Advancing Equity in International Climate Finance:
New Approaches to Informal Institutions and Power

by

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Abstract

The negative impacts of climate change are particularly damaging for communities in low- and middle-income countries that have fewer resources available for adaptation. High-income countries have pledged $100 billion annually to support efforts to mitigate climate change and cope with its impacts. Grounded in principles of equity and restitution, international climate finance has tremendous potential to enable adaptation among the most vulnerable. Concern is growing, however, that international support for adaptation is not reaching those communities that need it most. Recent studies have shown that many international interventions fail to recognize the social and political underpinnings of climate vulnerability and can actually make inequality worse. Many have pointed to informal and entrenched systems of unequal power, such as clientelism and patrimonialism, as key obstacles to more equitable adaptation. Such informal institutions – unwritten codes and conventions that shape behavior – have long been seen by international actors as obstacles to equality.

This dissertation explores the issue of informal power in climate finance, particularly how informal institutions shape equity in internationally financed adaptation. It is comprised of three separate analyses, each of which examines informal power at a different scale: global, national, and sub-national. At the global scale (Chapter 2), I examine the overall architecture of climate finance, focusing on the ways in which it differs from development aid. I find that climate finance is grounded in new principles of restitution, country ownership, and the use of climate specific criteria in decision-making. As a result, I argue, spaces are emerging within this

architecture for experimentation and risk-taking with new approaches to informal institutions in countries receiving international funding.

Chapters 3 and 4 empirically investigate how informal institutions of clientelism and patrimonialism shape the equity of international adaptation projects targeted at the particularly vulnerable in Mauritius and Madagascar. Drawing on 105 interviews at the national level (Chapter 2), I find that government decision-makers in both countries directed project benefits through informal channels and used project resources as part of broader efforts to build political power. While outcomes in Mauritius were relatively equitable, outcomes were highly inequitable in Madagascar. I argue that these divergent outcomes can be explained by characteristics of each country's institutional environment.

At the sub-national level in Madagascar (Chapter 4), I investigate the distributional outcomes of the same adaptation project in its primary intervention sites. I test the hypothesis that households' connections to the patronage structure of the state influenced access to project benefits. Analyzing 599 household surveys, I find that project benefits are strongly associated with household political connectivity. I further argue that access was influenced not only by connections to state patronage, but also the uneven movement of information and knowledge through informal community networks.

These findings illustrate how informal power can influence internationally financed adaptation. New approaches are needed to ensure equity, especially in targeting funding to socially disadvantaged and politically marginalized groups. This dissertation therefore focuses on identifying opportunities and approaches to advance equity within current frameworks. In particular, I argue for focusing on equitable outcomes as much as inequitable ones. Taken together, the new spaces for experimentation within the overall architecture of climate finance can combine with new approaches on ground to not only make adaption more equitable but also contribute to broader efforts to transform inequitable systems long-term.

Chapter 1 Introduction

Global efforts to address the root causes of climate change have yielded little progress. The negative impacts of climate change are particularly damaging for communities in low- and middle-income countries that have fewer resources for adaptation. Under the United Nations (UN) Climate Convention,[1] high-income countries recognize their historical responsibility for emissions and have committed to provide $100 billion annually to help low- and middle-income countries "fund actions that mitigate and adapt to the impacts of climate change" (UNFCCC, 2020). These commitments are based on pragmatism as much as any notion of justice: financing played a key role in securing low- and middle-income countries' support for the landmark 2015 Paris Agreement, which aims to limit warming to manageable levels.

International climate finance has tremendous potential to enable adaptation among vulnerable communities. The commitments made under the Convention represent a significant transfer of wealth from the global north to the global south (Ferrey, 2012). Broadly, this financing is underpinned by the principle of restitution, the idea that polluting countries should pay to clean up the mess they have caused (Gaines, 1991; Khan & Roberts, 2013; Roberts, 2009). This principle has rarely been applied in international contexts and it distinguishes climate finance from forms of international aid, such as development aid, that are based on principles of altruism (Moore, 2012). Financing for adaptation, in particular, is guided by the principle of equity: the

[1] The United Nations Framework Convention on Climate Change

idea that funding should target those most vulnerable to climate impacts (Grasso, 2010; Schalatek, 2019).

Five years after the signing of the Paris Agreement, however, concerns are growing that international financing for adaptation is falling short. Part of this concern is focused on the inadequacy of funding to date, as well as the opaque manner in which it is delivered (Weikmans & Roberts, 2018). A large number of international actors are involved in moving funding from high-income (donor) countries to low- and middle-income (recipient) countries. These actors range from well-known organizations like the World Bank and the United Kingdom's Department for International Development, to newer actors like the UN's Green Climate Fund and the Gates Foundation. Recent studies have shown that such interventions, rather than enabling adaptation among the most vulnerable, have actually made inequality worse in targeted communities (Artur & Hilhorst, 2012; Eriksen et al., 2021; Mikulewicz & Taylor, 2020; Nightingale, 2017; Sovacool, 2018). This has contributed to calls for an increased focus on equity in climate finance, particularly efforts to direct funding to socially disadvantaged and politically marginalized groups (Pelling & Garschagen, 2019). Both equity and vulnerability are only vaguely defined under the Climate Convention, however, and the equity of climate finance has only rarely been analyzed below the national level (Barrett, 2014; Persson & Remling, 2014).

Many theorize that structural inequality in recipient countries prevents international support from reaching vulnerable groups (Eriksen et al., 2021; Marino & Ribot, 2012; Nightingale, 2017; Sovacool, Linnér, & Goodsite, 2015). It is well established that vulnerability is a product not only of geographic location and exposure to hazards, but also of social and political processes (Adger, 2006). Among the ways structural inequality manifests is through entrenched, unequal power relationships, for example systems of clientelism and patrimonialism. Though they are often conflated, clientelism and patrimonialism differ in important ways. Clientelism encompasses a broad set of relationships, characterized by unequal power, in which lawmakers provide goods to individuals or groups in exchange for political support (Hicken, 2011; Stokes et al., 2013; van de Walle, 2009). Patrimonialism describes a situation where the administrative apparatus of the state is appointed by and responsible to the top leader (Brinkerhoff & Goldsmith, 2002). Patronage thus usually characterizes a more narrow set of relationships in which government workers are recruited and promoted for partisan connections (Hicken, 2011). In many states, such relationships of loyalty and dependence pervade the legal-administrative structure of the government. These systems are known as *neo*patrimonial (Bratton & Van de Walle, 1994).

Patrimonialism and clientelism are just two of the more common forms of informal institutions: socially shared rules that are "created, communicated, and enforced outside officially sanctioned channels" (Helmke & Levitsky, 2006, 725). In contrast to formal institutions, in which power is derived from written rules, power in informal institutions is often unwritten and embedded in personal relationships (North, 1990). In many countries, clientelism and patrimonialism intertwine with the official administration of the state and influence, among other things, the distribution of public goods (Van de Walle, 2002). Though clientelism and patrimonialism are often analyzed as distinct systems, in reality they often co-exist and blend into each other. Several recent studies have illustrated how these systems enable elites to dominate decision-making and disproportionately capture the benefits of internationally-financed adaptation interventions (Artur & Hilhorst, 2012; Nightingale, 2017; Sovacool, 2018).

Informal institutions have posed an intractable challenge for international actors, especially multilateral organizations (MOs) like the World Bank and UN. These MOs are historically rooted in Western political thought that tends to see informal institutions as competing with the official state, undermining democracy, and contributing to inequality (Mkandawire, 2009; Nanda, 2006; Thirkell-White, 2003). Starting in the 1990s, MOs dedicated a significant portion of international aid to reforming governance, seeking to remake recipient country governments following Western models (Booth, 2011). Many have argued that MOs' inability to recognize how informal institutions shape behavior, particularly that of leaders and elites, contributed to the ineffectiveness of these reforms (Harrison, 2005; Thomas, 2007; Williams & Young, 1994). Though MOs' have since made efforts to better account for informal power, there is little evidence that these efforts have meaningfully altered their approach (Hout, 2012; Unsworth, 2015; Yanguas & Hulme, 2015).

Climate finance includes many of the same international actors as development aid. Critical adaptation scholars argue these actors' apolitical approaches prevent them from recognizing and addressing structural inequality as a root cause of vulnerability to climate impacts (Eriksen et al., 2021; Ireland & McKinnon, 2013; Taylor, 2014). These actors, they assert, can only ensure equitable adaptation if they directly challenge and overturn unequal power structures, including informal systems of clientelism and patrimonialism (Eriksen et al., 2015; Eriksen & Lind, 2009). Many have called for a fundamental rethinking of current ways of intervening, advocating for a "post-development" or even "post-adaptation" paradigm shift that decenters international actors (Eriksen et al., 2021; Ireland & McKinnon, 2013). Most agree on the need to localize and democratize adaptation decision-making within communities (Eriksen et al., 2015; Marino & Ribot, 2012; McCarthy, 2014; Mikulewicz, 2018). This discussion has been largely normative, however, with little indication of what form “post-development” international financing for adaptation might take.

The discussion has also overlooked similar research on international interventions in other contexts, especially development aid (Andrews, 2013; Brinkerhoff & Goldsmith, 2005; Evans, 2004). Following the broad failure of MOs’ governance reforms, development and institutionalist scholars have suggested that international actors adopt a range of new approaches to institutions in the countries where they intervene. Some argue that actors should recognize the functionality of informal institutions and the circumstances under which they can complement, and even reinforce, official state institutions (Helmke & Levitsky, 2012). Others have argued for focusing on positive outcomes of institutions and seeking to understand why these outcomes occur (Booth & Unsworth, 2014; Grindle, 2004; Tendler, 1997). Most change, they argue, is incremental and driven primarily by local actors, especially elites (Wild et al., 2015). By building on existing institutional arrangements and partnering with local reform-minded actors, international actors can contribute to longer-term transformation toward more effective, accountable, and equitable systems in recipient countries (Levy, 2014).

This dissertation explores the issue of informal power in climate finance, particularly how informal institutions shape equity in internationally financed adaptation. It is comprised of three separate analyses, each of which examines informal power at a different scale: global, national, and sub-national. It focuses on international public finance for climate change: the mobilization of financial resources in support of the public policy purpose of mitigating climate change and adapting to its impacts. The second chapter takes a broad view of the overall architecture of climate finance. The third and fourth chapters look specifically at projects implemented with financing from the Adaptation Fund, a multilateral climate fund under the UN Climate

Convention that is guided by the principle of supporting adaptation among the "particularly vulnerable."

Chapter 1 *identifies opportunities for new approaches to informal power* emerging within the global architecture of climate finance. I first revisit the literature on the "institutional turn" in development aid, in which international actors sought to reform governance in recipient countries. Drawing on this literature, I argue that governance reforms largely failed to drive institutional change because these organizations were unable to recognize and grapple with how power, especially informal power, actually operates in many of these countries. I then demonstrate how climate finance differs from development aid and highlight how these structural differences create space for experimentation with new approaches to informal institutions and governance, including approaches proposed by development scholars.

Chapter 2 *investigates the circumstances that generate equitable outcomes* in internationally financed adaptation. In a comparative case study, I examine the implementation of Adaptation Fund projects targeted at the "particularly vulnerable" in Mauritius and Madagascar. Drawing on 105 interviews with policymakers and Adaptation Fund actors in each country, I seek to understand how informal power – specifically systems of clientelism and neopatrimonialism – shape government decision-making, distribution of project benefits, and equity of project outcomes. Do government decision-makers target the most vulnerable, as mandated by the Adaptation Fund? Or do they distribute benefits narrowly to political supporters, as is generally expected in clientelistic and neopatrimonial systems? Based on the findings, I argue that a "good enough" approach to internationally financed adaptation, which focuses as much on equitable outcomes as inequitable ones, may represent a viable pathway to build much needed alternative institutional structures that challenge and bypass current entrenched systems of neopatrimonialism, clientelism, and rent-seeking.

Chapter 3 *illustrates how neglecting informal power risks reinforcing inequality* in targeted communities. I employ a mixed-methods approach to examine community-level implementation of the Adaptation Fund project in Madagascar. I seek to measure distributional outcomes in the project's primary implementation sites in the Alaotra-Mangoro region, specifically the relationship between household benefits and politically connectivity. Using a multilevel model, I analyze 599 household surveys collected from both participating and non-participating households. I consider the findings in the context of arguments for localizing and democratizing adaptation and argue that equitable outcomes can still emerge even in highly inequitable environments.

Overall, I argue that international climate finance can advance equity in adaptation, particularly among socially disadvantaged and politically marginalized groups. To do so, however, international actors should approach informal institutions with nuance, recognizing how different institutional forms influence decision-making. Adaptation scholars and practitioners should focus as much on what is working as what is not working, especially the circumstances under which informal institutions can contribute to relative equity. Such an approach will enable international actors to develop concrete strategies to make adaptation more equitable within current frameworks, while also making progress towards transforming inequitable systems over time.

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Chapter 2 Rethinking Governance in International Climate Finance: Structural Change and New Approaches

Introduction

International public finance plays an increasingly prominent role in global efforts to combat climate change, especially in low- and middle-income countries.[2] Under the UN Climate Convention (UNFCCC), "developed" countries pledged to provide financial support to "developing" countries' efforts to mitigate emissions and adapt to negative climate impacts (UNFCCC, 2015).[3] In the 2015 Paris Agreement, developed countries reaffirmed a pledge to mobilize $100 billion annually, and many vulnerable countries have come to rely on this financing to support a range of climate programs (UNFCCC, 2009). Some have gone so far as to say that this pledge, if met, would represent the largest sustained international wealth transfer in history (Ferrey, 2012). Though there is reason to question whether donor countries will meet their commitments, climate finance has grown rapidly in its scope and impact (Carty & Le Comte, 2018; Weikmans & Roberts, 2018).

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[2] Although private finance comprises a significant portion of overall climate finance, I exclude it from this analysis because it is rarely accompanied by the sort of governance standards that are common in public finance.
[3] Under the UN Climate Convention (UNFCCC), countries are classified as either "developed" (Annex I) or "developing" (Annex II). I believe this to be an outdated paradigm that does not reflect the dynamism of countries' economies, cultures, values, and capacities. Nevertheless, it is preserved not just in the language of the UNFCCC, but in its operational structure. I prefer to use the terms "donor" and "recipient," which more accurately reflects countries' relative positions in the architecture of climate finance, and international public finance at large. Throughout this paper I will use the terms "donor" and "recipient," except when referring directly to the UNFCCC, or when the language reflects that of previous scholarship on the topic.

As international climate finance grows, it faces the familiar challenge of governance. In recent years, multilateral organizations (MOs) tasked with oversight have faced growing pressure to not only prevent corruption and financial mismanagement of international resources, but also to ensure equity in their distribution (Khan, Robinson, & Weikmans, 2019). At first glance, MOs' approach appears to be continuation of policies developed during decades of international aid, in particular interventions that promoted "good governance" and "institution building." These reforms – which focused on reconfiguring public institutions in recipient countries into rule-bound systems – are now seen as largely ineffective in generating change (Booth, 2012; Evans, 2004; Repucci, 2012).

The assumption that the approach to governance in climate finance is unchanged, however, overlooks important structural differences between climate finance and development aid. Arguing on the grounds that climate finance is restitution, not aid, recipient countries have forced a meaningful shift in decision-making authority away from traditional-donor recipient frameworks. This shift has disrupted the established channels through which international public finance flows into national governments. It has opened up new forums, dominated by recipient, not donor, countries, offering spaces for experimentation with new approaches to governance.

In order to understand the significance of these new opportunities, the first section of this paper reviews literature that evaluates what led to the ineffectiveness of governance reforms tied to development aid. Critiques of these reforms vary, but a consistent thread emerges: MOs and development agencies (DAs) have been unable to recognize and grapple with how power actually works in recipient countries. Dominated by the perspectives of donors, they relied on a narrow understanding of governance grounded in a Western, liberal-rational worldview. This worldview led them to base their interventions on assumptions about the relationship between the individual, society, and the state that applied to few, if any, of the countries receiving aid. Governance interventions focused on formal, rather than informal power, rewriting rules and altering incentives that did little to change the behavior of citizens or government officials, resulting in ineffective reforms and superficial institutional change.

In the second section, I demonstrate how international climate finance is different. I argue that the shifts in decision-making power and structural changes in climate finance create specific opportunities for recipient country representatives to experiment with ways to engage with informal power in governance. I first highlight three new principles underlying climate finance: (1) that it is restitution not aid; (2) that recipient countries should control financing; and, (3) that decision-making should be driven by climate-specific criteria. I illustrate how each new principle has produced shifts in decision-making power away from donor and toward recipient countries, and how each creates new opportunities to develop and deploy alternative approaches to governance, some of which can be drawn from the development literature. I conclude by considering the limitations of these opportunities, including the most important: donor country willingness to cede the space for experimentation and to tolerate imperfect governance.

The "Institutional Turn" in Development

Development has not always focused on governance. The Bretton Woods organizations – including the World Bank and the International Monetary Fund (IMF)[4] – were founded on explicitly apolitical mandates that prevented them from making lending decisions on any criteria other than economic, and from interfering in member states' political affairs (Thirkell-White,

[4] I have excluded the World Trade Organization from this review because it does not provide development aid.

2003; Thomas, 2007).[5] These mandates aligned well with the era of neoclassical economic thinking, when development reforms focused on "rolling back" the state to prevent it from interfering in markets (McCarthy & Prudham, 2004).

Events of the 1980s, however, forced a reckoning. High profile cases of corruption embarrassed donors, while the collapse of Soviet power made them less inclined to turn a blind eye to abusive regimes (Doornbos, 2004; Weiss, 2000). At the same time, the widespread failure of neoliberal Structural Adjustment Policies forced the World Bank to acknowledge that they were not just poorly implemented, but also poorly conceived (Leftwich, 1993). The World Bank concluded that the failure could be largely attributed to "institutional weakness" in recipient countries, especially poor legal systems and inadequate contractual enforcement which acted to deter investment and credit (Mkandawire, 2007).

As the World Bank began to consider how institutional and political factors shaped development, it moved away from its apolitical mandate (Kulshreshtha, 2008; Thomas, 2007). A series of watershed reports signaled this shift, beginning with a 1989 report that identified a "crisis of governance" as underlying African countries' development problems. A staff paper shortly thereafter recognized external agencies as "potentially key players capable of exerting considerable influence in promoting good or bad governance" (Landell-Mills & Serageldin, 1991). The shift culminated in the World Bank's 1997 "World Development Report," which declared improving governance and "reinvigorating" public institutions as key to successful development (Landell-Mills & Serageldin, 1991, 13).

