks, S. (2015, May 23). Private finance and the post-2015 development agenda. *OpenDemocracy*. <https://www.opendemocracy.net/en/openeconomy/private-finance-and-post2015-development-agenda/>
- Buchner, B., Naran, B., Fernandes, P., Padmanabhi, R., Rosane, P., Solomon, M., Stout, S., Strinati, C., Tolentino, R., Wakaba, G., Zhu, Y., Meattle, C., & Guzmán, S. (2021). *Global Landscape of Climate Finance 2021*.
<https://www.climatepolicyinitiative.org/wp-content/uploads/2021/10/Full-report-Global-Landscape-of-Climate-Finance-2021.pdf>
- Bulkeley, H., Andonova, L. B., Betsill, M. M., Compagnon, D., Hale, T., Hoffmann, M. J., Newell, P., Paterson, M., Roger, C., & VanDeveer, S. D. (2014). *Transnational Climate Change Governance*. Cambridge University Press.
<https://doi.org/10.1017/CBO9781107706033>
- Bulkeley, H., Andonova, L., Bäckstrand, K., Betsill, M., Compagnon, D., Duffy, R., Kolk, A., Hoffmann, M., Levy, D., Newell, P., Milledge, T., Paterson, M., Pattberg, P., &

- VanDeveer, S. (2012). Governing Climate Change Transnationally: Assessing the Evidence from a Database of Sixty Initiatives. *Environment and Planning C: Government and Policy*, 30(4), 591–612. <https://doi.org/10.1068/c11126>
- Bulkeley, H., & Jordan, A. (2012). Guest Editorial. *Environment and Planning C: Government and Policy*, 30(4), 556–570. <https://doi.org/10.1068/c3004ed>
- Büscher, B., & Fletcher, R. (2015). Accumulation by Conservation. *New Political Economy*, 20(2), 273–298. <https://doi.org/10.1080/13563467.2014.923824>
- Cafruny, A. (2016). Introduction. In A. Cafruny, L. S. Talani, & G. Pozo Martin (Eds.), *The Palgrave Handbook of Critical International Political Economy*. Palgrave Macmillan UK. <https://doi.org/10.1057/978-1-137-50018-2>
- Calliari, E., Castellari, S., Davis, M., Linnerooth-Bayer, J., Martin, J., Mysiak, J., Pastor, T., Ramieri, E., Scolobig, A., Sterk, M., Veerkamp, C., Wendling, L., & Zandersen, M. (2022). Building climate resilience through nature-based solutions in Europe: A review of enabling knowledge, finance and governance frameworks. *Climate Risk Management*, 37, 100450. <https://doi.org/10.1016/j.crm.2022.100450>
- Canning, A. D., Jarvis, D., Costanza, R., Hasan, S., Smart, J. C. R., Finisdore, J., Lovelock, C. E., Greenhalgh, S., Marr, H. M., Beck, M. W., Gillies, C. L., & Waltham, N. J. (2021). Financial incentives for large-scale wetland restoration: Beyond markets to common asset trusts. *One Earth*, 4(7), 937–950. <https://doi.org/10.1016/j.oneear.2021.06.006>
- Caribbean Challenge Initiative. (n.d.). *About CCI*. <https://caribbeanchallengeinitiative.com/index.php/about-cci/>
- Caribbean Challenge Initiative. (2020). *Caribbean Challenge Initiative*. https://caribbeanchallengeinitiative.com/wp-content/uploads/2022/05/CCI_Timeline_2020_Option_2_v6-1.pdf
- Caribbean Challenge Initiative. (n.d.). *About CCI*. <https://caribbeanchallengeinitiative.com/index.php/about-cci/>
- Caribbean Biodiversity Fund. (n.d.-a). *Our donors and partners*. <https://caribbeanbiodiversityfund.org/partners-and-donors/>
- Caribbean Biodiversity Fund. (n.d.-b). *Our National Conservation Trust Funds (NCTFs)*. <https://caribbeanbiodiversityfund.org/national-conservation-funds/>
- Caribbean Biodiversity Fund. (n.d.-c). *Our people*. <https://caribbeanbiodiversityfund.org/our-people/>