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[5] Article III, Section 5 and Article IV, Section 10 ("Articles of Agreement," n.d.)

Following the lead of the World Bank, and later in the decade, the IMF, development thinking thus moved from a neoliberal focus on "getting prices right" to "getting institutions right" (Mkandawire, 2009; Rodrik, Subramanian, & Trebbi, 2004). The resulting governance agenda encompassed a wide range of reforms and interventions. A key focus was on reconfiguring public institutions, agencies, and processes – the judiciary, civil service, and public service delivery – into rule-bound systems. Particular emphasis was placed on public financial management: internal accounting and auditing systems, budgeting mechanisms, and anti-corruption measures. Reforms were often implemented by attaching conditionalities to loans and project grants. In addition to reform within public institutions, MOs and DAs sought to bolster forms of democratic governance: promoting transparency, inclusion of civil society in public decision-making, and respect for human rights (Leftwich, 1993). By the end of the millennium, the World Bank was investing a significant portion of its resources into promoting good governance and institution building. Between 1995-1997, for example, the World Bank committed a quarter of all funding ($5-7 billion annually) to institutional reform (Kulshreshtha, 2008).

Scholarship focusing on the institutional 'turn' mostly agrees that despite the vast resources poured into governance reforms, they have been largely ineffective (Booth, 2012a; Evans, 2004; Repucci, 2012; Unsworth, 2010). Even when adopted, governance-related conditionalities have not produced the expected results. Economic growth has likewise remained uneven (Mkandawire, 2009). "Aid as such," concludes Booth (2012, 537), "is probably on balance bad for the institutional fabric of poor developing countries." In this context, the question of why powerful organizations like the World Bank, the IMF, regional development banks, and development agencies have failed to produce the expected changes in governance remains relevant.

Scholars and practitioners of development have debated this question since the governance agenda began to pick up steam in the 1990s. Many focused on the causal relationship between institutions, governance, and economic growth: Do strong institutions and good governance promote economic growth? Or does economic growth contribute to the development of strong institutions? While large 'n' cross-sectional studies have consistently found a strong positive relationship between indicators of governance and economic growth (Kaufmann & Kraay, 2002; Kaufmann, Kraay, & Zoido, 1999), many have pointed out the methodological shortcomings and assumptions of these analyses (Lindauer & Pritchett, 2002; Mkandawire, 2009). Studies focused on the correlation of specific indicators have shown that higher levels of development aid are actually associated with *declines* in governance quality (Brautigam & Knack, 2004; Busse & Gröning, 2009; Subramanian & Roy, 2001). Overall, there continues to be a lack of evidence of a strong causal link between aid and development outcomes (Booth, 2012a).

In addition to failing to trigger economic growth, the governance agenda has also been ineffective, in many cases, in meaningfully altering the institutions targeted by reforms (Booth, 2012; Evans, 2004; Repucci, 2012). The explanations put forward for this ineffectiveness are myriad. Observers have criticized the weakness of the conceptual underpinnings of "good governance" in the first place (Andrews, 2008; Bøås, 1998; Gisselquist, 2014; Harrison, 2005; Kapur & Webb, 2000). The concept, they argue, is so broad as to encompass nearly everything, making it difficult to operationalize. Little attention has been paid to prioritizing and sequencing reforms (Grindle, 2004; Repucci, 2012). Likewise, there has been little realistic engagement with the actual capacity of recipient country governments, and little recognition of the limitations of development aid, and how it might conflict with other political imperatives (e.g., promoting arms control while continuing arms sales) (Grindle, 2011; Moore & Robinson, 1994; Nunnekamp, 1995).

Others, however, have argued that the ineffectiveness of the governance agenda has deeper roots. Technical issues, in their view, are secondary to a fundamental misunderstanding of how power, particularly informal power, operates in recipient countries. The next section reviews these critiques.

Governance Reforms and Informal Power: Four Insights

The development literature on the role of informal power in governance reforms can be summarized in four main points.

(1) Governance reforms were based on assumptions about individuals, society, and the state that are rooted in a Western, liberal-rational worldview.

Despite nurturing the appearance of political and ideological neutrality, MOs and DAs are political actors, guided by their own brands of political thought (Harrison, 2005). Multilateral organizations, particularly the World Bank and the IMF, have their roots in Western history. Their governance structures, which award decision-making authority based on financial contributions and economic clout respectively, strongly favor donor and Western countries (Thomas et al., 2006; Leech & Leech, 2009). They remain responsive primarily to Western political audiences: not only donor country governments, but also Western academic communities and NGOs (Thirkell-White, 2003). As a result, MO governance reforms have been grounded in a liberal-rational worldview that combines elements of neoliberal economic theory with post-WWII concepts of democracy, pluralism, and civic participation (Bøås, 1998; Harrison, 2005; Williams & Young, 1994).

This liberal-rational worldview leads MOs and DAs to base their governance reforms on a series of assumptions about: a) the individual, civil society, and the state; b) the relationship between society and the state, and between the state and the market; c) the functioning of institutions; d) how power operates in recipient countries; and, lastly e) how reforms will alter these relationships and the operation of power (summarized in Table 2.1).

In his critique of the World Bank, Harrison (2005) argues that its development interventions have been influenced by three main strands of political thought. The first is the theory of *rational choice*, which sees individual behavior as guided by consciously-held preferences. Society is an aggregation of these individual preferences and the state is institutionally structured to incentivize desirable (honest and equitable) behavior. The second strand is *new public management*, which sees the ideal state as interfering in the economy as minimally as possible (McCourt & Minogue, 2013). The behavior and performance of state agents, in this view, is shaped by the institutional structures in which they are embedded. Finally, the third strand, *institutionalism*, sees the state as playing a narrow, complementary role to the market (North, 1990). Taken together, these approaches drive the World Bank's theory of political action, in which "political agency is individualized, and motivated by a balance of preferences, costs, and benefits" (Harrison, 2005, 245-246). In other words, the World Bank's interventions are predicated on the assumptions that the state and the market are complementary and that reforms will yield positive sum outcomes from which all in society benefit.

Similarly, Williams and Young (1994) saw the World Bank's interventions as based on three slightly different foundational beliefs of liberal theory. The first is a belief in the state as a neutral framework through which different groups pursue their ideas of what is "good." The second is a belief in civil society as a liberal public sphere, a space for interactions free of state intervention and based upon the values of pluralism and tolerance. The third is a belief in the individual as the "liberal self," which assumes that individuals share universal characteristics and engage in universal economic behavior. These beliefs led the World Bank to make assumptions about individual behavior that undergirds state-society interactions, especially the notion that society would function to hold the state accountable for its performance.

Additionally, some have argued that the liberal-rational worldview also led MOs and DAs to rely implicitly on Weberian notions of the state and bureaucracy, which view state power as rooted in rational-legal authority (Pritchett & Woolcock, 2004). In the Weberian view, power is formal and rules-bound. The civil service is professionalized and meritocratic, providing public goods in a top-down, uniform, and impersonal manner. Decisions are made based on objective, pre-set criteria (Pritchett, Woolcock, & Andrews, 2013).

Others have gone further, arguing that this worldview is better understood as neoliberal-rational or liberal-capitalist (Doornbos, 2004; Nanda, 2006). They argue that the limitations of the World Bank and IMF's mandates led them to define governance narrowly, in technical and economic terms, "to manage the economy effectively" (Tuozzo, 2004, 106). Focusing on economic, rather than political, dimensions of governance also provided MOs an avenue for reconciling institutionalism with the neoclassical economic agenda that had preceded it. The focus was on building the effectiveness of public sector management, fostering competition, and providing a stable and predictable policy environment for market-led development. "Governance" thus became a tool for the creation of neoliberal state-market relations and "market friendliness" (Doornbos, 2004; Mkandawire, 2009).

MOs and DAs' governance reforms were thus based primarily on the assumption that rewriting rules and altering institutions would restructure incentives. They expected the change in incentives to spur more desirable behavior in individuals, altering the relationship between society and the state. The public would demand improved performance from the government in the supply of public goods, and state agents would respond by improving delivery. Incentives would encourage a proper (limited) relationship between the state and the market.

Table 2.1. Liberal-rational Assumptions about the Operation of Power in Countries Receiving Development Aid

		Relationships of individuals, state, and society in a liberal-rational worldview	**Relationships of individuals, state, and society in recipient countries**
a.	Individuals	Isolated, utilitarian Share universal economic characteristics Respond rationally to incentives Individualized political agency	Members of affective, often ethnic, reciprocity networks Communal political agency
	Civil Society	Comprised of contractual, non-affective groups	Comprised of affective, often ethnic, groups
	State	Neutral framework Upholds rule of law Impersonal, professional bureaucracy Broad public service programs benefit all	Non-neutral framework Frequent exemptions to rule of law Public office used as private resource Benefits provided narrowly to supporters
b.	State-Society Relationship	Public monitors state performance State agents respond rationally to public monitoring	Public does not monitor state performance State agents do not always respond to public monitoring
	State-Market Relationship	Complementary State plays minimum role to provide stability and foster competition	Intertwined Political and economic power united
c.	Institutions	Structure incentives to encourage desirable behavior	Embedded within larger societally-structured power relation
d.	Power	Formal, rules-bound Exercised through legal-rational authority	Informal, personal Exercised through personal authority
e.	Governance Reforms	Rewriting rules and altering institutions will restructure incentives	Must address informal as well as formal incentives

It is important to note some limits of generalizing analyses that focus largely on the World Bank and IMF to all MOs and DAs. The World Bank and IMF are themselves large and diverse organizations, with different branches often acting on different principles. There is further heterogeneity between regional development banks and other MOs, like UN agencies, and of course between bilateral DAs which respond primarily to domestic political audiences. Leftwich (1993) has pointed out, for example, that good governance has historically carried geopolitical implications for the World Bank and Western governments. The economic clout of the World Bank and IMF, however, have made them leaders in development thought, to the extent that the liberal-rational worldview has come to pervade the development field at large, with the concept sharing a "common underlying shape" (Leftwich, 1993, 611). Nevertheless, context plays an important role in shaping how this worldview has been interpreted and implemented by different MOs and DAs (Bøås, 1998; Nelson, 2000).[6]

(2) The liberal-rational worldview prevented MOs and DAs from recognizing the prevailing power structures of recipient countries, and the political relationships that create and maintain them.

Contrary to the assumptions of MOs and DAs, power is not always formal and rules-bound (Thomas, 2007). In many countries informal power – based on implicit and unwritten

[6] Bøas (1998) illustrates this point in his case studies of the how the governance agenda took shape at the African Development Bank (AfDB) and the Asian Development Bank (ADB). In contrast to the World Bank and the IMF, the governance structures of these regional development banks cede significant power to borrower countries. As a result, the two banks were caught between the will of the donors (pushing governance reform) and their borrower countries (resisting the intrusion). At ADB, borrowers objected to a conceptual grounding of governance in individual political rights, preferring a framing of governance as "sound development management" grounded in economic principles and collective rights. At AfDB, which is formally controlled by African countries, the outcome was an ill-defined but politically convenient governance agenda.

understandings that reflect sociocultural norms and routines – prevails (Helmke & Levitsky, 2006; North, 1990). Likewise, power is often personal, vested not in rules but in individuals, often at all levels of authority (Brinkerhoff & Goldsmith, 2005; Hyden, 2008). The political systems of many recipient countries are clientelistic or patrimonial (van de Walle, 2003). A leader's ability to stay in power depends on his or her distribution of patronage, in the form of government contracts, jobs, or other perquisites. In such systems it is customary (even expected) for people to use their power to help their family and friends (Thomas, 2007). Such patronage distorts the civil service in particular, as public office is used for personal gain through politics for pay, promotion, and employment status (Repucci, 2012).

In many countries formal and informal institutions coexist, in what Brinkerhoff & Goldsmith (2005) termed "institutional dualism." This dualism is most clearly manifested in neopatrimonial systems, where leaders use patronage to secure political support within the legal-rational structure of the state (Bratton & van de Walle, 1994). Neopatrimonial regimes are fundamentally incompatible with the rule of law, both because political supporters demand patronage rather than enforcement of rules, and because leaders often distribute exemptions from the law as a form of patronage (Thomas, 2007).

Harrison illustrates the weakness of MOs and DAs' assumptions underpinning governance reforms by contrasting the World Bank's theory of political change with two prevailing schools of thought about the African state. The first, "class-based," school sees the African state as shaped by its subordinate position in an imperial world system. In this view, the African state is a product of intervention, its political authority shaped by interactions with wealthier and more powerful (Northern) states (Moore, 2001). As a result of this subordination, the state remains "politically underdeveloped," with the elites primarily using public office, and the state at large, as a private resource. In this context, he argues, politics is not positive sum, as the World Bank expects, but zero sum, as access to a political office necessitates excluding others and leaving them economically vulnerable. Rather than complementarity between state and market, there is a unity of political and economic power.

A second, post-structural, school sees the African state as part of a historical continuum, with its dynamics shaped by entrenched socioeconomic and political interests. Political characteristics often negatively attributed to “tribalism” or “instability” actually reflect the linkage of customary African institutions to the (alien) institutions of the post-colonial state (Chabal & Daloz, 2000). In what Bayart (1989) famously characterized as a “rhizomatic” form of power, the official politics of the African state are intertwined with complex clientelistic networks, often based in ethnic social relations. There is thus a “radical disjuncture” between formal and informal power, and formal and informal institutions (Harrison, 2005). For this reason, Harrison argues, institutional change is often not what it appears to be.

Williams & Young (1994) also argued that liberal theory – and the inherent contradictions therein – hobbled the World Bank’s governance agenda. While the World Bank relied on the notion of a neutral state, its interventions in recipient countries were based on its own prior conceptions of what is “good.” In this case, the “good” was the market economy and a state that ensured its smooth functioning by upholding property rights and contractual agreements. While the World Bank relied on the notion of a liberal civil society, it found that community in many recipient countries was built not on contractual relations but instead on affective, often ethnic, ties. Finally, while the World Bank relied on the notion of a “liberal self,” Williams & Young argue that this recent Western construct has proved an unreliable guide for individual behavior.

Following the lead of the World Bank, MOs and DAs collectively failed to comprehend both the prevailing power structures of recipient countries, and the political relationships that create and maintain them. *Individuals* are not universal, utilitarian actors but are instead members of affective, often ethnic, networks of reciprocity. *Civil society*, likewise, is comprised of ethnic and affective groups. *The state* is not neutral and frequently grants supporters exemptions to the rule of law. Public office is often used as a private resource. The civil service is not meritocratic and impersonal. State agents focus not on the public, but on their superiors who can reward them. Instead of providing broad programs that benefit all according to objective criteria, the government provides benefits narrowly to supporters. Political agency is communal, not individualized. *Society* does not always hold *the state* accountable. The public does not necessarily expect and monitor state performance; state agents do not respond to public monitoring. *The state and the market* are not complementary but intertwined, with economic and political power frequently united. *Power* is often informal and personal. Informal power networks exist beneath and beside formal institutions. *Institutions* are embedded in larger societally-structured power relations (Evans, 2004).

(3) Institutional reforms failed to "take" because they focused narrowly on formal rather than informal institutions, and because they replicated institutional form rather than altering institutional function.

Many governance interventions were based on an underdeveloped theory of change (Unsworth, 2009). MOs and DAs assumed that by properly designing institutions (and incentives), reforms would alter individual behavior and, in turn, the relationship between society and the state (Andrews, 2013; Carothers & de Gramont, 2013). They focused their reforms on the organizational realm where they would have the most traction: rewriting the rules of formal institutions (Pritchett, Woolcock, & Andrews, 2013). They overlooked the complex interplay of formal and informal institutions, failing to recognize how individuals, in both society and the state, are bound up in affective relations and informal power networks. These individuals respond to the incentives of informal institutions instead of, or in combination with, those of formal institutions (Brinkerhoff & Goldsmith, 2002). As a result, reconfiguring formal institutions and incentives alone did not prompt the expected changes in behavior (Harrison, 2005).

Above all, MOs and DAs misunderstood the incentives of leaders and elites. Reforms were predicated on the expectation that leaders and elites would prioritize long-term development objectives (Booth, 2012a). But the primary goal of most governments is to remain in power. In many cases, political survival depends on support from informal networks as much, if not more, than the formal power vested in leaders by the state (Thomas, 2007). In clientelistic and patrimonial systems, political survival demands the distribution of patronage (Thomas, 2007). Reforms that limit state control over economic assets and limit the government's discretion to award supporters threaten patron-client relations (Thomas, 2007). Leaders and elites are unlikely to undermine the status quo or disassemble the structures that keep them in power (Collins, 2012; Hyden, 2008). Development aid in many cases contributed to perverse incentives for elites, deterring collective action and facilitating patronage (Booth, 2011a; Cooksey, 2002).

A second reason that institutional reforms did not "take" is that they largely replicated institutional form rather than altering institutional function (Andrews, 2013). Despite rhetorical recognition of the need to adapt reforms to "context" and "national circumstances," interventions focused on creating centralized, professionalized bureaucracies following a common mold

(Kulshreshtha, 2008; Pritchett et al., 2013). Reforms were based on the assumption that since such bureaucracies underpin industrialized states, their "institutional blueprints" would facilitate similar development elsewhere. Criticized as "institutional monocropping" (Evans, 2004) and "skipping straight to Weber" (Pritchett & Woolcock, 2004), the approach also assumed that society would demand and monitor the provision of public goods in similar ways across different contexts. In doing so, these reforms overlooked how interactions between the public, the state, and service providers differ across contexts.

Pritchett, Woolcock, & Andrews (2013) attributed the persistent failure to build administrative capacity in such transplanted institutions to "isomorphic mimicry." Government agents and service providers, they argued, replicated the form but not function of Weberian institutions. Rather than exhibiting the "entrepreneurial bureaucratic behavior" needed to adapt institutional forms to new contexts, they mimicked expected behaviors in order to maintain legitimacy (Buntaine, Parks, & Buch, 2017; Samuel, 2014). The result has often been a dual system in which reforms produced a shell of "proper governance" – formal institutions existing to placate donors and uphold the appearance of development – while informal institutions continue to act as the primary influence on behavior and state-society relations.

(4) MOs and DAs remain ill-equipped to facilitate governance reform in recipient countries. Alternative approaches are possible, but require ceding decision-making power and tolerating imperfect governance.

Governance reform in many recipient countries would require nothing short of fundamental change in the relationship of state and society. It has proven insufficient to simply change the rules of formal institutions without addressing the informal power structures beneath (Hoff &

Stiglitz, 2001). MOs and DAs now broadly recognize the need to improve their understanding of institutional dynamics and some have adopted political economy approaches (Booth & Faustino, 2014; Hout, 2012; Unsworth, 2009). Their use, however, remains limited and contested (Booth, 2012b; Yanguas & Hulme, 2015). Hout (2012) argues that MOs and DAs are trapped in a paradox in which they recognize the need for such analyses but face "insurmountable difficulty in taking political assessments seriously" (407). Constraints within these organizations – including prevailing "mental models" of development and career pathways that disincentivize country-specific expertise –prevent them from applying the insights of political economy approaches (Booth & Faustino, 2014; Unsworth, 2009; Wild et al., 2015). The result has been an "almost revolution," in which shifts in tone have not translated into concrete changes in policy-making (Carothers & de Gramont, 2013; Hout, 2012; Unsworth, 2015). Without grappling with prevailing power structures, reforms are likely to continue to be ineffective.

Some have argued for alternative approaches. One option is to cede space to allow endogenous institutional change, rather than to continue to attempt to drive such change exogenously. A number of prominent scholars have argued that governance and institutional reforms have not only been ineffective but have inhibited development in recipient countries (Rodrik, 2000). The institutional models imposed over the past decades were not the same as those that characterized industrialized countries during their periods of rapid economic growth (Booth, 2011a). Imposing these models has been akin to "kicking away the ladder," denying recipient countries the opportunity to experiment with their own development trajectories (Chang, 2003).

In this view, substantive institutional change must be grounded in local decision-making (Rodrik, 2000; Sen, 1999b). Restoring space for recipient countries to experiment with endogenous institutions would enable these institutions to rebuild context specificity and legitimacy (Dunning & Pop-Eleches, 2004; Mkandawire, 2009). What matters is how institutions actually function: “who they help, who they hurt, and how much” (Brinkerhoff & Goldsmith, 2005). Informal systems are not always negative, and different institutional forms can deliver similar institutional performance levels (Pritchett et al., 2013). Evans (2004) argues in particular for strengthening “thick institutions” that can improve citizens’ abilities to make their own choices. A variety of forms of public discussion and interchange can contribute to making effective institutions accountable to citizens (Sen, 2000). Such approaches would require MOs and DAs to cede power to local leaders who can build contextually appropriate institutions (Acemoglu, Johnson, & Robinson, 2001; Dunning & Pop-Eleches, 2004; Subramanian & Roy, 2001).

Additionally, some have argued for the need for experimentation on the part of MOs and DAs. Andrews (2013) recommends a “problem driven, iterative adaptation” approach based on experiential learning, feedback, and “purposive muddling.” Building on the strengths of existing institutions arrangements will enable the emergence of “hybrid solutions” that combine local institutions with professional standards (Andrews, 2013; Booth, 2012b). Booth and Unsworth (2014) highlight cases in which on-the-ground staff facilitated problem solving through “politically smart” approaches. They emphasize the importance of the bureaucratic environment within MOs and DAs, and the need to allow room for innovation and experimentation. In particular, they highlighted funding modalities that enabled staff to “work at arm’s length” from donors (22). Incremental reforms, these scholars argued, could cumulatively drive slower, but longer-term, institutional change (Levy, 2014).

Such alternative approaches and experimentation would require a tolerance for risk-taking and imperfect governance. Some have argued for engaging realistically with the incentives that shape the decision-making of leaders and elites. Booth (2011b, 2012b) calls for identifying the most stable regimes – those able to centralize management of major economic rents and adopt a long-time horizon – through a form of "development patrimonialism." Similarly, Wright (2008) has argued for the need to recognize how the time horizons of autocratic governments shape their incentives in the use of development aid. There is tension between these strategies, which concede that not all governments will behave democratically, and the broader recognition that participatory political institutions are necessary to build better institutions in the long-run. Different MOs and DAs likely have different capacities for experimentation and risk-taking, as well as differing levels of tolerance for imperfect governance.

Others have argued for bypassing dysfunctional and non-democratic national governments altogether. Brinkerhoff & Johnson (2009), writing about fragile and post-conflict states, suggest empowering local governments in delivering public services. They argue that local government can, among other things, mitigate zero sum politics and allow for natural political experiments, with faster feedback loops. Some have argued that empowering citizenry, through monitoring and participatory budgeting practices, can also improve public services (Abers, 1998; Fox, 2001). Others have argued, controversially, for privatization and contracting out of public services (Grindle, 2004). Ultimately, however, strategies that circumvent national institutions are likely to prove only a short-term substitute for a functioning central government (Grindle, 2004).

One concrete option for working within, rather than around, national institutions emerges from scholarship on organizational culture. Case studies have shown that certain institutions can effectively deliver public services, even when they are embedded within ineffective governments

(Tendler, 1997). Drawing on a number of comparative cases, Grindle (1997) attributed this effectiveness to a shared sense of mission, dedication, and autonomy among the workers themselves. Rational choice theory, which saw individuals as motivated by private incentives, could not explain such "public spirited bureaucratic behavior." She and others have argued that promoting such positive organizational characteristics could be the "missing ingredient" to civil service reform (Grindle, 1997; Owusu, 2012).

Climate Finance: Structural Change, Alternative Approaches

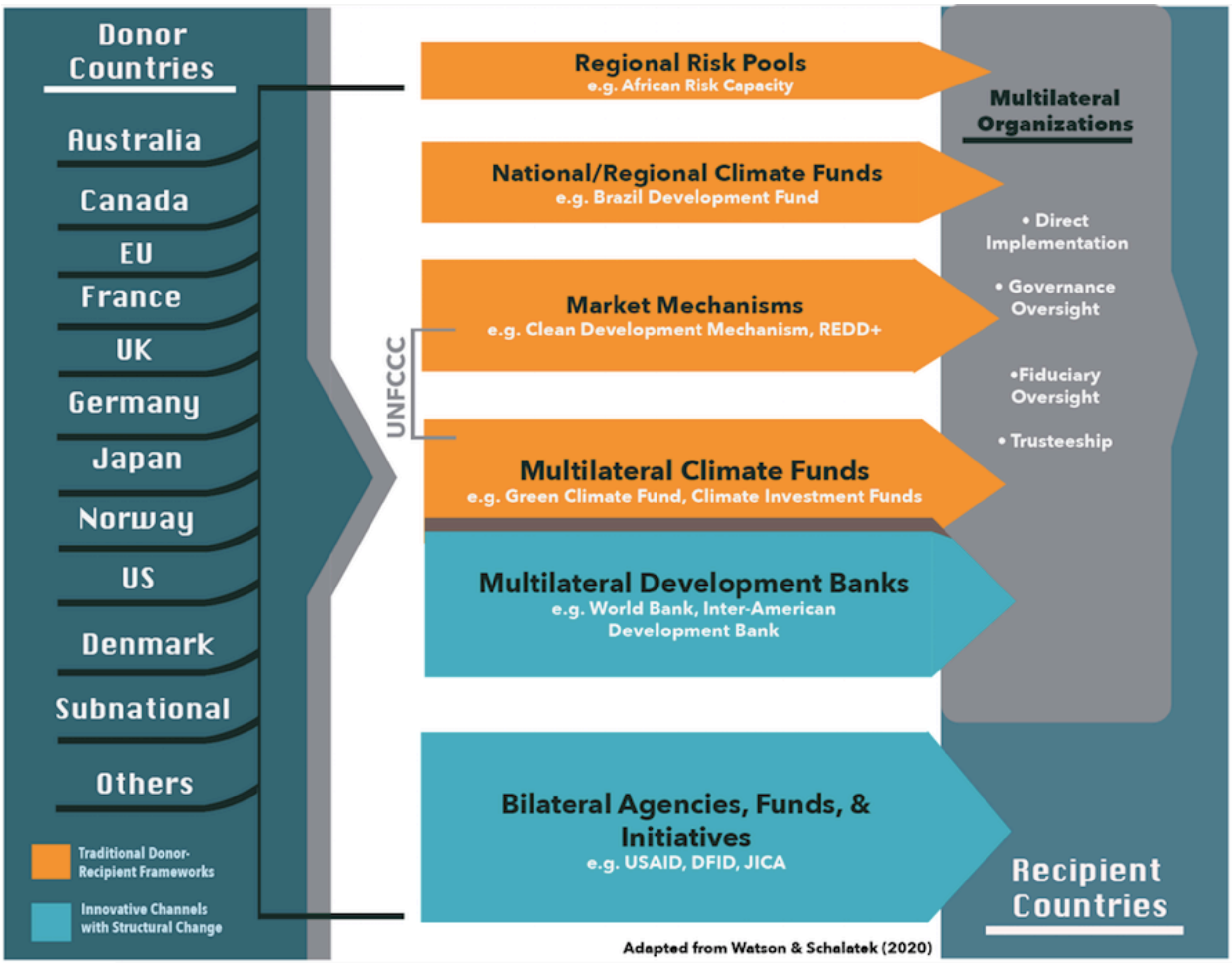
The ineffectiveness of governance reforms in development aid illustrates the need for MOs to recognize and grapple with the nature of informal power in recipient countries. In this section, I argue that climate finance presents opportunities for a new approach to governance. I advance this argument in three parts (summarized in Table 2.2). In each part, I first introduce a principle underpinning climate finance that differs from traditional development aid. These differences, which are derived from the emerging literature on and practice of international climate finance, are: (1) that climate finance is restitution, not aid (Khan & Roberts, 2013; Roberts, 2009; Pickering & Barry 2012; Müller 2009; Scoville-Simonds 2020; Moore 2012b); (2) that recipient countries should exercise direct control over financing (Lombo et al., 2016; Persson & Remling 2014; Bird & Peskett 2008); and, (3) that decision-making should be driven by climate-specific criteria. These principles do not encompass all the ways that climate finance differs from development aid, only the key ways that drive structural change. It is important to note that these principles are not universally accepted. In fact, they are highly contested and constantly evolving through negotiation and practice. Despite being contested, these principles have been operationalized in ways that alter the provision of finance (Moore 2012b; Schalatek 2019; Persson 2011).

Following each principle, I describe how it has driven structural innovations in the architecture of climate finance, and meaningfully shifted decision-making authority at global, regional, and national levels. I then suggest how each of these structural changes opens spaces for climate finance organizations to develop and deploy new governance strategies, some of which can be drawn from the development literature. I conclude with a brief discussion of the limitations of these opportunities.

Traditional and Innovative Channels in Climate Finance

There are six main channels of international public financing for climate mitigation and adaptation: bilateral finance, multilateral development banks, multilateral climate funds, national and regional climate funds, sovereign risk pools, and market-based mechanisms (Watson & Schalatek, 2020) (see Figure 2.1). The first two channels rely on traditional donor-recipient frameworks established under development: donor countries retain full authority over decision-making and financial management. The latter four are newer, more innovative financial mechanisms. The new principles and associated structural changes that I describe here are limited to these innovative mechanisms. I exclude the last of the four channels – market-based mechanisms, such as the Clean Development Mechanism –from the argument because these mechanisms rely primarily on carbon market finance and therefore do not employ donor-recipient frameworks.

Figure 2.1 Six Primary Channels of International Climate Finance



The financing that flows through innovative channels currently represents a small but growing portion of overall climate finance. Multilateral climate funds operate by aggregating funding from donor countries and disbursing it to recipient countries. Although most of these funds operate under mandates from the UNFCCC, some operate outside its guidance. The Climate Investment Funds (CIFs) managed by the World Bank are an example of the latter. Many countries have also established national and regional climate funds as “national hubs,” designed to capture finance from a range of multilateral and bilateral sources (Gomez-Echeverri, 2013). The largest of these, Brazil’s Amazon Fund, has a commitment of $1.2 billion. Finally, sovereign risk pools are currently operating in the Pacific, Caribbean, and African regions. As insurance entities that distribute risk across a group of countries, risk pools offer a new approach to adaptation. The initial capital provided by donor countries subsidizes member countries' access to insurance, though they also pay premiums to participate (McGee, Phelan, & Wenta, 2014).

Table 2.2 New principles, structures, and opportunities in international climate finance

New Principle	**Structural Change in Financial Mechanisms**	**Opportunities for New Approaches to Governance**
Climate financing should be restitution, not aid.	Equal or majority decision-making power for recipient countries in multilateral, regional, and national governance boards.	Recipient country representatives exercise greater power to shape governance protocols. Opportunities to develop new governance policies and approaches based on non-Western political thought.
Recipient countries should own financing.	Recipient countries have direct access to and direct management of financing.	Recipient country institutions have greater power to shape governance policies at the national level. Opportunities to recognize prevailing power structures and ground institutional change in local decision-making. Opportunities to improve feedback mechanisms to link knowledge of local context to global and regional policymaking.
Decision-making should be driven by climate-specific criteria.	Financing channeled through new and traditionally under-funded ministries. Decision-making power exercised by new actors within these ministries.	Dislodge established routines and relationships around traditional finance channels. Opportunities to establish new relationships within national institutions and between national and global actors.

First New Principle: Climate finance should be restitution, not aid.

Recipient countries and civil society advocates have long fought in the UNFCCC negotiations to establish the "polluter pays" principle: the concept that because industrialized countries bear responsibility for the bulk of historical emissions, they have an obligation to not only rapidly reduce their emissions but also to compensate low-emitting and vulnerable countries for the damage caused (Gaines, 1991; Khan & Roberts, 2013; Roberts, 2009). This compensation, or restitution, should take the form of both technology transfer (to enable emissions reductions) and financing to support adaptation to adverse impacts (Pickering & Barry, 2012). Though recipient countries have not succeeded in enshrining this principle in the Convention itself, and claims of restitution remain highly politicized, they have succeeded in operationalizing it within some channels of climate finance (Harmeling & Kaloga, 2011; Moore, 2012; Persson, 2011; Schalatek, 2019). The norms that guide the provision of finance under these mechanisms thus differ from the "charity" or "gift-giving" norms of development, in which aid is seen as voluntary payment (Moore, 2012b; Müller, 2009; Scoville-Simonds, Jamali, & Hufty, 2020).

The operationalization of this principle of restitution has produced structural shifts in decision-making authority within the architecture of climate finance. Within the UNFCCC, recipient countries have negotiated equal or majority representation on the boards of several multilateral funds (Table 2.3). The Adaptation Fund was the first multilateral finance board whose members include a majority of recipient country representatives, enabling their "genuine ownership" of the instrument (Harmeling & Kaloga, 2011; Müller, 2009, 4). The board of the Green Climate Fund (GCF), the largest and most important of the funds under the Paris Agreement, has equal representation of donor and recipient countries (Green Climate Fund, 2013). Significantly this shift has extended to funds operating outside the UNFCCC. The CIFs – worth approximately $8 billion – have equal representation on all decision-making committees and sub-committees (Climate Investment Funds, 2021). National and regional climate funds are largely independent entities. Though they differ in their governance structures, they are controlled in most cases by recipient country governments (Gomez-Echeverri, 2010) (Table 2.4). The Bangladesh Climate Change Resilience Fund, for example, operates under the "full ownership and leadership of the Government of Bangladesh," with a governing council and management committee comprised solely of national representatives (World Bank, 2021). Likewise, the governing boards of all three active sovereign risk pools have majority representation of member countries (Table 2.6).

Table 2.3 Board Composition of Multilateral Climate Funds

(blue denotes donor country majority, orange recipient country majority, and yellow equal representation)

Multilateral Climate Funds	**Funds Pledged (US$ million)**	**Governing Board, Council, or Assembly Composition**
Green Climate Fund	20,320.28	24 Members: 12 donor country; 12 recipient country
Clean Technology Fund	5,404.31	16 Members: 8 donor country; 8 recipient country
Global Environment Facility	4,052.99	32 Members: 14 donor country; 16 recipient country; 2 economies in transition
Strategic Climate Fund[7]	2,646.27	16 Members: 8 donor country; 8 recipient country
Least Developed Countries Fund	1,686.42	*Under GEF Governance*
Adaptation Fund	1,039.20	16 Members: 5 donor country; 11 recipient country
Adaptation for Smallholder Agriculture Programme	406.49	36 Members: 24 donor country; 12 recipient country
Special Climate Change Fund	379.04	*Under GEF Governance*

[7] The SCF is one of two funds under the Climate Investment Funds. It oversees the activities of three programs: the Forest Investment Partnership (FIP), the Scaling Up Renewable Energy Program (SREP), and the Pilot Program on Climate Resilience (PPCR).

Table 2.4 Board Composition of National and Regional Climate Funds

National and Regional Climate Funds	International Funds Pledged (US$ million)	Governing Board or Management Committee Composition
Amazon Fund	1,288.23	23 Members: 8 national government; 9 states; 6 civil society
Brazilian National Fund on Climate Change	478.76	7 Members: 7 national government
Guyana REDD+ Investment Fund	250.00	8 Members: 4 national government; 4 donor country
Central African Forest Initiative	244.36	7 Members: 7 donor country
Congo Basin Forest Fund	186.02	6 Members: 2 donor country; 4 recipient country
Bangladesh Climate Change Resilience Fund	170.00	15 Members: 7 national ministries; 4 national secretaries; 2 donor country; 2 civil society
Climate Resilient Green Economy (Ethiopia)	200.00	N/A
Rwanda's Green Fund	50.00	10 Members: 7 national government; 1 donor country; 1 private sector; 1 civil society
Mali Climate Fund	28.17	10 Members: 5 government; 5 technical and financial partners
Indonesia Climate Change Trust Fund	26.17	11 Members: 4 donor country; 7 recipient country
Cambodia Climate Change Alliance Trust Fund	11.00	8 Members: 4 national government; 4 donor country
Ecuador Yasuni ITT Trust Fund	10.58	5 Members: 3 national government; 2 donor country; 1 civil society
Maldives Climate Change Trust Fund	10.30	N/A
Mexico Climate Change Fund	N/A	9 Members: 9 national government
Philippines People's Survival Fund	N/A	8 Members: 5 national government; 1 academic; 1 business; 1 NGO

Table 2.5 Board Composition of Sovereign Risk Pools

Sovereign Risk Pools	Board Composition
African Risk Capacity	8 Members: 7 recipient country; 1 World Food Program
Caribbean Catastrophe Risk Insurance Facility	6 Members: 4 recipient country; 2 donor country
Pacific Catastrophe Risk Assessment and Financing Initiative	9 Members: 5 recipient country; 4 donor country

This shift in decision-making authority means that donor country perspectives no longer dominate the leadership forums of many climate finance organizations. Recipient country representatives exercise greater power to set priorities, allocate funding, and, most importantly in this case, shape governance protocols. Under development frameworks, an imbalance of decision-making authority contributed to governance policies shaped predominantly by the Western, liberal-rational worldview (Harrison, 2005; Williams & Young, 1994). Under new climate finance frameworks, recipient country representatives are empowered in these organizations to draw on non-Western forms of political thought. They are no longer bound by narrow assumptions about the nature of state-society relations in recipient countries.