- Caribbean Biodiversity Fund. (2018a). *Articles of Association of the Caribbean Biodiversity Fund*. <https://caribbeanbiodiversityfund.org/resources/articles-of-association-of-the-caribbean-biodiversity-fund/>
- Caribbean Biodiversity Fund. (2018b). *Eligibility approval policy and procedures for the CBF endowment*.
- Caribbean Biodiversity Fund. (2021). *Caribbean Biodiversity Fund Financial Statements Year Ended 30 September 2021*. <https://caribbeanbiodiversityfund.org/reports/financial-statements-2021/>
- Caribbean Biodiversity Fund. (2022a). *10th anniversary report*. <https://caribbeanbiodiversityfund.org/reports/cbf-10th-anniversary-report/>
- Caribbean Biodiversity Fund. (2022b). *Dominica Signs Milestone Agreement Towards CBF Partnership*. <https://caribbeanbiodiversityfund.org/news/dominica-signs-milestone-agreement-towards-cbf-partnership/>
- Caribbean Biodiversity Fund. (2022c). *Ecosystem-based Adaptation (EbA) Facility's Fourth Call for Proposals*. <https://caribbeanbiodiversityfund.org/call-for-proposal/ecosystem-based-adaptation-eba-facilitys/>
- Caribbean Biodiversity Fund. (2022d). *Ecosystem-based Adaptation (EbA) Facility Fourth Call for Proposals*. <https://drive.google.com/file/d/1PEuBrc8V7rYBeVT3GY2UHmW1BABJ5Ou5/view>
- Caribbean Biodiversity Fund. (2022e). *Matching requirement policy for the CBF endowment*.
- Caribbean Biodiversity Fund. (2023). *2022 Annual report*. <https://caribbeanbiodiversityfund.org/reports/2022-cbf-annual-report/>
- Chan, S., Denault, A., & Hale, T. (2022). *Climate—Cooperative Initiatives Database (C-CID)*. *Radboud University, German Institute of Development and Sustainability (IDOS), Blavatnik School of Government at Oxford University (BSG)*.
- Chan, S., Falkner, R., Goldberg, M., & van Asselt, H. (2018). Effective and geographically balanced? An output-based assessment of non-state climate actions. *Climate Policy*, 18(1), 24–35. <https://doi.org/10.1080/14693062.2016.1248343>
- Christiansen, J. (2021a). Fixing fictions through blended finance: The entrepreneurial ensemble and risk interpretation in the Blue Economy. *Geoforum*, 120, 93–102. <https://doi.org/10.1016/j.geoforum.2021.01.013>

- Christiansen, J. (2021b). Securing the sea: Ecosystem-based adaptation and the biopolitics of insuring nature's rents. *Journal of Political Ecology*, 28(1), Article 1.
<https://doi.org/10.2458/jpe.2899>
- Christophers, B. (2018). Risking value theory in the political economy of finance and nature. *Progress in Human Geography*, 42(3), 330–349.
<https://doi.org/10.1177/0309132516679268>
- Ciplet, D., Falzon, D., Uri, I., Robinson, S., Weikmans, R., & Roberts, J. T. (2022). The unequal geographies of climate finance: Climate injustice and dependency in the world system. *Political Geography*, 99, 102769.
<https://doi.org/10.1016/j.polgeo.2022.102769>
- Clark, R., Reed, J., & Sunderland, T. (2018). Bridging funding gaps for climate and sustainable development: Pitfalls, progress and potential of private finance. *Land Use Policy*, 71, 335–346. <https://doi.org/10.1016/j.landusepol.2017.12.013>
- Clark, T., Foster, L., Sloan, L., & Bryman, A. (2021). *Bryman's Social Research Methods* (5th ed.). Oxford University Press.
- Clark, T. P., Smolski, A. R., Allen, J. S., Hedlund, J., & Sanchez, H. (2022). Capitalism and Sustainability: An Exploratory Content Analysis of Frameworks in Environmental Political Economy. *Social Currents*, 9(2), 159–179.
<https://doi.org/10.1177/23294965211043548>
- Cohen-Shacham, E., Walters, G., Janzen, C., & Maginnis, S. (Eds.). (2016). *Nature-based solutions to address global societal challenges*. IUCN International Union for Conservation of Nature. <https://doi.org/10.2305/IUCN.CH.2016.13.en>
- Convention on Biological Diversity. (2022). *Final text of the historic Kunming-Montreal Global Biodiversity Framework*. <https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222>
- Dempsey, J. (2017). The Financialization of Nature Conservation? In B. Christophers, A. Leyshon, & G. Mann (Eds.), *Money and Finance after the Crisis: Critical Thinking for Uncertain Times*. John Wiley & Sons, Incorporated.
<http://ebookcentral.proquest.com/lib/uunl/detail.action?docID=4901680>
- Deutz, A., Heal, G. M., Niu, R., Swanson, E., Townshend, T., Delmar, A., Meghji, A., Sethi, S. A., & Tobin - de la Puente, J. (2020). *Financing Nature: Closing the Global Biodiversity*