This new balance of authority opens opportunities to develop alternative approaches to governance. The governing boards of multilateral and regional climate funds can create space for experimentation with endogenous institutions – domestic institutions that may be more legitimate and contextually appropriate – by ceding some power to local leaders (Acemoglu et al., 2001; Dunning & Pop-Eleches, 2004; Mkandawire, 2009). They could develop more flexible governance policies that focus on the services that informal institutions deliver, rather than their form, or allow for the emergence of "hybrid institutions" (Andrews, 2013; Booth, 2012b; Brinkerhoff & Goldsmith, 2005). Endogenous institutions could prove more effective, for example, in building resilience to climate impacts. A variety of "thick" participatory institutions could facilitate discussions and interchange around long-term planning and adaptation (Evans, 2004). Governing boards could also develop approaches that engage realistically with the incentives of leaders, accounting for how their time horizons may influence their willingness to reduce emissions (Wright, 2008).

Second New Principle: Recipient countries should own climate financing.

The second principle flows directly from the first. If climate finance is restitution, not aid, then recipient countries should be granted greater control over it (Lombo et al., 2016; Persson, 2011; Persson & Remling, 2014). “Country ownership” has long been a point of emphasis in development, where MOs and DAs viewed a lack of ownership among recipient country leaders and institutions as a hindrance to effective programs (Booth, 2012a; Hyden, 2008). Ownership in this sense related to program design and implementation, rather than direct control over financing. This approach aligned with the “gift-giving” norms of development aid, in which donor countries saw it as their right to oversee the use of “their” money (Moore, 2012b). Under the restitution framing of climate finance, recipient countries reject such conditionalities on funding (Bird & Peskett, 2008; Moore, 2012b; Müller, 2009; Schalatek, Bird, & Brown, 2010).

The principle that recipient countries should own funding has driven structural change in how climate financing is managed at the national level. Recipient country institutions directly manage funding received through national and regional funds, as well as any pay-outs from sovereign risk pools. Brazil’s Amazon Fund, for example, is administered by the Brazil National Development Bank, rather than an MO. A number of multilateral climate funds under the UNFCCC have implemented procedures, known as “direct access modalities,” that empower national and regional institutions to directly manage financing (Afful-Koomson, 2015; Scoville-Simonds, 2016). In contrast to traditional donor-recipient frameworks, in which funding is channeled largely outside of national budgetary systems, direct access devolves financial management to the national level (Bird, Billett, & Colón, 2011). The Green Climate Fund, for example, has additionally launched an “enhanced direct access” pilot program, which further devolves oversight responsibilities to the national level (Schalatek & Watson, 2019).

This shift in control of financing to the national level means that actors in recipient country institutions exercise greater authority to shape governance policies. In contrast to MOs and DAs, which persist in their technocratic orientation and exhibit weak knowledge of local contexts, these actors are well-positioned to recognize prevailing power structures contexts (Hout, 2012; Unsworth, 2009; Yanguas & Hulme, 2015). Indeed, they are embedded within these structures, both formal and informal. National actors and institutions can draw on this knowledge to develop more nuanced theories of change, based on a more accurate understanding of individual and collective incentives. For those who have argued that substantive institutional change must be grounded in local decision-making, this could represent an opportunity for experimentation with endogenous institutions (Rodrik, 2000; Sen, 1999b).

It also presents an opportunity to improve the feedback mechanisms that link locally-relevant knowledge to global policymaking. This feedback could include not only more nuanced information about the socio-political relationships that shape governance, but also results from endogenous experimentation. Both climate finance organizations that directly fund programs, like the GCF, and MOs that partner with national governments, like the World Bank, would benefit from strengthening these mechanisms. Governing boards with equal or majority recipient country representation are well-positioned to utilize this knowledge in shaping governance policies.

Third New Principle: Decision-making should be driven by climate-specific criteria.

The third new principle does not flow directly from the first and second, but instead relates to the nature of the funding itself. Climate finance is motivated by more specific objectives than development. For mitigation, the goal is to reduce emissions. For adaptation, the goal is to foster preventive, responsive, and adaptive action. In some contexts, the goal is to target support to vulnerable groups. This is the case, for example, for the Adaptation Fund, which follows a mandate to direct funding to the "particularly vulnerable" (Adaptation Fund Board, 2012). These specific objectives are significant because they require a new set of criteria to guide decision-making (e.g., emissions scenarios, vulnerability assessments). These criteria in turn demand a new set of expertise of the actors implementing climate programs.

The demand for new expertise has led climate finance organizations to direct funding through new institutions and new actors at the national level. Development organizations primarily channeled aid through Ministries of Finance (Bulíř & Hamann, 2008; Harmeling & Kaloga, 2011). Climate finance, in contrast, is often channeled through sector-specific ministries and agencies, such as Environment, Meteorology, or Agricultural Extension Services. In some cases, recipient countries have created entirely new ministries with the intent of capturing climate finance, such as Climate or Blue Economy in small island states (see Table 2.6). These new channels are frequently institutionalized by direct agreements between ministries and MOs, thereby bypassing the Ministries of Finance and stripping them of their gatekeeper roles. This flush of financing into new and previously under-funded ministries empowers the actors within them, through both their increased budgets and their enhanced connections to the international community.

As climate finance flows through new institutions and to new actors, it disrupts the established channels by which international public financing enters recipient country governments. Under development frameworks, routines and relationships built up around these traditional channels. Actors associated with these traditional channels are likely to resist change, but new actors, housed in new and historically under-funded ministries, are more likely to participate in new and experimental approaches to governance. They are also better positioned to think creatively and deploy sector-specific approaches. This disruption is another opportunity to build new relationships on both sides of international public finance: not only among national actors, but also between national actors and those in global and regional institutions.

Table 2.6 Ministries of Climate Change in Recipient Countries

Country	Ministry
Argentina	Secretariat of Climate Change, Sustainable Development, and Innovation
Bangladesh	Ministry of Environment, Forest, and Climate Change
Belize	Ministry of Sustainable Development, Climate Change, and Disaster Risk Management
Burkina Faso	Ministry of Environment, Green Economy, and Climate Change
Ethiopia	Ministry of Environment, Forest, and Climate Change
Gambia	Ministry of Environment, Climate Change, and Natural Resources
Grenada	Ministry of Climate Resilience
India	Ministry of Environment, Forest, and Climate Change
Jamaica	Ministry of Land, Water, and Climate Change
Malaysia	Ministry of Energy, Science, Technology, Environment, and Climate Change
Mauritius	Ministry of Environment, Solid Waste Management, and Climate Change
Oman	Ministry of Environment and Climate Affairs
Pakistan	Ministry of Climate Change
Seychelles	Ministry of Environment, Energy, and Climate Change
Solomon Islands	Ministry of Environment, Climate Change, Disaster Management, and Meteorology
Tonga	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change, and Communication
United Arab Emirates	Ministry of Climate Change and Environment

The disruption of climate finance presents in particular the opportunity to alter the routines by which national institutions have imitated the form but not function of Western bureaucracies. New approaches could promote positive organizational cultures, encouraging the "entrepreneurial bureaucratic behavior" that many institutions currently lack (Grindle, 1997; Pritchett et al., 2013; Tendler, 1997). Sector-specific ministries – such as Climate, Environment, and Meteorology – are poised in particular to embrace a shared sense of mission.

Limitations

It is important to recognize limitations on the opportunities outlined here. Breaking away from traditional donor-recipient frameworks and financial channels is a contested process at all governance levels. Donor countries have not willingly conceded authority to recipient countries. They continue to dominate decision-making in the most significant channels: bilateral finance and multilateral development banks. In some cases they have circumvented forums where recipient countries exercise majority power, such as the Adaptation Fund, preferring to funnel financing through the channels where they exercise greater control (Harmeling & Kaloga, 2011). Donor and recipient country representatives on the board of the GCF have frequently deadlocked, delaying funding decisions and raising concerns over the future of the fund (Schalatek & Watson, 2019).

Even where recipient countries directly manage global financing, oversight mechanisms remain. In the case of direct access, recipient country institutions must apply for accreditation and partner with MOs, like UN agencies. For many national and regional funds, and sovereign risk pools, MOs serve as interim trustees, with the intent of devolving administration to national institutions. Finally, at the national level, inter-ministerial politics and conflict over resources may limit the transfer of decision-making power to new ministries and actors. Reforms continue to pose a threat to the vested interests of leaders and elites, and therefore will not go unchallenged. Donor countries' unwillingness to concede power over international funds significantly limits the space for experimentation.

Nevertheless, the shifts in decision-making authority described here are uncommon in international public finance. Restitutional norms have rarely been applied at the international level (Moore, 2012). The disruption is far from total, but it provides pockets of opportunity to think differently about how to engage with informal power. Given these limits, the most promising spaces for experimentation could be those that link leadership forums where recipient countries are empowered at multiple levels: large multilateral funds like the CIFs, and especially the GCF's "enhanced direct access" program. Other promising spaces are those where decision-making authority is closest to local levels – national and regional climate funds, and sovereign risk pools – and therefore most likely to produce substantive institutional change.

The most significant limit to these opportunities, however, is whether donor countries are willing to provide financing through channels in which experimentation occurs. The tensions of development aid – between recognition that not all governments behave democratically and the importance of building equitable institutions in the long run – are now manifest in climate finance. Donor countries provide funding under a deliberately vague mandate (Khan et al., 2019; Weikmans & Roberts, 2018). They retain the option to withdraw it entirely, or from any particular channel. Engaging with informal power – such as the time horizons of autocratic leaders or the informal incentives within patrimonial regimes – will require a tolerance of imperfect governance and institutional difference. As this review has shown though, efforts to mold recipient countries in the image of Western democracies and economies have been largely ineffective. Allowing for experimentation, and closely monitoring the results of alternative approaches, could yield surprising results broadly relevant across international public finance.

Conclusion

Governance in recipient countries remains a challenge for MOs involved in international climate finance. This chapter reviewed literature on the "institutionalist turn" in development aid. I drew four key insights from this literature that help explain why governance reforms largely failed to generate meaningful institutional change. In short, MOs and DAs struggled to recognize and grapple with how power, particularly informal power, operates in many countries receiving development aid.

Climate finance has the potential to be different. It is guided by different principles than development aid. The resulting shifts in decision-making authority at global and national levels are opening spaces for experimentation with new approaches to governance. The shift to equal or majority representation of recipient countries on the boards of multilateral, regional, and national climate funds is particularly significant. These spaces offer opportunities to deploy a number of approaches suggested by scholars of development, such as building off endogenous institutional forms, encouraging "hybrid" or "thick" participatory institutions. MOs can also enable experimentation through iterative and "politically smart" approaches that allow in-country actors to operate at arm's length from donors.

These spaces for experimentation remain small within the overall architecture of international climate finance. Limited funding flows through the innovative channels described here, and donor countries continue to retain significant control and oversight. The development of new approaches will require donor countries to cede space for risk-taking and local ownership. Small spaces, however, might be the right spaces for experimentation. It is broadly agreed that the past approaches of MOs to governance have fallen short. Even as MOs and DAs have come to recognize the nature of power in recipient countries, their own constraints have prevented them from changing course. Fresh approaches, tested in the context of climate finance, could inform not just development aid, but international public finance more broadly.

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Chapter 3 Informal Institutions and Equity in Internationally Financed Adaptation in Mauritius and Madagascar

Introduction

International financing for adaptation has increased rapidly over the past decade (Watson & Schalatek, 2020). A range of international actors – "adaptation organizations" – are funding, planning, and implementing initiatives to support adaptation in communities worldwide, often in partnership with national governments. Concern is growing, however, that the benefits of these initiatives are not reaching those most vulnerable to negative climate impacts (Berrang-Ford, Ford, & Paterson, 2011; Persson & Remling, 2014; Sovacool, Linnér, & Goodsite, 2015). To achieve equity, some have argued, international support must target the most disadvantaged and politically marginalized (Mikulewicz & Taylor, 2020; Pelling & Garschagen, 2019).

Adaptation organizations face significant obstacles, however, in targeting resources to the most vulnerable communities, households, and individuals. A number of recent studies have illustrated how pre-existing unequal power relationships distort the outcomes of internationally financed adaptation initiatives (Eriksen et al., 2021; Mikulewicz & Taylor, 2020; Taylor, 2014). Several have identified entrenched systems of clientelism and patronage as facilitating elite capture and inequitable distribution of project benefits (Artur & Hilhorst, 2012; Nightingale, 2017; Sovacool, 2018). Such informal institutions – unwritten codes and conventions of behavior – remain influential in many contexts (Helmke & Levitsky, 2006; North, 1990). Often these informal institutions co-exist with official state institutions, shaping government decision-making and distribution of public resources (Scheye, 2009; Thomas, 2007; van de Walle, 2003).

By incentivizing decision-makers to direct resources narrowly to political supporters, clientelism and patronage are generally seen to contribute to inequity, but they have also been shown to reinforce official institutions and contribute to equity under some circumstances (Helmke & Levitsky, 2012).

Observing the inequity of internationally financed adaptation, many have advocated for a fundamental reworking of current frameworks of intervention (Eriksen et al., 2021; Ireland & McKinnon, 2013; Taylor, 2014). Research to date, however, has focused largely on negative outcomes. Others have illustrated how focusing on positive outcomes that emerge in inequitable environments can generate important insights (Booth & Unsworth, 2014; Grindle, 1997; Tendler, 1997). These scholars often point towards a "good enough governance" approach to the analysis of national level institutions, one that focuses on equitable outcomes as much inequitable ones (Grindle, 2004; Tendler, 1997). By focusing on what has worked scholars could foster better understanding of the interventions and pathways that could be implemented to challenge "poor" governance. Similarly, in the context of adaptation, by improving understanding of the circumstances that contribute to equity, such an approach has the potential to inform concrete strategies for adaptation organizations to navigate unequal power relationships in recipient countries.

Following this approach, this study compares the implementation of internationally financed adaptation projects in two countries in the Western Indian Ocean. From 2012-2019, Mauritius and Madagascar were among the first countries to implement projects financed by the UN Adaptation Fund (AF) (Adaptation Fund, 2018).[8] One of several multilateral climate funds under

[8] Mauritius' AF proposal was the 11th funded (in September 2011). Madagascar's proposal was the 14th funded (in December 2011).

the UN Climate Convention, the AF is distinguished by its mandate to target the "particularly vulnerable" (Adaptation Fund Board, 2012). In Mauritius, the Ministry of Environment implemented an AF project focused on building resilience to erosion and flooding in three coastal communities (*Proposal for Mauritius*, 2011). In Madagascar, the Ministry of Environment sought to improve the resilience of rice agriculture, targeting low income farmers for agricultural support in an economically vital region (*Proposal for Madagascar*, 2011). Though the governments had primary decision-making control, the AF required oversight in each country from a multilateral organization (MO): the UN Development Program (UNDP) in Mauritius, and the UN Environment Program (UNEP) in Madagascar.

Drawing on 105 interviews with national level policymakers, civil society representatives, and AF project actors in both countries, I sought to understand how informal institutions shape government decision-making and distribution of project benefits. Did funding reach the most disadvantaged and marginalized, as dictated by the AF's mandate? Or were benefits directed narrowly to political supporters, as is generally seen to be case with patrimonial and clientelistic institutions? Ultimately, what can be learned about the institutional arrangements and partnerships that facilitate more equitable outcomes in internationally financed adaptation?

Literature Review

Equity in International Climate Finance: It is broadly accepted under the UN Climate Convention (UNFCCC) that climate finance is a key element of a just and equitable response to climate change. Article 3 of the Convention establishes a broad principle of equity, with parties agreeing that they should "protect the climate system for the benefit of future and present generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities" (UNFCCC, 1992). In the context of climate finance, the principle of equity is generally considered to have two components, deriving from procedural and distributive justice (Grasso, 2010). Procedural justice entails fair representation in the international negotiations that establish the framework for climate finance. An equitable process underpins the legitimacy of decision-making and allocation of funding (Shue, 1993). Many have argued that the UNFCCC does not facilitate a procedurally just process, as vast discrepancies in resources and representation inhibit equitable access to negotiation forums (Ciplet, Roberts, & Khan, 2015; Schroeder, Boykoff, & Spiers, 2012). Distributive justice, in contrast, entails the fair allocation of funding. Following the principles of historical responsibility and restitution, most agree that the proportion of funding should be provided relative to the level of vulnerability (Grasso, 2010). Though this is the prevailing interpretation, some have argued that funding should be allocated following the principle of equality (equal funding to all recipients, regardless of differences in vulnerability) or efficiency (funding based on greatest expected impact) (Brechin & Espinoza, 2017; Rübbelke, 2011; Stadelmann et al., 2014).

Even when applying the lens of distributive justice to climate finance, a number of potential principles can be used to guide allocation. Persson & Remling (2014), for example, distinguish between prioritarianism (the worse off should receive more than the better off), sufficientarianism (which places importance on people reaching a certain sufficient threshold), and the leximin principle (step-wise levelling off of groups, starting with the worst off). One must further distinguish between international equity (balanced allocation between countries) and sub-national equity (balanced allocation between sub-national groups). The Paris Agreement appears to support allocation based on the principle of prioritarianism. Article 11 designates that capacity-building resources, including access to climate finance, should be directed to countries with the least capacity, including those that are "particularly vulnerable to the adverse effects of climate change" (UNFCCC, 2015, 15). Vulnerability is not defined under the Convention, however, and critics have argued that the commitment can be so broadly construed as to include nearly all countries classified as "developing" (Khan & Roberts, 2013). Interpretation of how vulnerability should be defined also varies widely, with some arguing it equates to lack of human security (Grasso, 2010) and others to social disadvantage and political marginalization (McNamara & Buggy, 2017; Pelling & Garschagen, 2019).

Various actors and organizations in climate finance choose to operationalize equity in different ways. Take the example of allocation of funding under the GCF, the largest multilateral climate fund. The Fund's "allocation parameters" appear to be driven by both the principles of equality – balanced funding between adaptation and mitigation – and equity – a minimum of 50% of adaptation funding for countries that are particularly vulnerable. The Fund's "investment criteria," which also guide allocation, appear to follow the principle of efficiency, including "impact potential" and "efficiency and effectiveness" but not vulnerability (GCF, 2020). The World Bank's Climate Investment Funds (CIFs), which operate outside the UNFCCC, appear to focus more on procedural equity. Though the CIFs have "equitable governance," in the form of equal representation between donor and recipient countries, equity is not included in the evaluation ranking criteria (Climate Investment Funds, 2021). Even the AF – which follows an overarching mandate to target the "particularly vulnerable," specifically the "most vulnerable communities in developing countries" – does not clearly define vulnerability (Horstmann, 2011). Empirical studies indicate that most international allocation of climate finance reflects the principles of equality and efficiency (Persson & Remling, 2014; Stadelmann et al., 2014).

Studies of sub-national allocation are rare, but in at least one case, vulnerability appears not to have influenced the distribution of funding (Barrett, 2014).

Informal Institutions and Equity in Adaptation: With a lack of agreed criteria, concern is growing over the equity of climate finance, particularly internationally financed adaptation at a sub-national level (Pelling & Garschagen, 2019). Structural inequality within countries shapes not only who is vulnerable to climate impacts, but also who has access to resources that enable adaptation (Adger, 2006; Blackburn & Pelling, 2018; Eriksen, Nightingale, & Eakin, 2015; McNamara & Buggy, 2017). A growing body of empirical research has found that internationally financed adaptation can reinforce and even exacerbate this structural inequality (Artur & Hilhorst, 2012; S. Eriksen et al., 2021; Mikulewicz & Taylor, 2020; Nightingale, 2017; Sovacool, 2018) (see also Chapter 3 for a more detailed description of this literature). Research to date, however, has focused largely on negative outcomes: circumstances in which international support increased inequality in targeted communities. An alternative approach is to focus analysis on positive outcomes: circumstances in which international support advanced equity in adaptation (Bedran-Martins & Lemos, 2017; Booth & Unsworth, 2014; Wild et al., 2015). An example of such an approach is Tendler's (1997) analysis of "good government" in public sector reform, in which she examined institutions that effectively delivered public goods even when embedded within ineffective governments. Similarly, Grindle (2004, 2011) advocated for a "good enough governance" approach, focused on identifying improvements that occurred in public service and the conditions under which they occurred. She argued that by paying as much attention to what is working as what is not working, research could inform more effective strategies for international actors to engage the institutions in place, and make progress towards reducing poverty.

Entrenched, unequal power relationships are broadly seen to contribute to inequitable outcomes in internationally financed adaptation. Recent studies have drawn attention in particular to how forms of clientelism – the exchange of goods for political support – and patronage – the recruitment and promotion of government workers for partisan connections – distort the outcomes of international interventions meant to foster adaptation among vulnerable groups (Hicken, 2011; Stokes et al., 2013; van de Walle, 2009). Sovacool (2018), for example, illustrated how predatory patron-client relationships enabled land grabbing in National Adaptation Program of Action (NAPA) projects in Bangladesh. Likewise, Nightingale (2017) analyzed how political party patronage in Nepal enabled wealthier and higher-caste landowners to capture benefits from international adaptation projects.

Patronage and clientelism are informal institutions: socially shared rules that are "created, communicated, and enforced outside officially sanctioned channels" (Helmke & Levitsky, 2006, 725). Informal institutions take many forms, ranging from bureaucratic and legislative norms to forms of customary governance (North, 1990). In contrast to formal institutions, in which power is grounded in legal-rational authority and prescribed by written rules, power in informal institutions is often based on implicit, unwritten understandings (Carey, 2000; North, 1990; Weber, 1946). In many countries, patterns of clientelism and patronage co-exist with official democratic, market, and state institutions, as is the case in neopatrimonial regimes (Bratton & Van de Walle, 1994; Helmke & Levitsky, 2012). Often, the incentives of these institutions shape government decision-making and distribution of resources. While the rules of formal institutions usually dictate that the state provide public goods impersonally, based on objective and transparent criteria, goods in clientelistic and neopatrimonial systems tend to be distributed narrowly to political supporters (Pritchett, Woolcock, & Andrews, 2013; Williams & Young, 1994). These "particularist" institutions – so-called because they favor some over others – are thus generally seen to contribute to inequality (Brinkerhoff & Goldsmith, 2002; O'Donnell, 1996). MOs in particular have tended to see them as inherently dysfunctional and corrupt (Harrison, 2005; Williams & Young, 1994) (see also Chapter 1).

Despite this, there is evidence that informal institutions can help solve problems and contribute to equitable outcomes under some circumstances (Brinkerhoff & Goldsmith, 2002; Jörgel & Utas, 2007; Kpundeh, 2000; Taylor-Robinson, 2006; Unsworth, 2010). Helmke & Levitsky (2012) theorize that what matters for outcomes of informal institutions is how they interact with formal ones. Where formal institutions are effective, informal institutions can complement and accommodate them; where formal institutions are ineffective, informal often substitute and compete. Others have drawn attention to how formal and informal coalitions of actors can contribute to positive outcomes, even in contexts of entrenched, unequal power (Bedran-Martins & Lemos, 2017; Booth & Faustino, 2014; Grindle, 1997). Tendler (1997) highlighted, for example, how partnerships between central government, local government, and civil society actors played an important role in cases of "good government." Incremental reform, many have argued, can cumulatively produce transformation in inequitable systems (Grindle, 2004; Levy, 2014).

As evidence mounts that international financing for adaptation can reinforce unequal power relations – including informal power relations – many have called for a fundamental shift in frameworks of intervention (Eriksen, Nightingale, & Eakin, 2015; Eriksen et al., 2021; Ireland & McKinnon, 2013; Taylor, 2014). To achieve equity, they assert, adaptation organizations must challenge structural inequality and the political processes that perpetuate it (Eriksen et al., 2015; Nightingale, 2017). Many advocate for localizing and democratizing decision-making at the community level (Ireland & McKinnon, 2013; Marino & Ribot, 2012; Mikulewicz, 2018; Swyngedouw, 2013; Tschakert et al., 2016). Adaptation organizations, however, face significant constraints in challenging and overturning unequal power relationships in the countries and communities where they intervene (Hout, 2012; Unsworth, 2015; Wild et al., 2015; Yanguas & Hulme, 2015). An improved understanding of the circumstances that contribute to equity – particularly the institutional arrangements and partnerships of actors – could inform realistic strategies for adaptation organizations to engage with the institutions in place and advance equity within current frameworks.

Understanding Informal Power on the Ground – Project Implementation in Mauritius and Madagascar: Mauritius and Madagascar are particularly good sites for comparative analysis of how informal institutions shape decision-making and equity of internationally financed adaptation. As island states in the Western Indian Ocean, their governments are responding to similar climate hazards: shifting precipitation patterns, increasingly severe cyclones, sea level rise, and ocean acidification (Ragoonaden et al., 2006; Tadross et al., 2008). Both countries feature "particularist" institutions organized along ethnic lines: clientelistic networks in Mauritius and institutionalized patronage in Madagascar (Kasenally & Ramtohul, 2020; Marcus, 2016). In both islands, these informal institutions have historically influenced government decision-making and the channels through which state resources are distributed (Bunwaree & Kasenally, 2005; Razafindrakoto, Roubaud, & Wachsberger, 2013). In addition to featuring these distinct forms of particularism, Mauritius and Madagascar differ widely in the perceived quality of their overall governance.

Political Clientelism and Private Interests in Mauritius: Mauritius is broadly hailed as a model "development state" (Goldsmith, 2007; Sandbrook, 2005). Despite inauspicious circumstances at independence – geographic isolation, a monocrop economy, and deep ethnic divisions – Mauritius achieved democratic stability and economic growth (Miles, 1999; Subramanian & Roy, 2001). Political observers frequently note that Mauritians chose "the ballot over the bullet" (Kasenally, 2011, 160). Many have attributed Mauritius' success to strong formal institutions: elements of a consociational political system that ensure representation from all ethnic groups in governance (Brautigam, 1997; Darga, 1998), a meritocratic civil service (Carroll & Carroll, 1997), and a strong social welfare system that redistributes wealth and targets disadvantaged groups (Greig, Turner, & D'Arcy, 2011; Phaahla, 2019; Sandbrook, 2005). Others note the importance of a politically-engaged populace and dynamic civil society (Carroll & Carroll, 2000; Darga & Joomun, 2005). Additionally, an early separation of political and economic power, with a Hindu majority dominating the government but Franco-Mauritians maintaining majority land ownership, contributed to a balance of interests in the political process (Bunwaree & Kasenally, 2005; Sandbrook, 2005).

Despite its reputation for "good governance," informal networks of clientelism remain integral to the Mauritian political process (Kasenally & Ramtohul, 2020). Mauritius is a complex, ethnically-fractionalized state comprised of Indo-, Franco-, and Sino-Mauritians, as well as a large Creole population descended primarily from Africans brought to the island in slavery (Carroll & Carroll, 2000; Carroll & Carroll, 1997). Appeals not only to ethnicity, but also

Figure 3.1 Location of Mauritius and Madagascar in the Western Indian Ocean

caste and religious identity, remain key to gaining and maintaining political support (Kadima & Kasenally, 2005; Kasenally, 2011). Often these appeals take the form of quid pro quo exchanges linked to electoral cycles. In exchange for political support, candidates provide basic goods or make promises about jobs, plots of land, and permits and licenses (Darga, 1998; Kasenally & Ramtohul, 2020). Clientelism functions to balance interests and redistribute wealth across ethno-religious groups, as is broadly expected by the populace in this socialist state (Sandbrook, 2005). Some have argued, however, that official multi-culturalism and power-sharing arrangements have obscured continuing marginalization of the Creole population (Boswell, 2005; Lallmahomed-Aumeerally, 2017).

Mauritian scholars have expressed concern that the narrative of the model "development state" has led to complacency about threats to the democratic process. The private sector exercises increasing influence in politics, including through opaque campaign financing (Ramoly, 2007). Recent research has shown that collusion between political and economic elites is contributing to an "accelerated presence of clientelism" and undermining a political system built on redistributive equity (Bunwaree, 2014; Kasenally & Ramtohul, 2020, 3). Inequality is rising, especially in the context of land ownership (Bunwaree, 2014; Bunwaree & Kasenally, 2005; Police-Michele, 2007). Lower income groups, primarily Creole, are less likely to own land and disproportionately occupy government housing, often living in "precarious housing conditions" on marginal lands prone to flooding (Chacowry, McEwen, & Lynch, 2018; Truth & Justice Commission, 2011). Lack of transparency around land ownership and coastal development has prompted fierce civil society backlash (Prang, 2016; Ramtohul, 2016). Creole groups, long poorly represented in civil society, have been particularly active in opposing resort development schemes linked to the conversion of former sugar plantations (Carroll & Carroll, 2000; Ramtohul, 2016). They have also challenged the role of MOs in “green-washing” the government’s development agenda (Burn, 2019).

Elite Disconnect and Institutionalized Patronage in Madagascar: In contrast to Mauritius, Madagascar is widely seen as suffering from chronically “poor governance,” with an unstable democracy and weak institutions. Observers note that Madagascar is the only country in the world to become poorer since independence without experiencing a major civil conflict (Pilling, 2018). Phases of robust economic growth have been short-circuited by periodic political crises, in what Razafindrakoto et al. (2013) call the “Malagasy Paradox.” The most recent undemocratic transfer of power in 2009 triggered the withdrawal of most international aid, upon which the government had relied heavily to provide basic social services (International Crisis Group, 2014). Many attribute the country’s political and economic inequality to corruption and weak formal institutions of democratic governance (Hinthorne, 2013; Jones et al., 2019). Consequently, the populace has grown increasingly disillusioned with the political process (Kohnert et al., 2008; Marcus & Razafindrakoto, 2003; Wachsberger, 2007).

The Malagasy political system is characterized by an increasing concentration of political and economic power among a narrow group of elites (Marcus, 2010; Marcus & Ratsimbaharison, 2005). With weak intermediary bodies (political parties, civil society, local authorities), these elites are also increasingly disconnected from the broader populace. Political parties serve as vehicles of elite interest and ambition and rarely represent the concerns of the country’s large rural population (Marcus & Ratsimbaharison, 2005). Civil society is also disconnected from the broader populace and rarely holds the government to account (Rafitoson, 2019). Successive changes in the constitution have stripped local and customary authorities of meaningful power

(Marcus, 2016). As a result, political leaders and government decision-makers act without much consideration for constituents (Razafindrakoto et al., 2013).

The Malagasy government is frequently characterized as neopatrimonial, acting foremost a vehicle of patronage (Marcus, 2016). Positions in the civil service are awarded not on merit, but on partisan connections. Officeholders use their positions to consolidate and exercise power, as well as to pursue personal profit and prestige (Marcus & Ratsimbaharison, 2005). State resources are often distributed through personal connections or to build political capital (Moser, 2008). Though scholars disagree on the extent to which ethnicity animates Malagasy politics, most agree that a single “ethno-political cleavage” divides one group, the Merina, from all others (Lambek, 2001; Razafindrakoto et al., 2013; Veriza, 2018). Merina decision-makers use their dominant position in the government to direct state resources, including those derived from international aid, to political supporters and favored ethnic groups (Koter, 2013; Moser, 2008; Stifel, Forster, & Barrett, 2010). This phenomenon is most pronounced in the southern regions of Madagascar, which strongly differ culturally from the Merina government and have long resisted integration into the Malagasy state (Healy, 2017; Middleton, 1999). Though these regions pay a higher proportion of taxes, they have been systematically deprived of state resources (Marcus, 2007). This trend has continued even as the south has faced drought, widespread famine, and the “prospect of agricultural breakdown” in the past two decades (Dewar & Richard, 2012, 507; Healy, 2017).

Methods

I present a comparative, qualitative case study focused on the national governments of Mauritius and Madagascar (Yin, 1994). I examine decision-making, resource-distribution, and the equity of outcomes associated with the implementation of the AF project in each country (Table 3.1). Employing an in-depth, qualitative, and comparative approach offers two key advantages over previous studies of equity in climate finance. First, it allows insight into the decision-making processes of policy-makers and AF project actors. This focus on depth differs from previous studies of equity in climate finance that focused on breadth, analyzing outcomes across a portfolio of projects (Barrett, 2014; Persson & Remling, 2014). The second advantage is that it enables a nuanced comparison of how different particularist institutions shape decision-making and distributional outcomes, in response to similar climate hazards.

Table 3.1 Adaptation Fund Projects

	Mauritius	**Madagascar**
Adaptation Fund Project	Climate Change Adaptation Programme in the Coastal Zone of Mauritius	Promoting Climate Resilience in the Rice Sector through Pilot Investments in Alaotra-Mangoro Region
Executing Agency	Ministry of Environment and Sustainable Development[9]	Ministry of Environment, Ecology, and Forests[10]
Implementing Agency	United Nations Development Program (UNDP)	United Nations Environment Program (UNEP)
Years	2012-2019	2012-2019
Budget	$9,119,240	$5,104,925
Primary Intervention Sites	Three coastal communities (Mon Choisy, Riviere des Galets, Quatre Soeurs)	Three communes in the Alaotra-Mangoro Region (Manakambahiny Andrefana, Bemaitso, Ambohijanahary)
Primary National-Level Objectives	Development of storm surge early warning system, improved institutional capacity in coastal modelling and cost-benefit analysis, policy mainstreaming	Development of "resilient rice model," improved institutional capacity in forecasting and vulnerability mapping, policy mainstreaming
Primary Local-Level Objectives	Improved resilience to erosion and storm surges through installation of coastal infrastructure and refuge centers	Improved yields of low-income farmers though agricultural support and trainings, investment in infrastructure, improved forecasting

[9] The name has since changed to the Ministry of Environment, Solid Waste Management, and Climate Change.
[10] During the implementation of the AF project in Madagascar, the Ministry of Environment was known as the Ministère de l'Environnement, de l'Ecologie, et des Forêts. The name has since changed to Ministère l'Environnement et du Dèveloppement Durable.

I followed a grounded theory approach (Glaser & Strauss, 1967; Pidgeon & Henwood, 2004). I initially sought to explore how the differing national governance environments of the two countries shaped implementation of internationally financed adaptation. I focused on the AF, first, because its emphasis on "country ownership" of funded projects cedes significant decision-making power to national policymakers. Second, the AF's unique guidance to target the "particularly vulnerable" provided an opportunity to examine how national governance shaped the distribution of project resources.

I employed the same two-phase methodology in each site. The goal of the first phase was to explore and characterize each country's broad governance environment, with a focus on how these characteristics shape policymaking for climate change. In the first phase, I interviewed policymakers, civil society organizations, and representatives of MOs and adaptation organizations in each site. These interviews were coded using NVivo software following an open-ended coding scheme. This approach allowed categories of governance to emerge in each case, and ensured that analysis would be grounded in the contemporary governance environment and thus not overly reliant on published literature. Two significant themes emerged from first-phase interviews in both cases: the influence of informal, particularist institutions; and actors' varying interpretations of equity and vulnerability in the context of climate change.

The goal of the second phase was to investigate how categories of governance derived from the first phase influenced the design, implementation, and outcomes of the AF projects. I interviewed individuals directly involved in each project: members of the project team within the Ministries of Environment, representatives of other government ministries and agencies involved in implementation, UNEP and UNDP officials, NGOs, private contractors, and international and domestic consultants. In Mauritius, I also interviewed residents and business owners in intervention sites. Categories derived from phase one were used to design the semi-structured interview guides. In analyzing the AF project outcomes, I follow the prioritarian framing of the AF, focusing on whether the project targeted and benefited the most vulnerable communities. In the absence of an agreed definition of vulnerability, I define vulnerable communities as the most socially disadvantaged and politically marginalized, following McNamara & Buggy (2017).

In Madagascar, I conducted 65 total interviews over a 10-month period, 28 of which were with project actors. I conducted the majority of interviews in Malagasy, with a minority in English. In Mauritius, a research assistant and I conducted 40 interviews over a 12-month period, 18 with project actors. Because the COVID-19 pandemic interrupted fieldwork in Mauritius after two months, the final 28 interviews were completed either remotely by the researcher or by a research assistant in Mauritius. I conducted the majority of interviews in English. A small minority were conducted by the research assistant in Creole.