- Financing Gap*. <https://www.paulsoninstitute.org/conservation/financing-nature-report/>
- Duarte, M. (2021). What You Need to Know About Concessional Finance for Climate Action. *World Bank Climate Explainer Series*.
<https://www.worldbank.org/en/news/feature/2021/09/16/what-you-need-to-know-about-concessional-finance-for-climate-action>
- Eger, A. M., Vergés, A., Choi, C. G., Christie, H., Coleman, M. A., Fagerli, C. W., Fujita, D., Hasegawa, M., Kim, J. H., Mayer-Pinto, M., Reed, D. C., Steinberg, P. D., & Marzinelli, E. M. (2020). Financial and Institutional Support Are Important for Large-Scale Kelp Forest Restoration. *Frontiers in Marine Science*, 7.
<https://www.frontiersin.org/articles/10.3389/fmars.2020.535277>
- Eiselin, M., Schep, S., Duinmeijer, C., & van Pul, J. (2022). *Financing Nature-based solutions for coastal protection: A practical review of blended finance approaches with carbon credits from blue carbon sources*. <https://sharingknowledge.rvo.nl/attachment/9119e071-b72d-4149-98da-81b69c968f31>
- Frantzeskaki, N., McPhearson, T., Collier, M. J., Kendal, D., Bulkeley, H., Dumitru, A., Walsh, C., Noble, K., van Wyk, E., Ordóñez, C., Oke, C., & Pintér, L. (2019). Nature-Based Solutions for Urban Climate Change Adaptation: Linking Science, Policy, and Practice Communities for Evidence-Based Decision-Making. *BioScience*, 69(6), 455–466.
<https://doi.org/10.1093/biosci/biz042>
- Global Environment Facility. (2018a). *Guidelines on co-financing*.
https://www.thegef.org/sites/default/files/documents/GEF_FI_GN_01_Cofinancing_Guidelines_2018.pdf
- Global Environment Facility. (2018b). *Updated co-financing policy*.
https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.54.10.Rev_.01_Co-Financing_Policy.pdf
- Green Climate Fund. (n.d.). *About*. <https://www.greenclimate.fund/about>
- GRID-Arendal. (2015). *Blue forests*. https://gridarendal-website-live.s3.amazonaws.com/production/documents/:s_document/26/original/BFPflyer_sreen.pdf?1483646298
- GRID-Arendal. (2021). *Community Conservation Agreements*. Blue Forest Solutions.
<https://www.blueforestsolutions.org/conservation-agreements>

- Griscom, B. W., Adams, J., Ellis, P. W., Houghton, R. A., Lomax, G., Miteva, D. A., Schlesinger, W. H., Shoch, D., Siikamäki, J. V., Smith, P., Woodbury, P., Zganjar, C., Blackman, A., Campari, J., Conant, R. T., Delgado, C., Elias, P., Gopalakrishna, T., Hamsik, M. R., ... Fargione, J. (2017). Natural climate solutions. *Proceedings of the National Academy of Sciences*, *114*(44), 11645–11650. <https://doi.org/10.1073/pnas.1710465114>
- Global Resilience Partnership. (n.d.). *Who we are*.
<https://www.globalresiliencepartnership.org/who-we-are/>
- Hughes-McLure, S. (2022). Follow the money. *Environment and Planning A: Economy and Space*, *54*(7), 1299–1322. <https://doi.org/10.1177/0308518X221103267>
- International Union for the Conservation of Nature. (2021). *Belize's ethereal Marine Protected Areas receive investment of US\$ 1.2 million, raised in latest IUCN BNCFF project for Nature-based Solutions*. <https://www.iucn.org/news/marine-and-polar/202106/belizes-ethereal-marine-protected-areas-receive-investment-us-12-million-raised-latest-iucn-bncff-project-nature-based-solutions>
- Iyer, V., Mathias, K., Meyers, D., Victurine, R., & Walsh, M. (2018). *Finance Tools for Coral Reef Conservation: A Guide*. <https://www.icriforum.org/wp-content/uploads/2019/12/50+Reefs+Finance+Guide.pdf>
- Jäger, J. (2022). International Political Economy and Sustainable Finance: Assessing the EU's Green Deal and UNCTAD's Green New Deal. *Contexto Internacional*, *44*(1), e20220002. <https://doi.org/10.1590/s0102-8529.20224401e20220002>
- Jäger, J., & Schmidt, L. (2020). The Global Political Economy of Green Finance: A Regulationist Perspective. *Journal Für Entwicklungspolitik*, *36*(4), 31–50. <https://doi.org/10.20446/JEP-2414-3197-36-4-31>
- Jordan, A., & Huitema, D. (2014). Policy innovation in a changing climate: Sources, patterns and effects. *Global Environmental Change*, *29*, 387–394. <https://doi.org/10.1016/j.gloenvcha.2014.09.005>
- Kawabata, T. (2021). Climate finance governance through transnational networks. *Journal of Sustainable Finance & Investment*, 1–20. <https://doi.org/10.1080/20430795.2021.1925522>
- Lattanzio, R. K. (2010). *Global Environment Facility (GEF): An Overview*. www.crs.gov

- Lau, W. W. Y. (2013). Beyond carbon: Conceptualizing payments for ecosystem services in blue forests on carbon and other marine and coastal ecosystem services. *Ocean & Coastal Management*, 83, 5–14. <https://doi.org/10.1016/j.ocecoaman.2012.03.011>
- Lieuw, T. (2023). *Conservation Finance Program*.
- Mawdsley, E. (2018). ‘From billions to trillions’: Financing the SDGs in a world ‘beyond aid’. *Dialogues in Human Geography*, 8(2), 191–195. <https://doi.org/10.1177/2043820618780789>
- Mawdsley, E., Murray, W. E., Overton, J., Scheyvens, R., & Banks, G. (2018). Exporting stimulus and “shared prosperity”: Reinventing foreign aid for a retroliberal era. *Development Policy Review*, 36, O25–O43. <https://doi.org/10.1111/dpr.12282>
- Mayor, B., Toxopeus, H., McQuaid, S., Croci, E., Lucchitta, B., Reddy, S. E., Egusquiza, A., Altamirano, M. A., Trumbic, T., Tuerk, A., García, G., Feliu, E., Malandrino, C., Schante, J., Jensen, A., & López Gunn, E. (2021). State of the Art and Latest Advances in Exploring Business Models for Nature-Based Solutions. *Sustainability*, 13(13), Article 13. <https://doi.org/10.3390/su13137413>
- McGowan, J., Weary, R., Carriere, L., Game, E. T., Smith, J. L., Garvey, M., & Possingham, H. P. (2020). Prioritizing debt conversion opportunities for marine conservation. *Conservation Biology*, 34(5), 1065–1075. <https://doi.org/10.1111/cobi.13540>
- Moxey, A., Smyth, M.-A., Taylor, E., & Williams, A. P. (2021). Barriers and opportunities facing the UK Peatland Code: A case-study of blended green finance. *Land Use Policy*, 108, 105594. <https://doi.org/10.1016/j.landusepol.2021.105594>
- Mwafrica, M., Shilland, R., & Huxham, M. (2022). *Vanga Blue Forest annual report 2022*. <https://www.planvivo.org/Handlers/Download.ashx?IDMF=6f7de550-7715-4044-97bd-babe199b8f72>
- Nelson, S. H., & Bigger, P. (2022). Infrastructural nature. *Progress in Human Geography*, 46(1), 86–107. <https://doi.org/10.1177/0309132521993916>
- Newell, P. (2008). The political economy of global environmental governance. *Review of International Studies*, 34(3), 507–529. <https://doi.org/10.1017/S0260210508008140>
- Newell, P. (2015). Critical political Economy. In J.-F. Morin & A. Orsini (Eds.), *Essential concepts of global environmental governance*. Routledge.
- Ocean Risk and Resilience Action Alliance. (2019). *Ocean Risk and Resilience Action Alliance concept paper*.

<https://wedocs.unep.org/bitstream/handle/20.500.11822/28829/InnoSolutions.pdf?sequence=1&isAllowed=y>

Ocean Risk and Resilience Action Alliance. (2022). *Financing the next generation of innovative ocean finance projects – Call for Proposals (CfP)*.

<https://oceanriskalliance.org/resource/financing-the-next-generation-of-innovative-ocean-finance-projects/>

Ocean Risk and Resilience Action Alliance. (2023a). *Action report for 2022*.

<https://oceanriskalliance.org/news/action-report-2022/>

Ocean Risk and Resilience Action Alliance. (2023b). *Guidelines for applicants ocean resilience innovation challenge 2023*. https://oceanriskalliance.org/wp-content/uploads/ORIC-2023_Guidelines-for-Applicants_final.pdf

Ocean Risk and Resilience Action Alliance. (2023c, January 12). *2023 Ocean Resilience Innovation Challenge*. <https://oceanriskalliance.org/resource/financing-the-next-generation-of-innovative-ocean-finance-projects-2/>

Ocean Risk and Resilience Action Alliance (Director). (2023d, February 8). *2023 Ocean Resilience Innovation Challenge, ORIC23 Webinar*.

<https://www.youtube.com/watch?v=XGSdM12faaQ>

Ocean Risk and Resilience Action Alliance. (2023e, April 21). *ORRAA UK Blue Planet Fund Call for Proposals*. <https://oceanriskalliance.org/resource/orraa-uk-blue-planet-fund-call-for-proposals/>

Ocean Risk and Resilience Action Alliance. (2023f). *ORRAA-UK Blue Planet Fund guidelines for applicants*. <https://oceanriskalliance.org/resource/orraa-uk-blue-planet-fund-call-for-proposals/>

Ocean Risk and Resilience Action Alliance. (n.d.-a). *Concept paper Ocean Risk and Resilience Action Alliance*.

<https://wedocs.unep.org/bitstream/handle/20.500.11822/28829/InnoSolutions.pdf?sequence=1&isAllowed=y>

Ocean Risk and Resilience Action Alliance. (n.d.-b). *Establishing a Blended Finance Facility for Marine Protected Areas (MPAs) – Blue Finance*.

<https://oceanriskalliance.org/project/establishing-a-blended-finance-facility-for-marine-protected-areas-mpas/>