All interviews were semi-structured, with most interviewees consenting to be recorded. All recorded interviews were transcribed and, if necessary, translated from Malagasy and Creole in to English by a research assistant. Findings from the interviews are supplemented by analysis of AF project documents – some publicly available, some shared privately by project actors. A number of other government and civil society documents were also analyzed. In Madagascar, I also conducted participant observation at the AF project's closing workshop. Findings in Madagascar were additionally supplemented by household surveys collected in project sites in Alaotra-Mangoro (see Chapter 4 for full results).

Findings and Analyses

(See Appendix A for detailed qualitative evidence associated with each section)

Clientelism and Private Sector Interests in Mauritius: Clientelism and informal private sector lobbying both played roles in the Mauritian Ministry of Environment's selection of the AF project sites. The first site, Riviere des Galets, is a small fishing community on the island's southern coast. A 2003 government report on coastal erosion, which served as the basis for site selection, identified it as a high priority site for intervention (Baird, 2003). Periodic storm surges over-topped a failing sea wall, flooding homes and forcing inhabitants to evacuate to higher ground (Gemenne & Magnan, 2011). Project actors indicated, however, that the main reason the Ministry of Environment selected the site was the widespread incidence of asbestos that needed to be addressed because of health implications. Riviere des Galets includes a number of homes constructed as part of a state housing project known as Cité EDC.[11] Built following a devastating cyclone and intended to temporarily house the most disadvantaged, many EDC houses were constructed with asbestos paneling (Hérisson, 2011; *National Action Plan on Asbestos*, 2002; Ramsamy-Iranah et al., 2020). As the AF project was under design, the government of Mauritius faced increasing pressure from opposition politicians and civil society organizations to replace the housing or relocate residents (Lalit, 2018; Truth & Justice Commission, 2011).

Local politicians promised relocation for residents of Riviere des Galets before the AF project began. The government had already reached an agreement with a nearby sugar plantation, the largest land owner in southern Mauritius, to provide a relocation site (Azor & Ramoo, 2019).

[11] Cité EDC, is also known as EDC/Ex-CHA housing: "European Development Community/Ex-Central Housing Authority." Riviere des Galets is one of 59 EDC sites in Mauritius. Estimates of the number of EDC houses built with asbestos paneling range between 2,000 and 3,000 (Lalit, 2018; *National Action Plan on Asbestos*, 2002).

The estate would "donate" the land, likely in exchange for tax breaks on a real estate development.[12] As one consultant said: "nobody gives land that close to ocean for free." Despite the fact that the 2003 report recommended upgraded coastal protection works, the government established an expectation for relocation, both among the community and the consulting team contracted to recommend a course of action. As one domestic consultant described, the residents believed they would get "a house, a plot of land, and compensation." The Terms of Reference for the project required that a "managed retreat" be evaluated among the options (UNDP, 2014). Several members of the consulting team noted that the main challenge the community faced was not storm surge but asbestos and resulting incidences of "lung disease." As one detailed: "The government was much more concerned about the asbestos." The consultant continued:

> [Relocation] is what the government wanted, and it was because of the asbestos in the homes. They wanted to promise. And, of course, you have the local politicians saying: if you vote for me, we will give you a new home and it is going to be in the sugar plot area. So, you are very close to where you were, and we are going to call it "managed retreat."

The consulting team rejected relocation as an option, arguing that it triggered UNDP and AF social safeguards.

Interviews also revealed that private sector interests influenced selection of a second project site, Mon Choisy. Unlike Riviere des Galets, which is in the island's less prosperous south, Mon Choisy is located in the prosperous and tourism-focused northwest. Though many project actors observed that the area experienced high rates of erosion, the 2003 government report did not identify it as a priority site (Baird, 2003).[13] Mon Choisy was, however, an important area for real estate development, particularly a large resort and golf course that broke ground soon after the

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[12] St. Felix sugar estate submitted a proposal for a development under the Integrated Resort Scheme in 2003.
[13] The report did identify neighboring Grand Baie as a priority site, but this site is distinctly separate from Mon Choisy.

AF project was initiated. A number of project actors and civil society representatives highlighted the influence of private sector interests, particularly real estate, in shaping government policy. As one domestic consultant described: “The private sector, with their investment and their links into the government, has a major say on what happens on the coast and in terms of future development.” Another explained: “The cabinet has their arms twisted behind their back by the private sector.”

According to an international consultant, hotel interests played a significant role in steering site selection: “They are doing this property development, this golf course near Mon Choisy…a lot of money is going up there to develop the area, so let’s make it a nice beach.” A UNDP official confirmed that Mon Choisy was selected for “tourist values.” Private interests also shaped project implementation. The Terms of Reference for the consulting team emphasized the importance of “preserv[ing] economic activities” linked to the beach (UNDP, 2014). The government rejected recommended measures – including an artificial reef that would extend above the ocean surface, the replanting of seagrass, and a reduction in motorized boat activity – that would reduce erosion but leave the beach less aesthetically appealing, especially to foreign tourists. The government also warned the consulting team not to recommend the removal of private infrastructure that exacerbated erosion, for example cement berms installed by resorts under ambiguous legality.

Institutionalized Patronage in Madagascar: The Malagasy Ministry of Environment, like most branches of the government, is part of a broad system of state patronage in Madagascar in which employment, contracts, and other perquisites are distributed based not on merit but on partisan connections (Marcus, 2016; Marcus & Ratsimbaharison, 2005). An unpublished 2018 report from the Committee for Protection of Integrity[14] – an internal governance initiative – found that more than 600 individuals collected a salary from the Ministry despite having neither offices nor portfolios. According to this report, around a third of all positions in the Ministry are sinecures (*Rapport d'Enquete Tenant Lieu d'Etat Initial de la Gouvernance au Sien du Secteur Environnement*, 2018). To decision-makers in the Ministry, responding to the incentives of this institutional environment, AF funding represented an opportunity for patronage and profit.

Throughout the seven-year implementation of the AF project, the Ministry of Environment increasingly consolidated decision-making and financial power. Following the 2009 political crisis, the government of Madagascar was, in the words of one international consultant, "resource starved." Inter-ministerial competition over financial resources was fierce, and climate finance represented a novel and significant form of income. The AF proposal framed the project as "inter-sectoral:" a partnership across government ministries, agencies, and parastatal organizations. As it unfolded, however, the Ministry of Environment stripped these other ministries and agencies of decision-making power, and in some cases of their roles entirely. For example, the Ministry of Agriculture, which traditionally received a far larger share of international aid than that of Environment, retained only nominal involvement despite the project's heavy agricultural focus (Adaptation Fund, 2018). The International Rice Research Institute, which played a prominent role in the project's original design, was removed entirely for what several UNEP officials and international consultants described as "political reasons." The Meteorological Agency's role was limited to a "formality," according to a Meteorology official, installing weather stations, without a budget for either maintaining them or analyzing the data

[14] Comité pour la Sauvegarde de l'Intégrité

collected. As an international consultant described: “The Ministry of Environment, traditionally very weak and traditionally resource-poor, did not want to hand over any of the climate resources.”

As the Ministry of Environment stripped other ministries and agencies of their roles, the tasks were transferred to consultancies.[15] The gradual restructuring enabled actors within the Ministry to collect kickbacks on these contracts in several ways. First, through what one domestic consultant referred to as the “tuition and fee system,” actors within the Ministry could demand a portion of external consultancy fees. From a $70,000 contract, a consultant might pocket as little as $15,000. Second, tasks originally intended to be completed by civil service employees in their official capacity were converted to private consultancies taken under their personal names.[16] Finally, members of the AF project team were subject to salary kickbacks. Members of the team, who were paid from AF funds, were required to pay part of each paycheck to their immediate director and part to the director above him or her.

The AF project also invested in infrastructure in project sites, enabling further patronage in the distribution of construction contracts. In the case of a number of large irrigation infrastructure contracts, a UNEP official acknowledged: “It was quite clear that there were, you know, pushes and pulls from very high up in the Ministry that were influencing that process.” The same official said the pressure could come from as high as the Minister of Environment. In one case, a contract for the construction of community granaries was initially awarded to several companies that had been created just days before and were all owned by a single individual.

[15] Annual project reports show that as much as 83% of the project budget was dedicated to consultancies and private contracts (see Appendix H).
[16] The agricultural extension agency, FOFIFA, secured a number of these contracts.

Public versus Private Project Benefits: The AF projects in Mauritius and Madagascar differed significantly in the nature of the benefits each government chose to distribute, especially within project sites. In Mauritius, all benefits were collective. The AF project prioritized coastal infrastructure – including revetments and artificial reefs, mangrove plantations, and refuge centers – that benefited entire communities. The project also developed an Early Warning System for storm surges that covered the whole island of Mauritius, as well as the remote outer islands of Rodrigues and Agalega (Bogaard et al., 2016). In contrast, in Madagascar, many of the project benefits were individualized. Households in Alaotra-Mangoro received valuable rice seed, seedlings, and agricultural tools on an individual basis. Most infrastructure, including investments in irrigation and reforestation, benefited only some within communities and contracts were structured to enable private kickbacks to Ministry officials. As described above, the project itself was also increasingly privatized within the government.

The two cases also differed in the concentration of project resources, both financial and technical. Funding was highly centralized in Madagascar, with little of the budget reaching households in Alaotra-Mangoro. Because project actors sought to retain decision-making and financial control, they avoided collaboration and information sharing with other agencies, not only within the government, but also externally. A number of international organizations were active in Alaotra-Mangoro and a representative of one organization reported that the government rebuffed a proposal to collaborate. In contrast, in Mauritius, most project funding was dispersed to communities in the form of coastal infrastructure. The AF project collaborated and shared resources with other agencies. Instead of contracting out capacity-building trainings to consultants, they provided the funding to the University of Mauritius.

Vulnerability and Equity: The AF mandates that projects target the "particularly vulnerable." It does not, however, clearly define vulnerability on either the global or national level, granting governments significant leeway in selecting which communities to target (Harmeling & Kaloga, 2011; Persson & Remling, 2014). Mauritius and Madagascar face a similar range of climate hazards, but each government utilized different framings of vulnerability in rationalizing site selection. These frames contributed to the relative equity of project outcomes in each case.

The government of Mauritius framed the AF project around public values, economic impacts, and "life or death situations" (*Proposal for Mauritius*, 2011). Though it chose to focus the project in the coastal zone – the country's "economic engine," in the words of one UNDP official – project actors repeatedly emphasized the importance of reaching the most socially vulnerable. As a domestic consultant described the failed attempt to relocate the residents of Riviere des Galets: "It was mainly to save their lives. Not their livelihoods, but their lives." Mauritius' unpublished National Coastal Zone Strategy found the coastline near Riviere des Galets and the project's third site, Quatre Soeurs, to be among the island's most socially vulnerable, as measured by education, income level, and land ownership (AGRER, 2019). Inhabitants of Riviere des Galets, predominantly Creole, are also among the most politically marginalized. Though the third project site, Mon Choisy, is relatively prosperous and features influential hotels that target foreign tourists, its beach is also among a dwindling number that allow public access. Members of the project team acknowledged an effort to balance public and private interests: "We really wanted to look at two different kinds of things. One where the local population is vulnerable. The second one where the hotels are there at the public beach." Additionally, the focus on dispersed goods in project sites spread benefits relatively equally within communities.

The government of Madagascar framed the AF project around economic value and agricultural productivity (Antilahy Herimpitia, 2017; *Proposal for Madagascar*, 2011). Alaotra-Mangoro is less socially vulnerable than many other regions of Madagascar, with higher per capita income and employment levels (Borgerson et al., 2018; Sulla & D'Hoore, 2014). Universally, project actors stressed the region's importance as the country's "breadbasket" and "first granary." In contrast, Malagasy policymakers, including AF project team members, characterized the southern regions – then facing drought, famine, and out-migration – as "always in crisis." One said that (s)he saw the distribution of state resources to the south as a "waste."

Unlike the project sites in Mauritius, Alaotra-Mangoro is a politically important region. The location of the AF project followed a pattern of political and ethnic patronage in the distribution of state resources. Located in the highlands, Aloatra-Mangoro is populated primarily by the Sihanaka ethnic group, which is among the groups that benefit from cultural and geographic proximity to the Merina (Stifel et al., 2010). At the time of project design, many in the region were disenchanted with the central government.[17] In an indication of the project's political importance, the Prime Minister visited the launch workshop by helicopter, a level of political engagement that a UNEP official described as "completely unprecedented." Furthermore, measurement of distributional outcomes in Alaotra-Mangoro found that project participation was strongly associated with higher levels of household political connectivity rather than vulnerability (see Chapter 4).

In Madagascar, the privatization and concentration of resources within the Ministry of Environment also undermined capacity-building in other ministries and agencies, a primary

[17] Both elites and voters in Alaotra-Mangoro had strongly supported the former president, Ravalomanana, who was unlawfully removed from power in 2009.

project objective. For example, the government mapping agency, FTM,[18] was originally tasked with developing vulnerability maps. After an early workshop, however, the agency was removed from the project and the contract privatized. FTM – whose representatives said they never learned why they lost their role – still lacks the capacity to develop these maps. The skill is now privately held, and commodified by, a private consultant. The focus on consultancies also inhibited the dissemination of information, including project results such as the resilient rice model. Many of the research documents the project claims to have produced are either publicly unavailable or non-existent. In Mauritius, in contrast, collaboration and information sharing enabled capacity-building across government and non-government agencies. A number of non-project actors noted that the government is already replicating project results in other sites. The University of Mauritius continues to offer some courses developed with project funding. Most, though not all, project documents are publicly available and accessible.

Recognition and Intervention of Oversight Agencies: UNDP and UNEP were differently situated in their oversight roles in Mauritius and Madagascar. UNDP had an office in Mauritius that employed a largely Mauritian staff. Its long history in the country gave UNDP officials contextual knowledge of the sociopolitical dynamics. This knowledge enabled officials to specifically recognize how the "culture of clientelism" shaped project implementation and outcomes. International staff and consultants pointed to the important mediating role that Mauritian staff played between the Mauritian government, UNDP, and consultants. UNDP officials intervened when informal power threatened to undermine the project's equity. For

[18] Foibe Taosarintanin'i Madagasikara

example, the UNDP rejected the relocation of the community in Riviere des Galets on the grounds that "this is not so much a managed retreat as a resettlement." They enforced the AF and UNDP's social safeguards, citing divided support within the community, especially linked to the differences in wealth. At the same time, UNDP officials tolerated trade-offs between public and private interests, as at Mon Choisy where the influence of local hotels prevailed.

In contrast, UNEP was not well-situated to mediate between informal power and formal governance requirements. Without an office in Madagascar, UNEP officials would usually visit for one or two short stints a year. None of the officials or international consultants spoke Malagasy. Though UNEP officials recognized that informal power shaped project implementation, they were unable to diagnose the specific mechanisms or to understand the incentives of government actors. They acknowledged "procurement problems," "corruption," "improper influence," and "political decision-making," but not patronage. As a result, they intervened only in circumstances where violations of formal governance requirements would be visible on a global level, for example through audit reports. In the case of the contract granted to newly created companies, UNEP officials insisted the below-standards granaries be demolished and the contract re-issued. They did not intervene, however, in the more systemic manifestations of patronage, such as salary kickbacks. As an international consultant explained:

> Because there was no way we were going to change that. And the only thing that was going to happen is that it was going to cost people their jobs, you know? For talking. There would be, there would definitely be *les représailles*, you know? So we didn't pursue.

Largely unable to steer the project towards more equitable outcomes, UNEP was, as a domestic consultant remarked, "trapped in this system too."

Discussion

A "Good Enough" Approach for Equity in Adaptation: Most of the discussion around how to make internationally financed adaptation more equitable has centered around calls for a fundamental shift in current frameworks. Eriksen et al. (2021) recently argued, for example, for a "transformation in adaptation organizations" rooted in questioning the "fundamental and unacknowledged assumptions that underpin development" (11). Many have asserted that only by localizing and democratizing decision-making will international interventions challenge structural inequality and achieve equitable adaptation (Eriksen et al., 2015; Ireland & McKinnon, 2013; Mikulewicz, 2018; Mikulewicz & Taylor, 2020).

Though I agree that more localized and democratized forms of adaptation are ideal, there is little indication that such a fundamental shift is underway. International support directed through the UN Climate Convention and multilateral funds like the AF is guided by a principle of "country ownership" that locates primary decision-making authority with national governments (Harmeling & Kaloga, 2011; Schalatek, 2019). This arrangement makes it difficult to bypass national bureaucracies and provide financing directly to local governments and communities, as some have suggested for international aid (Brinkerhoff & Johnson, 2009). In Mauritius and Madagascar, at least, national level decision-makers delegated no meaningful authority over project decisions or finances to local entities, though this may not be the case in all contexts. Likewise, despite decades of criticism, adaptation organizations have shown little inclination to cede decision-making authority to local levels, or to challenge entrenched and unequal power relationships (Hout, 2012; Unsworth, 2015; Wild et al., 2015; Yanguas & Hulme, 2015). Indeed, Eriksen et al. acknowledge that such thinking has "yet to penetrate into development practice" (11). While I have argued elsewhere that innovative spaces within the architecture of climate finance offer potential to generate new approaches to informal institutions, any experimentation would likely start small and develop slowly (Chapter 1).

Given the resilience of current frameworks, I argue that adaptation scholars and practitioners should consider the value of a "good enough" approach to equity in adaptation (Grindle, 2004, 2011). Rather than focusing solely on negative outcomes, such an approach would entail identifying the cases where internationally financed adaptation has yielded relatively equitable results, especially cases where funding has benefited socially disadvantaged and politically marginalized groups. Analyzing the circumstances that contributed to positive outcomes can yield insights and inform strategies that advance equity within current frameworks. I apply this approach to the institutional arrangements in Mauritius and Madagascar below.

Circumstances that Enable Equity: Informal institutions are deep-rooted in many contexts. These comparative cases demonstrate that government decision-makers in both Mauritius and Madagascar channeled AF project benefits through informal channels and used them as part of broader efforts to build and maintain political power. This occurred in both "good" and "poor" governance environments. Despite the fact that both clientelism and patronage are generally expected to contribute to inequity, the AF projects diverged significantly in the equity of their outcomes. In Mauritius, project benefits were shared broadly and partially targeted socially disadvantaged and politically marginalized groups. In Madagascar, project resources were privatized and largely benefited the politically favored, especially a narrow elite in and around the Malagasy government. I identify two primary characteristics of the national institutional environment that explain this divergent outcome: (a & b) the interaction of informal institutions with formal mechanisms of accountability; and (c), the alignment of formal and informal incentives for national-level decision-makers to advance equity.