- Ocean Risk and Resilience Action Alliance. (n.d.-c). *Ocean Resilience Innovation Challenge (ORIC)*. <https://oceanriskalliance.org/project/ocean-resilience-innovation-challenge/>
- Organization for Economic Cooperation and Development. (2022). *Aggregate Trends of Climate Finance Provided and Mobilised by Developed Countries in 2013-2020*. OECD. <https://doi.org/10.1787/d28f963c-en>
- Ouma, S., Johnson, L., & Bigger, P. (2018). Rethinking the financialization of 'nature'. *Environment and Planning A: Economy and Space*, 50(3), 500–511. <https://doi.org/10.1177/0308518X18755748>
- Pascal, N., Brathwaite, A., Bladon, A., Claudet, J., & Clua, E. (2021). Impact investment in marine conservation. *Ecosystem Services*, 48, 101248. <https://doi.org/10.1016/j.ecoser.2021.101248>
- Pattberg, P., & Widerberg, O. (2016). Transnational multistakeholder partnerships for sustainable development: Conditions for success. *Ambio*, 45(1), 42–51. <https://doi.org/10.1007/s13280-015-0684-2>
- Plan Vivo Foundation. (2017). *Plan Vivo procedures manual*. <https://www.planvivo.org/Handlers/Download.ashx?IDMF=02b5473f-b80c-471d-95af-cde6fda375ea>
- Pörtner, H.-O., Scholes, Agard, J., Archer, E., Arneth, Bai, X., Barnes, D., Burrows, M., Chan, L., Cheung, W. L. (William), Diamond, S., Donatti, C., Duarte, C., Eisenhauer, N., Foden, W., Gasalla, M. A., Handa, C., Hickler, T., Hoegh-Guldberg, Ove, ... Ngo, H. (2021). *Scientific outcome of the IPBES-IPCC co-sponsored workshop on biodiversity and climate change (Version 5)*. Zenodo. <https://doi.org/10.5281/ZENODO.4659158>
- Reguero, B. G., Beck, M. W., Schmid, D., Stadtmüller, D., Raeppe, J., Schüssele, S., & Pfliegner, K. (2020). Financing coastal resilience by combining nature-based risk reduction with insurance. *Ecological Economics*, 169, 106487. <https://doi.org/10.1016/j.ecolecon.2019.106487>
- Risse-Kappen, T. (1995). Bringing transnational relations back in: Introduction. In T. Risse-Kappen (Ed.), *Bringing Transnational Relations Back In* (1st ed., pp. 3–34). Cambridge University Press. <https://doi.org/10.1017/CBO9780511598760.002>
- Rodríguez, F. V. L. (2018). Mangrove Concessions: An Innovative Strategy for Community Mangrove Conservation in Ecuador. In C. Makowski & C. W. Finkl (Eds.), *Threats to*

- Mangrove Forests* (Vol. 25, pp. 557–578). Springer International Publishing.
https://doi.org/10.1007/978-3-319-73016-5_25
- Roger, C., Hale, T., & Andonova, L. (2017). The Comparative Politics of Transnational Climate Governance. *International Interactions*, 43(1), 1–25.
<https://doi.org/10.1080/03050629.2017.1252248>
- Roppongi, H. (2022). Financing emission reductions: Official development assistance (ODA)-driven climate finance and beyond. In T. Cadman & T. Sarker (Eds.), *De Gruyter Handbook of Sustainable Development and Finance*. De Gruyter.
<https://doi.org/10.1515/9783110733488>
- Schirpke, U., Marino, D., Marucci, A., & Palmieri, M. (2018). Positive effects of payments for ecosystem services on biodiversity and socio-economic development: Examples from Natura 2000 sites in Italy. *Ecosystem Services*, 34, 96–105.
<https://doi.org/10.1016/j.ecoser.2018.10.006>
- St. George, Z. (2023, April 6). Pricing Nature: Can ‘Biodiversity Credits’ Propel Global Conservation? *YaleEnvironment360*. <https://e360.yale.edu/features/biodiversity-credits>
- Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., Biggs, R., Carpenter, S. R., de Vries, W., de Wit, C. A., Folke, C., Gerten, D., Heinke, J., Mace, G. M., Persson, L. M., Ramanathan, V., Reyers, B., & Sörlin, S. (2015). Planetary boundaries: Guiding human development on a changing planet. *Science*, 347(6223), 1259855. <https://doi.org/10.1126/science.1259855>
- Sullivan, S. (2013). Banking Nature? The Spectacular Financialisation of Environmental Conservation. *Antipode*, 45(1), 198–217. <https://doi.org/10.1111/j.1467-8330.2012.00989.x>
- Sullivan, S. (2018). Making Nature Investable: From Legibility to Leverageability in Fabricating ‘Nature’ as ‘Natural-Capital’. *Science & Technology Studies*, 31(3), Article 3. <https://doi.org/10.23987/sts.58040>
- Swann, S., Blandford, L., Cheng, S., Cook, J., Miller, A., & Barr, R. (2021). Public International Funding of Nature-based Solutions for Adaptation: A Landscape Assessment. *World Resources Institute*. <https://doi.org/10.46830/wriwp.20.00065>
- The Nature Conservancy. (2021). *Playbook for Climate Finance*. <https://www.nature.org/en-us/what-we-do/our-insights/perspectives/climate-finance-playbook-guide/>

- Thiele, T., & Gerber, L. R. (2017). Innovative financing for the High Seas. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 27(S1), 89–99.
<https://doi.org/10.1002/aqc.2794>
- Toxopeus, H., & Polzin, F. (2021). Reviewing financing barriers and strategies for urban nature-based solutions. *Journal of Environmental Management*, 289, 112371.
<https://doi.org/10.1016/j.jenvman.2021.112371>
- United Nations Environment Program. (n.d.-a). 'Bankable' Marine Protected Areas.
<https://www.unepfi.org/wordpress/wp-content/uploads/2022/08/Bluefinance.pdf>
- United Nations Environment Program. (n.d.-b). *Project document*.
<https://gefblueforests.org/wp-content/uploads/2020/09/02-Blue-Forests-ProDoc-FINAL.pdf>
- United Nations Environment Program. (2021, May 27). *State of Finance for Nature*. UNEP - UN Environment Programme. <http://www.unep.org/resources/state-finance-nature>
- United Nations. (n.d.). *Caribbean Challenge Initiative (CCI) and Caribbean Biodiversity Fund (CBF)*. SIDS Partnership Toolbox.
https://sustainabledevelopment.un.org/content/documents/23108Caribbean_Challenge_Initiative_CCI_and_Caribbean_Biodiversity_Fund_CBF.pdf
- van Veelen, B. (2021). Cash cows? Assembling low-carbon agriculture through green finance. *Geoforum*, 118, 130–139. <https://doi.org/10.1016/j.geoforum.2020.12.008>
- Vanderklift, M. A., Herr, D., Lovelock, C. E., Murdiyarsa, D., Raw, J. L., & Steven, A. D. L. (2022). A Guide to International Climate Mitigation Policy and Finance Frameworks Relevant to the Protection and Restoration of Blue Carbon Ecosystems. *Frontiers in Marine Science*, 9. <https://www.frontiersin.org/articles/10.3389/fmars.2022.872064>
- Vanderklift, M. A., Marcos-Martinez, R., Butler, J. R. A., Coleman, M., Lawrence, A., Prislán, H., Steven, A. D. L., & Thomas, S. (2019). Constraints and opportunities for market-based finance for the restoration and protection of blue carbon ecosystems. *Marine Policy*, 107, 103429. <https://doi.org/10.1016/j.marpol.2019.02.001>
- Vandervelde, B. (2015, November 23). *To fight deforestation, one country changed the equation*. Conservation International. <https://www.conservation.org/blog/to-fight-deforestation-one-country-changed-the-equation>
- Verschuren, P., & Doorewaard, H. (2010). *Designing a research project* (2nd ed. / rev. and ed. by M.J. Mellion). Eleven International Pub.

- Watson, C. (2016). *Financing our shared future: Navigating the humanitarian, development and climate finance agendas*. <https://odi.org/en/publications/financing-our-shared-future-navigating-the-humanitarian-development-and-climate-finance-agendas/>
- Wharton, J. (n.d.-a). *Reef Resilience and Risk Financing in the Greater Caribbean technical brief of project results*.
- Wharton, J. (n.d.-b). *The Mesoamerican Reef: A cornerstone of sustainable development*. https://marfund.org/en/wp-content/uploads/2021/10/Brief_-MAR-Insurance-Programme-_QA.pdf
- Widerberg, O., & Stripple, J. (2016). The expanding field of cooperative initiatives for decarbonization: A review of five databases. *WIREs Climate Change*, 7(4), 486–500. <https://doi.org/10.1002/wcc.396>
- Wong, C., & Conway, S. (2023, January 23). *WTW and MAR Fund reef insurance programme pays out to finance restoration after Hurricane Lisa*. WTW. <https://www.wtwco.com/en-ae/insights/2023/01/wtw-and-mar-fund-reef-insurance-programme-pays-out-to-finance-restoration-after-hurricane-lisa#:~:text=WTW%20and%20MAR%20Fund%20reef%20insurance%20programme%20pays,finance%20restoration%20after%20Hurricane%20Lisa&text=Hurricane%20Lisa%20triggered%20a%20%24175%2C000,National%20Marine%20Reserve%20in%20Belize.>
- Xie, L., Bulkeley, H., & Tozer, L. (2022). Mainstreaming sustainable innovation: Unlocking the potential of nature-based solutions for climate change and biodiversity. *Environmental Science & Policy*, 132, 119–130. <https://doi.org/10.1016/j.envsci.2022.02.017>

Appendix A: Interviewees

The table below indicates which representatives were interviewed for each of the case studies:

Case	Interviewees	Date
BFP	Project Representative	06/04/2023
CBF	Program Manager Conservation Finance Program, Program Manager Climate Change Program	11/04/2023, 25/04/2023
ORRAA	-	-

Appendix B: Initiative type categorization

IDOS categorizes the actor types in the C-CID according to the following categories (A. Denault, Personal Communication, February 10, 2023):