(a) Interaction of Informal Institutions with Downward Mechanisms of Accountability: Particularist institutions are broadly seen, especially by MOs, as competing with or undermining formal institutions. In some contexts, however, clientelism has reinforced official state institutions (Jörgel & Utas, 2007; Kpundeh, 2000; Taylor-Robinson, 2006). Helmke & Levitsky (2012) theorized that what matters for outcomes is how informal institutions interact with formal. In particular, they argued that the effectiveness of formal institutions is critical. I argue that how informal institutions interact specifically with formal mechanisms of accountability is key to equity in internationally financed adaptation. I distinguish here between *downward* mechanisms of accountability to citizens and *upward* mechanisms of accountability to the global level.

Mauritius and Madagascar differ in the strength of the formal institutions that enable government accountability. In Mauritius, clientelism is intertwined with the electoral system (Kasenally & Ramtohul, 2020). Though the system is flawed, it nevertheless functions to represent the interests of Mauritian citizens, who are engaged in the political process and vote at exceptionally high rates (Phaahla, 2019; von Borzyskowski & Kuhn, 2020). The populace broadly expects a redistribution of wealth, particularly to the socially vulnerable (Sandbrook, 2005). If government decision-makers do not meet this expectation, opposition political groups offer a meaningful alternative (Kadima & Kasenally, 2005). On the other hand, the system of patronage in Madagascar is isolated from what are relatively weak formal mechanisms of accountability. With political power concentrated among a narrow elite, government decision-makers do not see themselves as accountable to citizens, who are largely disengaged from the political process and vote at low rates (Wachsberger, 2007). Elites themselves expect, even demand, inequitable distribution of state resources through patronage (Thomas, 2007). Opposition parties are unlikely to represent the interests of the country's large, rural population, let alone politically marginalized groups (Marcus & Ratsimbaharison, 2005).

Formal institutions (e.g., those that ensure transparency, open information, freedom of speech) enable citizens and civil society to hold government decision-makers to account. In Mauritius, civil society is active and empowered. Civil society organizations represent a broad set of interests, including the Creole population (Burn, 2019). Some of these organizations specifically scrutinize and critique the government's use of international public finance, including the role of UNDP in supporting environment and development projects (Unit, 2020). Malagasy civil society, in contrast, represents primarily elite interests (Rafitoson, 2019). Civil society organizations rarely scrutinize the government's use of international public resources or criticize the role of MOs.

(b) Interaction of Informal Institutions with Upward Mechanisms of Accountability: Though Helmke & Levitsky's framework is useful, it does not consider the interaction of formal and informal institutions across governance scales. Given that international climate finance is guided by formal norms established at the global level (in this case, the AF) and enforced by MOs (in this case, UNDP and UNEP), I would add that the effectiveness of formal mechanisms of accountability at the global level also shapes the equity of outcomes. UNDP and UNEP differed in their capacity to enforce formal governance requirements. In Mauritius, the contextual knowledge of UNDP officials enabled them to recognize the dynamics of clientelism and intervene to make the project more equitable, as was the case in Riviere des Galets, where a

forced relocation of a divided community risked exacerbating inequality. In Madagascar, UNEP officials' lack of contextual knowledge and limited on-the-ground presence made it difficult for them to diagnose the specific operation of patronage within the Ministry of Environment. As a result, they intervened only in circumstances that would be visible in audits, but not in more systemic manifestations of patronage (such as kickback schemes) that arguably exacerbated inequality on a larger scale.

(c) Alignment of Formal and Informal Incentives for Equitable Adaptation: The incentives of both formal and informal institutions shaped the behavior of decision-makers within the Mauritian and Malagasy governments (Helmke & Levitsky, 2012; North, 1990). Only in Mauritius, however, were those incentives largely aligned. Ethno-religious clientelism functions in Mauritius to balance interests and redistribute wealth across a fractionalized population (Bunwaree & Kasenally, 2005; Kasenally & Ramtohul, 2020). Government decision-makers were thus incentivized to spread benefits broadly across constituency groups. The formal electoral system likewise encouraged them to redistribute resources and to target disadvantaged groups in society (Sandbrook, 2005). The nature of the project goods themselves – coastal infrastructure, refuge centers, an early warning system – further facilitated a broad distribution of the benefits within communities. While government decision-makers steered some benefits to special interest groups (i.e., influential hotels and private developers in Mon Choisy), an engaged populace and active civil society ensured the project reflected an overall balance of public and private interests. Thus, both formal and informal incentives aligned with the Adaptation Fund requirements to benefit the "particularly vulnerable."

In Madagascar, formal and informal incentives for equity were misaligned. The patronage system within the Malagasy government encourages actors to build power and pursue personal profit through the distribution of jobs and contracts (Marcus, 2016; Marcus & Ratsimbaharison, 2005). Decision-makers were thus incentivized to distribute AF project resources narrowly within the government, and to well-connected elites: Ministry officials, consultants, and private contractors. To the degree that project resources had to be distributed outside of elite networks, they were deployed to a relatively prosperous and politically important region in order to consolidate the government's hold on power. Within project sites, politically connected households disproportionately benefited. Though the incentives of the formal democratic system may have encouraged a fair distribution of resources to disadvantaged groups, such as those in the southern regions then facing drought and famine, government decision-makers did not see themselves as accountable to this system. The informal incentives of patronage thus conflicted with the formal requirements of the AF.

Insights of a "Good Enough" Approach in Mauritius and Madagascar: Focusing on the equitable outcome in Mauritius, and comparing it to the inequitable outcome in Madagascar, offers some clues as to how adaptation organizations can more effectively navigate informal institutions. First, they should recognize the operation of different types of informal power within and around national governments. These cases illustrate informal institutions are influential in both "good" and "poor" governance environments. They are likely to shape equity in most, if not all, countries receiving climate finance. A "good enough" approach means recognizing both the characteristics of these institutions and the circumstances under which they produce more equitable outcomes. These cases are generalizable in the sense that they represent common ‘particularist’ forms. Informal institutions, however, come in many forms and co-exist with formal institutions in many ways (Helmke & Levitsky, 2012).

Recognizing these different forms may require adaptation organizations to be better contextually situated. UNDP and UNEP officials differed significantly in their knowledge of each country’s sociopolitical dynamics, which influenced their ability to mediate between formal and informal power. UNDP officials, especially local Mauritian staff, were able to build alliances between actors inside and outside the government to steer more equitable outcomes (Booth & Faustino, 2014; Tendler, 1997). This is hardly a new argument. More than a decade ago, Unsworth (2009) identified a lack of expertise on sociopolitical dynamics among the intellectual and institutional barriers to a “politically-grounded” approach to development. Yet, there is little sign that adaptation organizations have made significant investments in this expertise (Hout, 2012; Unsworth, 2015; Wild et al., 2015; Yanguas & Hulme, 2015). Such a longer-term shift in the “mental models” of these organizations could be a first step in driving the broader paradigm shift that many scholars of adaptation are eager to see (Unsworth, 2009).

Second, these cases indicate that adaptation organizations should pay close attention to the incentives of informal institutions. Some have noted how these organizations’ lack of understanding of the incentives of leaders and elites has hobbled development initiatives (Booth, 2012; Thomas, 2007; Wright, 2008). To avoid repeating this mistake, these organizations should consider how formal and informal incentives, including incentives from the global level, align for government decision-makers. Adaptation organizations can also enable formal mechanisms of accountability. Community oversight has improved institutional performance and outcomes in a range of contexts (Levy, 2014; Tendler, 1997). Though it is likely outside the scope of most interventions to bolster formal democratic institutions (e.g., electoral systems), organizations can still enable citizen and civil society scrutiny of projects through transparency. This could be achieved through publication of all project materials, including mid-term and final reviews in local languages.

Finally, adaptation organizations should recognize the reality of trade-offs in national decision-making. They should expect that governments, and actors within those governments, will use international climate finance to build and consolidate power, as demonstrated by these cases and others (Nightingale, 2017; Sovacool, 2018). They should be willing to accept trade-offs that produce relatively equitable outcomes, as was the case in Mauritius, where private sector interests were balanced by public benefits and other aspects of the project that targeted disadvantaged groups. By focusing on the outcomes of informal institutions, as well as their characteristics and circumstances, adaptation organizations can advance equity with current frameworks of intervention.

Conclusion

This comparative case study sought to understand how informal institutions of clientelism and patrimonialism shaped government decision-making and distribution of benefits in internationally financed adaptation projects. I examined the implementation of UN Adaptation Fund projects targeted at the particularly vulnerable in Mauritius and Madagascar. Drawing on 105 interviews with national policymakers, civil society representatives, and AF project actors, I investigated the equity of project outcomes, with particular attention to if and how they benefited socially disadvantaged and politically marginalized groups in each country.

I found that informal institutions influenced government decision-making in contexts of both “good” governance in Mauritius and “poor” governance in Madagascar. Government decision-makers in both cases distributed benefits through informal channels and used them as part of broader efforts to build power. Despite these similarities, the outcomes of the two AF projects differed significantly in their equity, especially in terms of the social disadvantage and political marginalization of the communities targeted. While project goods in Madagascar largely benefited a narrow elite at the national level and politically connected households at the local level, project goods in Mauritius were balanced between public and private interests and partially targeted particularly disadvantaged groups. I identified two primary characteristics of the national institutional environment that explain these divergent outcomes: the interaction of informal institutions with formal mechanisms of accountability, and the alignment of formal and informal incentives for government decision-makers to advance equity.

I argued that these findings illustrate how a "good enough" approach to adaptation – focusing on positive outcomes for equity – can yield insights that inform realistic strategies for navigating unequal power relations, including entrenched forms of informal power, in international interventions. By shedding light on how informal incentives shaped government decision-making, these findings also contribute to research that has shown that informal institutions are not inherently dysfunctional, as generally perceived by MOs, but can deliver equity under some circumstances. In particular, the relatively equitable outcomes in Mauritius reinforce theories that where formal institutions are effective, informal institutions can complement them. In the case of international climate finance, this includes mechanisms of accountability at both national and global levels. Given these findings, I suggested that adaptation organizations should recognize the operation of different types of informal power in and around national governments, pay close attention to the incentives of government decision-makers, enable community oversight through transparency, and recognize the reality of trade-offs in decision-making for adaptation.

Though this study generated insights into which circumstances can contribute to equity, patronage and clientelism are just two of many forms of informal institutions, and informal institutions are just one of many ways in which unequal power manifests. More research is needed on how different types of informal institutions shape national decision-making, and how different arrangements of power at national and local levels shape access to international resources. Equity is also only one aspect of just and effective adaptation to climate change. A "good enough" approach, focusing on analysis of *effective* outcomes of internationally financed adaptation, also has the potential to yield insights into the circumstances that best foster adaptation among disadvantaged and marginalized communities.

My argument here has been that a "good enough" approach can help adaptation organizations to navigate current institutional arrangements to make adaptation more equitable. The larger question remains, however, of the role these organizations can play in enabling long-term transformation of inequitable institutions. These organizations have shown little willingness or capacity to challenge and overturn structural inequality in the countries and communities where they intervene. Beyond navigating the status quo to advance equity, international organizations should also seek to build on the strengths of existing institutions, empower equity-oriented actors, and enable community oversight and accountability. Through such incremental changes, these organizations can contribute to progress towards more equitable and accountable institutions long-term.

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Chapter 4 Advancing Equitable Adaptation in Inequitable Environments: The Adaptation Fund in Madagascar

Introduction

As efforts to mitigate climate change have fallen short, adaptation has moved closer to the center of climate governance worldwide (Persson, 2019; Schipper, 2006). With higher-income countries pledging $100 billion annually to help low-income countries mitigate emissions and adapt to negative impacts through the UN Climate Convention, adaptation has also become increasingly intertwined with international financing (Ciplet, Roberts, & Khan, 2015). One important and distinct feature of global adaptation financing is a focus on providing support specifically to vulnerable communities in low- and middle-income countries (Schalatek, 2019). International actors, such as UN climate funds, the World Bank, bilateral development agencies, and private entities like the Bill and Melinda Gates Foundation, are funding and directing adaptation interventions in vulnerable communities worldwide (Watson & Schalatek, 2020). Concern is growing, however, that this international funding is not reaching the most vulnerable in society (Berrang-Ford, Ford, & Paterson, 2011; Pelling & Garschagen, 2019; Sovacool, Linnér, & Goodsite, 2015).

Some argue that a continuing reliance on models of development aid prevent international actors from recognizing and challenging entrenched power structures that shape unequal vulnerability and capacity to adapt to climate hazards (Arnall, Kothari, & Kelman, 2014; Ireland & McKinnon, 2013; Ribot, 2011; Taylor, 2014; Warner, Wesselink, & Geldof, 2018). A number of recent qualitative studies have shown that external adaptation interventions can actually reinforce and even exacerbate inequality in targeted communities (Artur & Hilhorst, 2012; Eriksen et al., 2021; Mikulewicz & Taylor, 2020; Nightingale, 2017; Sovacool, 2018). Though critical adaptation scholars are divided on how to best account for power in internationally financed adaptation, they broadly agree that localizing and democratizing decision-making is an important first step (Eriksen, Nightingale, & Eakin, 2015; Marino & Ribot, 2012; McCarthy, 2014; Swyngedouw, 2011). Yet, there is relatively little evidence of how this localization and power redistribution happens in practice. Empirical research from similar decentralization governance efforts suggests that despite a growing focus on institutional arrangements to support localization, democratization at the local level is far from straightforward (Agrawal, Perrin, Chharte, Benson, & Kononen, 2012).

This study contributes to this growing body of work on power in adaptation by quantitatively analyzing the distributional outcomes of a UN Adaptation Fund (AF) project in the Alaotra-Mangoro region of Madagascar. One of several multilateral climate funds established under the UN Climate Convention to support adaptation in low-income countries, the AF is distinguished by a unique mandate to target the "particularly vulnerable." The Malagasy Ministry of Environment designed and implemented one of the first AF-financed projects from 2012-2019, with oversight from the UN Environment Program (UNEP). The project's primary goal was to improve the resilience of rice agriculture among low-income farmers in an economically vital region. To this end, the Malagasy government developed and distributed adapted rice seed, conducted agriculture and land-management trainings, and disseminated updated weather forecasts and agricultural calendars to farmers in Alaotra-Mangoro.

I employ a mixed-methods approach to explore how the Malagasy government sought to implement the AF project across different scales of decision-making, especially focusing on the

AF requirements for the inclusion and support of vulnerable communities. I investigate whether and how formal requirements to target the "particularly vulnerable" influenced the distribution of project benefits in primary intervention sites in Alaotra-Mangoro. I first draw on 63 interviews conducted with national-level policymakers and project actors to develop hypotheses and inform data collection. I then use a multi-level model to analyze 599 household surveys to compare the political connectivity of beneficiary and non-beneficiary households.

This study not only contributes to ongoing dialogue about ways to rethink equity in internationally financed adaptation, but also advances the discussion by unpacking how household-level political power shaped access to project benefits. Though many have noted cases of "elite capture of adaptive action" and "accumulation by adaptation" in international interventions, I theorize that in this case power also operated below the level of elites, shaping unequal access to benefits through informal community networks (Eriksen et al., 2021; Yates, 2014). Though I conclude that prospects for democratizing adaptation decision-making in Madagascar are slim, I point to a surprisingly equitable outcome of the project as evidence that, by also focusing on what works, critical adaptation scholarship can generate insights into the circumstances that can lead to more equitable outcomes in inequitable contexts.

Literature Review

The Trouble with Internationally Financed Adaptation: As adaptation has become more prominent in global dialogue, it has also grown increasingly associated with international climate finance (Ciplet, Roberts, & Khan, 2013; Roberts, 2011). Under the UN Climate Convention, high-income countries have pledged $100 billion annually to support low- and middle-income countries' efforts to mitigate emissions and adapt to impacts (United Nations, 2015). Partially as a result of this pledge, the number and scope of internationally financed climate interventions has increased significantly. A range of international organizations – including multilateral organizations (MOs), bilateral agencies, private foundations, and non-governmental organizations (NGOs), which I will refer to collectively as "adaptation organizations" – are planning and implementing projects to foster adaptation among low-income and vulnerable communities (Watson & Schalatek, 2020).

However there is concern that, even as it grows, international financing is not reaching those who need it the most to adapt (Berrang-Ford et al., 2011; Pelling & Garschagen, 2019; Sovacool et al., 2015). Explanations vary from inadequate funding from high-income countries, to a lack of empowerment of national actors, to a lack of clarity on what successful adaptation even entails (Eriksen et al., 2021; Omari-Motsumi, Barnett, & Schalatek, 2019; Roberts et al., 2021). Some have pointed, however, to a more fundamental problem in international adaptation frameworks: a blindness to how power shapes vulnerability, capacity to adapt, and access to international resources (Eriksen et al., 2021; Ireland & McKinnon, 2013; Mikulewicz, 2018; Taylor, 2014). Politics, they argue, are embedded in society's response to change (Blackburn & Pelling, 2018; Eriksen, Nightingale, & Eakin, 2015). Vulnerability is shaped not only by exposure to natural hazards, but also by social and political processes (Adger, 2006; McNamara & Buggy, 2017). Capacity to adapt – the ability not just to back bounce back from climate shocks but also to move to an improved state – is likewise influenced by political power, social capital, and differentiated access to resources and information (Adger, 2003; Eakin, Lemos, & Nelson, 2014).

Internationally financed adaptation evolved largely out of development aid, and includes many of the same actors. Unsurprisingly, most adaptation frameworks remain rooted in developmentalist logic and methods of intervention (Eriksen et al., 2021; Ireland & McKinnon, 2013). This logic leads international actors to implicitly rely on technocratic framings of climate change as an outside threat to an otherwise well-functioning society (Eguaoven et al., 2013; Taylor, 2014). As a result of this framing, actors tend to overlook the social and political underpinnings of vulnerability (Arnall et al., 2014; Ribot, 2011; Warner et al., 2018). By "depoliticizing" adaptation, such approaches bound the dialogue around appropriate responses to climate change and inhibit transformational adaptation that challenges entrenched power (Alam et al., 2011; Swyngedouw, 2011; Taylor, 2014).