Actor Type	Description
National governments	State actors (including national agencies, ministries and governments; including the EU, excluding state owned enterprises (SOEs); including Taiwan, Macao, Hong Kong, Palestine
Subnational governments	Includes constituent states of federal countries (e.g. California, Nordrhein-Westfalen, Andhra Pradesh, Wallonia etc.), dependent territories (e.g. Bonaire, Greenland, Cook Islands, Gibraltar, Guam, etc.), departments (Fr), provinces and counties (Noord-Holland, British Columbia, Gironde, etc.), and cities and villages. Also includes (trans- and international) alliances of regions (e.g. 'Euregio'), and alliances of sub-national actors (e.g. C40, ICLEI, etc.).
Business & industry	For-profit firms, corporations, SMEs, SOEs, and also business associations and business NGOs (e.g. WBCSD).
Large investors	Banks: capital management, private equity firms, shareholder groups, investment firms, and pension funds.
International non-profits & NGOs that operate INTERNATIONALLY	Non-governmental, non-profit organizations and NGOs, including environmental NGOs, consumer organizations, trade unions, faith-based organizations, indigenous groups, women's rights organizations, etc. - acting internationally
Domestic non-profits & NGOs that operate DOMESTICALLY	Non-governmental non-profit organizations and NGOs, including environmental NGOs, consumer organizations, trade unions, faith-based organizations, indigenous groups, women's rights organizations, etc. - acting nationally
International organizations	international membership organizations including UN programmes, bodies and specialist organizations, for instance: UNEP, FAO, IEA, OECD. International development banks and financial facilities, for instance IMF, World Bank, Green Climate Fund.
Research & education	Research and education institutions, including universities, research networks and think tanks.
Other	Actors which do not belong to the above actor type categories, or which type is unknown. Also, when multi-stakeholder arrangements are a partner in an initiative (e.g. public-private partnerships, business-ngo alliances, etc.),

To categorize initiatives into public, private and hybrid TGIs, the following categories were used (based on the actor types of leading actors):

Initiative type	Actors
Public	National governments, AND/OR subnational governments, AND/OR international organizations

Private	Business & Industry, AND/OR Large investors, AND/OR International NGOS, AND/OR Domestic NGOs, AND/OR Research & Education
Hybrid	National governments, AND/OR subnational governments, AND/OR international organizations AND Business & Industry, AND/OR Large investors, AND/OR International NGOS, AND/OR Domestic NGOs, AND/OR Research & Education

Appendix C: Funder actor type distribution per issue area

The distribution of funders according to the actor-type categories was performed per issue-area to uncover trends in the types of actors that provide funding depending on the type of NBS. The Table below shows the shares of actors (in percentage of total actors) that belong to each category per issue-area.

Actor Type	Issue Area					
	Agriculture	Forests	Oceans and coasts	Human settlements	Water	Biodiversity and Conservation
Business & Industry	13	12	8	3	8	8
Domestic NGOs & non-profits	8	7	0	0	0	4
Research & Education	16	1	6	7	19	11
International NGOs & non-profits	14	26	33	12	8	37
Large investors	0	15	2	0	0	4
International organizations	5	6	19	10	27	12
National governments	39	20	24	64	35	11
Others	1	1	7	0	3	0
Subnational governments	4	10	0	3	0	14

Appendix D: Geographical distribution of funders per issue area

Issue Area	% Northern funders	% Southern funders
Agriculture	82	18
Forests	90	10
Oceans and Coasts	92	8
Water	89	11
Human Settlements	98	2
Biodiversity and Conservation	89	11

Appendix E: Blue Forest Project – additional data

Funding provided to the implementation locations:

Intervention	GEF grant	Co-finance	Co finance provided by
Abu Dhabi	0	1,800,000 USD	Abu Dhabi Global Environmental Data Initiative
Ecuador	425,000 USD	439,730 USD	Conservation International
Indonesia	460,000 USD	1,400,000 USD*	Indonesian Ministry of Marine Affairs and Fisheries
Madagascar	460,000 USD	558,000 USD	Blue Ventures
Mozambique	425,000 USD	1,177,000 USD*	US Forest Service (677,000USD), WWF (500,000 USD)
Kenya	125,000 USD	unk	

Retrieved from UNEP (n.d.-b)

*For these interventions, the co-finance pledge was not met

Buyers of carbon credits Vanga Blue Forests Project:

Year	Buyers
2021	Zero Mission (2550), Superflex, The Safari Collection Footprint (222), Himaya (12), James Hagan (3), Cambridge Conservation Forum (14), Citizen Zo (4)
2022	Arcadia Fund (651), Zero Mission (1500), Behavioral Insights team (325), Miriam Canella (2), Citizen Zoo (5), Ocean Bottle (700), Vrije Universiteit Brussel (65), Alison Baker (10), Charles and Kate Hussey (60), Yacht Carbon (357), Levin Sources (41), The Safari Collection (800), Superflex (42), Carbon Chameleon (300), Nico Koedam (20)

Information retrieved from Mwafrika et al. (2022)

Appendix F: Caribbean Biodiversity Fund - additional data

Overview of National Conservation Trust Funds:

Trust Fund	CBF partner since	Total funding received
Fondo Nacional para el Medio Ambiente y Recursos Naturales (Fondo MARENA)	2016	\$1,344,149
Saint Lucia National Conservation Fund (SLUNCF)	2017	\$1,076,950
Marine Ecosystems protected area trust (MEPA) Antigua and Barbuda	2017	\$453,078
Fonds Haitien pour la biodiversite (FHB)	2018	\$205,925
St Vincent and the Grenadines Conservation Fund (SVGCF)	2019	\$672,624
National Conservation Trust Fund of Jamaica (NCTFJ)	2019	\$727,182
Grenada Sustainable Development Trust Fund (GSDTF)	2019	\$587,050
St Christopher and Nevis Conservation Foundation (SCNCF)	2020	\$276,279
Bahamas Protected Area Fund (BPAF)	2020	\$1,209,696
Protected areas trust Guyana (GPAT)	2022	\$96,360
Dominica national conservation trust fund (DNCTF)	2022	\$20,000

*All information is up to 31 December 2022

Overview of grantees EbA facility – first call for proposals:

Grantee	Country
Centro Agronómico Tropical de Investigación y Enseñanza (CATIE)	Dominican Republic
University of the West Indies - Centre for Resource Management and Environmental Studies (UWI-CERMES)	Dominica, St Lucia, St. Vincent and the Grenadines, Barbados, Grenada
J/P Haitian Relief Organization (Community Organized Relief Effort) - [J/P HRO (CORE)]	Haiti
Fauna & Flora International (FFI)	St. Vincent and the Grenadines
Fundacion Grupo Puntacana (FGPC)	Dominican Republic
Grenada Community Development Agency (GRENCODA)	Grenada

Dominican Institute for Integrated Development (IDDI)	Dominican Republic, Haiti
Inter-American Institute for Cooperation on Agriculture (IICA)	Antigua and Barbuda; Dominica; Saint Lucia; and Trinidad & Tobago
Mona GeoInformatics Institute (UWI-MGI)	Jamaica
Fundación REDDOM Rural Economic Development Dominicana (REDDOM)	Dominican Republic
Saint Lucia National Trust (SLNT)	Dominica, St Lucia, St. Vincent and the Grenadines, Barbados, Grenada

Overview of grantees EbA facility – second call for proposals:

Grantee	Country
Caribbean Natural Resources Institute (CANARI)	St Vincent and the Grenadines
The Centre for Livelihoods, Ecosystems, Energy, Adaptation and Resilience in the Caribbean Ltd (CLEAR)	St Vincent and the Grenadines, St Lucia
Netherlands Red Cross Society (NLRC)	Haiti
Pan American Development Foundation (PADF)	Haiti
Fundación REDDOM Rural Economic Development Dominicana (Fundación REDDOM)	Dominican Republic
The Ocean Foundation (TOF)	Cuba, Dominican Republic
Windward Islands Research and Education Foundation (WINDREF)	Grenada
Wildlife Conservation Society (WCS)	Cuba

Information retrieved from CBF (2022a)

Appendix G: Ocean Risk and Resilience Action Alliance – additional data

ORRAA participating members:

Category	Actors
Finance sector actors	Bank of America, Deutsche Bank, Standard Chartered, Greensquare ventures, Limketkai Impact Finance, Mirova, Global Fund for Coral Reefs, Convergence
Governments	Canada, Palau, Australia, Fiji, France, Germany, India, Italy, Japan, Mexico, Norway, United Kingdom, United States, European Union
Non-governmental organizations	Blue Finance, Blue Green Future, Conservation International, Earth Security, Environmental Defense Fund, Global Resilience Partnership, International Union for the Conservation of Nature, Minderoo Foundation, Ocean Conservancy, PEW Charitable Trusts, Rare, Sea Green, The Nature Conservancy, Friends of Ocean Action, Global Fishing Watch, MAR Fund, Oceana, Synchronicity Earth, Sustainable Ocean Alliance, Whale and Dolphin Conservation, WildTrust, WWF
International organizations and multilateral development banks	Asian Development Bank, The Commonwealth Blue Charter, DF Insurance Development Forum, Inter-American Development Bank, UNDP Insurance and Risk Finance Facility
Non-finance corporates	Palladium, Aurum, AXA, Clyde & Co, Fugro, Howden, Iberostar Group, Van Oord, Willis Towers Watson
Academic institutions	Ocean Policy Research Institute, Stimson Center, Branson Centre of Entrepreneurship, IHE Delft Institute for Water Education, EmLab UC Santa Barbara, UC Santa Cruz

*This table summarizes publicly available information on members (ORRAA website), additional actors may be involved

ORIC finalists:

Grantee	Project focus	Location
MARI Indonesia	Empowering seaweed farmers	Indonesia
Aqua-Farms Organization Tanzania	Voluntary carbon market scheme	Tanzania
RePurpose Global	Plastics credits scheme	India
Abalobi South Africa	Sustainable fisheries	South Africa
Inversa Leathers	Leather made from invasive species	Mexico
SatSense Solutions	De-risking sustainable tourism	India
Barefoot Monsoon	Concessional micro finance and insurance for plastic removal from mangroves	India
Blue Ventures	Blended finance facility	Indonesia / Madagascar
Engineers without borders	Collection, management and recycling of ocean plastic waste	Sierra Leone

Coastal Resilience	Blended finance for nature-based solutions	Guatemala
Save the Waves	Innovative insurance for conservation of surf ecosystems	California
PescaData App	Sustainable fishing practices	Mexico
Bahari Remedies	Micro-insurance for small-scale seaweed farmers	Tanzania
Savari ventures	Guarantees for seaweed farmers	Kenya
Acari LLC	Invasive species as pet food	Mexico
Perahu Apps	Empowering small-scale fishers	Indonesia
Mwani Blu	Blockchain-driven seaweed marketplace	Kenya
Pula Advisors	Parametric insurance for coastal communities	Philippines

*These are the finalists on which information is available on the ORRAA website, not all finalists may be included