As I argued in Chapter 1, international actors' apolitical approaches have particularly inhibited them from recognizing and engaging with informal institutions: unwritten codes and conventions that structure behavior (Helmke & Levitsky, 2006; North, 1990). Recent studies indicate that adaptation organizations may be repeating this mistake, failing to recognize in particular how entrenched forms of patronage can enable elite capture of international resources for adaptation (Nelson & Finan, 2009; Nightingale, 2017). Patronage systems – in which government workers are recruited for partisan reasons and often use public office for private gain – remain common (Hicken, 2011). Sovacool (2018), for example, illustrated how a neo-feudal patronage system in Bangladesh enabled elites to "enclose" land they expected would become valuable under internationally financed adaptation programs. Artur & Hillhorst (2012) similarly demonstrated how well-connected elites captured the largest plots and best locations for housing under a flooding relocation plan in Mozambique. Eriksen et al. (2021) call this "accumulation by adaptation," and argue that blindness to these types of unequal power relationships is one of the ways international actors inadvertently reinforce structural inequality in targeted communities.

Though critical adaptation scholars broadly recognize that apolitical interventions risk inequitable outcomes, they are divided about how adaptation organizations should better account for unequal power. Some argue for a transformation, a complete shift beyond development paradigms (Lindegaard, 2018). To be a source of social transformation, they assert, interventions must challenge unequal power structures, both locally and nationally (Eriksen et al., 2015; Eriksen & Lind, 2009). Ireland & McKinnon (2013), for example, argue for a "post-development" approach that focuses on localizing adaptation, with no expectation of scaling up to broader policy. Eriksen et al. (2012) go further, arguing for a "post-adaptation" approach: a fundamental rethinking of the current architecture to make it "more reflexive, multi-scalar, and inclusive of learning and evaluation processes" (3). Others argue that a complete paradigm shift is unrealistic and that adaptation scholars and practitioners should work within existing socioeconomic structures to make adaptation more equitable (Mikulewicz, 2018). Though they disagree on the methods, all agree that democratizing adaptation decision-making is an important first step toward more equitable outcomes, or at least to avoiding reinforcement of inequity (Eriksen et al., 2015; Marino & Ribot, 2012; McCarthy, 2014; Mikulewicz, 2018; Mikulewicz & Taylor, 2020; Swyngedouw, 2013).

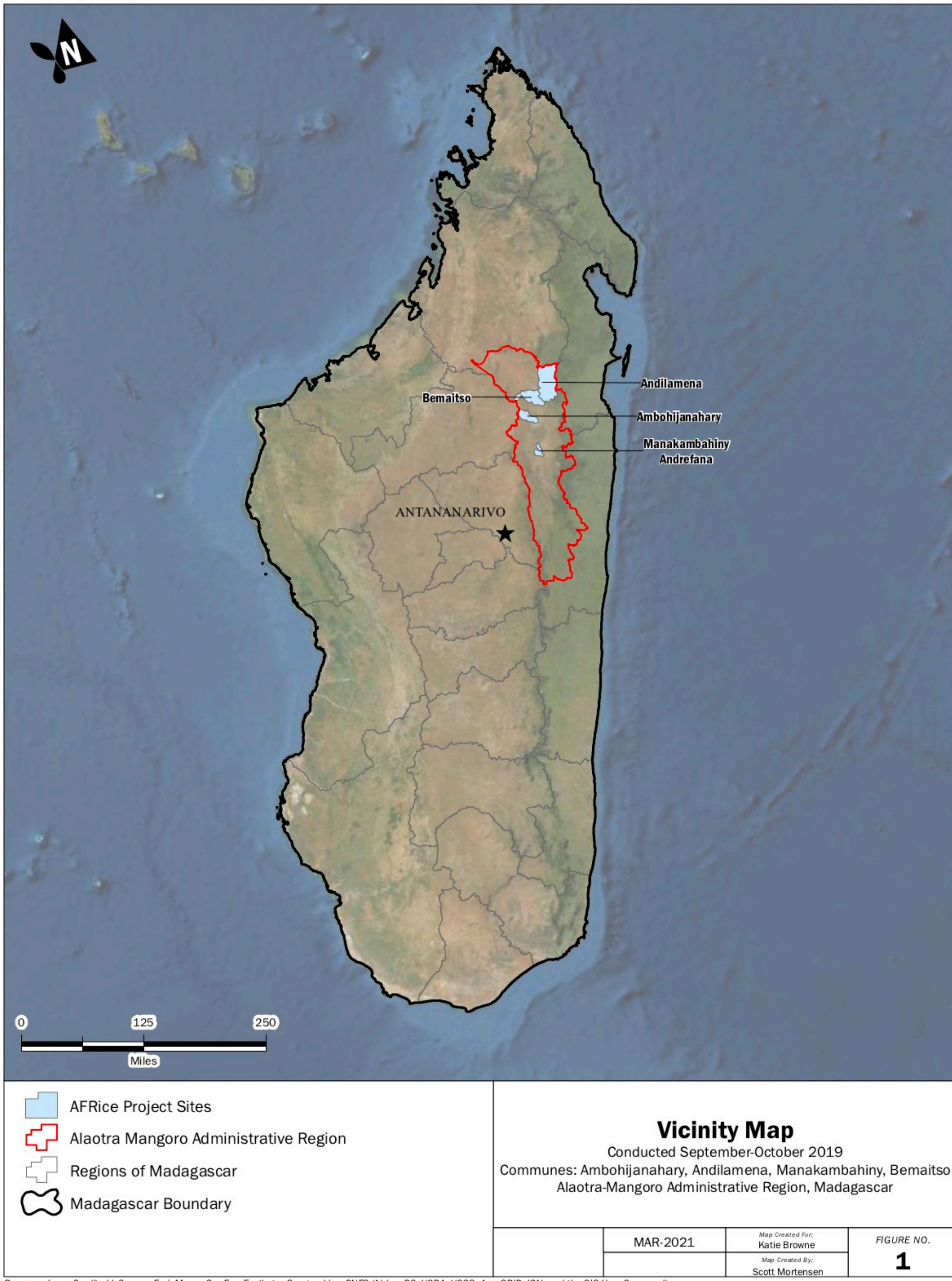
As I described in Chapter 2, this debate broadly echoes arguments made in the field of development studies. As post-development scholars argued for a paradigm shift, others argued for working within development structures to build on existing institutional arrangements (Escobar, 2011). Some of the latter have proposed focusing on positive outcomes – in terms of effective public service delivery and poverty reduction – and understanding the circumstances under which these outcomes emerge (Booth & Unsworth, 2014; Grindle, 2004; Tendler, 1997). By building on institutional strengths, international actors could "thicken" participatory institutions, or facilitate the emergence of "hybrid" forms that combined local institutions with international standards (Andrews, 2013; Booth, 2012). Some propose leap-frogging national governments and working directly with local governments and institutions (Brinkerhoff & Johnson, 2009). Incremental change, many of them argue, could produce a longer-term transformation toward more effective and accountable institutions (Wild, Booth, Cummings, Foresti, & Wales, 2015).

The Adaptation Fund in Madagascar: Madagascar is among the world's most vulnerable countries to climate change (Sönke et al., 2020). Increasing temperatures and shifting precipitation patterns threaten agriculture, especially rice, the primary food source for most Malagasy households (Tadross et al., 2008; Ziska et al., 2018). The island nation's location in the Western Indian Ocean exposes it to increasingly severe cyclones (Hochrainer-Stigler, Mechler, & Mochizuki, 2015). Sea level rise and ocean acidification imperil small-scale fisheries along its extensive coastline (Ragoonaden, 2007). A large percentage of the population is chronically food insecure, especially during the rainy season (Harvey et al., 2014; Minten & Barrett, 2008).

In late 2011, Madagascar became the 14th country to have a project proposal approved by the newly-established Adaptation Fund (AF) (Adaptation Fund, 2018). The AF was born out of a broader political struggle for "developing" countries to exercise greater control over climate finance (Harmeling & Kaloga, 2011). It is guided by an ambiguous mandate to direct funding to those that are "particularly vulnerable to the adverse effects of climate change," a group that the Fund's board has declined to define (Adaptation Fund Board, 2012, 2; Persson & Remling, 2014). Because it also emphasizes "country-ownership" over project decision-making and finances, recipient country governments have significant leeway in targeting communities and beneficiaries. The AF requires only that they justify site selection in the project proposal (Adaptation Fund, 2017).

The $5 million AF project in Madagascar – "Promoting Climate Resilience in the Rice Sector through Pilot Investments in the Alaotra-Mangoro Region," known locally as "AFRice" – was implemented from 2012-2019 by the Ministry of Environment. As with many AF projects, the Malagasy government was required to partner with an MO, in this case UNEP, which oversaw project implementation and assumed fiduciary responsibility (Adaptation Fund Board, 2012). The project focused on improving the resilience of rice agriculture, Madagascar's staple crop. At the national level, the primary objectives were to: a) develop a "resilient rice model" that could be broadly replicated, b) enhance institutional capacity-building in forecasting and vulnerability mapping and c) promote policy mainstreaming. The Ministry of Environment chose a key rice-growing region, Alaotra-Mangoro, as the primary intervention site (Adaptation Fund Board, 2011) (Figure 4.1). There the project targeted low-income farmers in four communes, providing both tangible benefits (e.g., adapted rice seed, compost, agricultural implements, seedlings) and intangible (opportunities to participate in agricultural trainings and community activities) (Bégat, 2020). It was also designed to generate indirect benefits across the broader region, including upgraded infrastructure, reforestation, and the dissemination of improved climate forecasts and agricultural calendars (Adaptation Fund Board, 2011). Originally proposed to last five years, the AFRice project was granted multiple extensions and was in its final phases during my fieldwork in Madagascar in 2019.

Figure 4.1 AFRice Intervention Sites in the Alaotra-Mangoro Region of Madagascar



Basemap Layer Credits || Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

The Absent State and Local Informal Governance in Madagascar: Politically, Madagascar is characterized by an extreme disconnect between a narrow, governing elite, concentrated in the capital, and a rural, agriculturally-dependent population dispersed across a large, poorly-connected country (Razafindrakoto, Roubaud, & Wachsberger, 2013). Political and economic power at the national level is held among competing factions of elites, mostly from a single ethnic group, the Merina (Marcus & Ratsimbaharison, 2005). The government is often characterized as neopatrimonial, functioning primarily as a patronage system, with employment, government contracts, and other benefits distributed largely to political supporters and through affective networks (Marcus, 2016; Marcus, 2010). State resources are tightly concentrated in and around the government, with little of the national budget distributed beyond the capital of Antananarivo and its environs (Marcus, 2016). Governing elites have historically treated international aid, on which the government is highly reliant, as a rentiers resources, often with the tacit cooperation of international actors (Corson, 2016; Duffy, 2006; Horning, 2008).

In most rural areas, the state is defined by its absence. The Malagasy government exhibits little capacity to provide social services or enforce rule of law (Marcus, 2016). In the absence of the state, informal institutions of customary governance are the dominant force structuring social and political life at the local level. *Fokonolona* (traditional community forums), *tangalamena* (traditional village heads), and *dina* (local codes of conduct) regulate relationships within and between rural Malagasy communities (Gaudieux & Ramiaramanana, 2014; Rakotoson & Tanner, 2006; Rasamoelina, 2017). Noting low rates of political participation, some have claimed that Madagascar lacks a "deep democracy" (Marcus & Razafindrakoto, 2003). But there is evidence of strong democratic and cooperative traditions at local levels (Hinthorne, 2013; Wachsberger, 2007). Rural communities exhibit high levels of social cohesion, with reciprocity and redistribution common in extended kinship networks (*havana*) (Desplat, 2018; Fritz-Vietta et al., 2011). Customary institutions, however, are far from egalitarian (Serre-Ratsimandisa, 1978). Though all community members theoretically have the right to participate in *fokonolona*, women and youth are often excluded (Rasamoelina, 2017; Smith, Shepherd, & Dorward, 2012). Only men can be *tangalamena*. Broader gender inequities in access to and control of land and other sources of wealth make women more vulnerable (Farnworth, 2007; Jarosz, 1991; Widman, 2014).

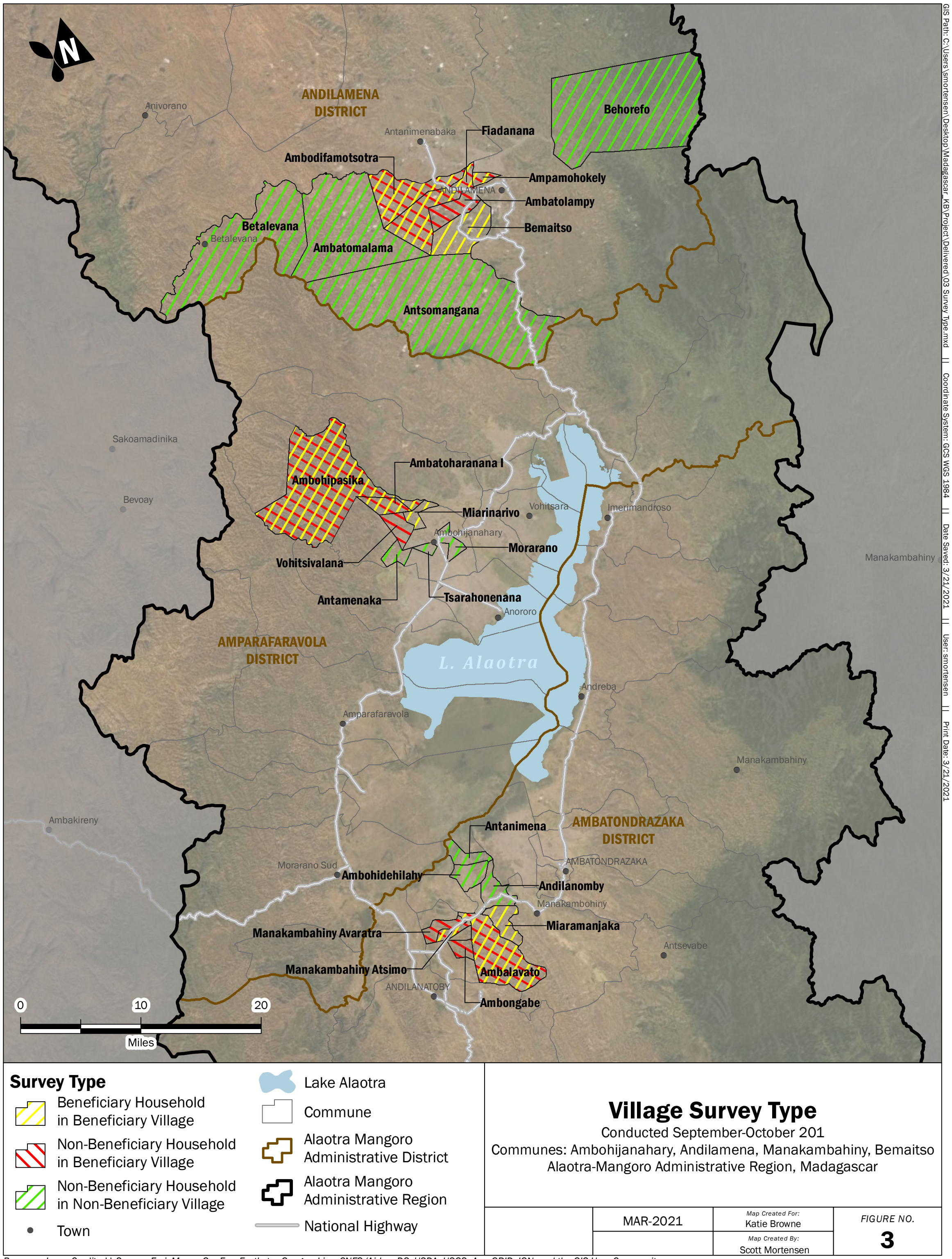
In many areas, informal institutions of customary governance interface awkwardly with the formal administrative structure of the Malagasy state. *Chiefs fokontany* (the appointed heads of the smallest administrative unit) often share power informally with *fokonolona* and *tangalamena* (Burnod, Gingembre, & Andrianirina Ratsialonana, 2013). As the official political-legal system does not function in many areas, *dina* sometimes contradict, and prevail over, official law (Baker-Médard, 2019; Rakotoson & Tanner, 2006). International interventions – particularly those related to efforts to conserve biodiversity – often overlook local forms of governance and create competing, parallel institutions (Fritz-Vietta et al., 2011; Pollini & Lassoie, 2011; Scales, 2012). Because of the extreme centralization of state finances and capture at higher governance levels, few resources filter down to rural areas (Francken, Minten, & Swinnen, 2005). Official positions at lower levels of the state hierarchy (e.g., district, commune, and *fokontany* positions, as well as regional branches of Ministry offices) are often obtained through patronage. Officeholders often use their positions to distribute state resource selectively within local patron-client and extended family networks. Members of security forces likewise often use their positions to pursue personal political and economic incentives (Jütersonke & Kartas, 2011).

Given these dynamics, it is unsurprising that elite capture has been observed in the distribution of international resources at local levels (Poudyal et al., 2016; Sommerville et al., 2010).

Methods

Mixed-Methods Design: This study follows a mixed-methods, case study approach (Fetters, Curry, & Creswell, 2013; Yin, 1994). As part of a broader comparative study, I first conducted 63 interviews at the national level. The goal of this phase was to characterize Madagascar's governance landscape and to investigate how it shaped AFRice project design, implementation, and outcomes. I conducted general interviews with 35 Malagasy policymakers, civil society organizations, and representatives of MOs and development agencies. I additionally conducted 28 interviews with individuals directly involved in AFRice: members of the project team within the Ministry of Environment, representatives of other government ministries and agencies involved in implementation, UNEP officials, NGOs, private contractors, and international and domestic consultants. All interviews were semi-structured and conducted by the researcher in Malagasy. The majority of interviews were recorded, with the participants' permission, transcribed, and translated into English by a research assistant. The researcher coded the transcripts for themes using NVivo software. Findings from the interviews are supplemented by analysis of project documents, as well as participant observation at the AFRice closing workshop in Antananarivo.

Figure 4.2 Survey Sites in Alaotra-Mangoro



Basemap Layer Credits || Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Household Surveys: The goal of the household surveys was to measure the distributional outcomes of the AFRice project in its primary intervention sites.[19] Qualitative data collected at the national level informed hypothesis development, survey design, and data collection (Fetters & Freshwater, 2015; O'Cathain, Murphy, & Nicholl, 2010). A survey team collected 599 surveys from the project's intervention sites. Officially, the project targeted three communes: Manakambahiny Andrefana, Ambohijanahary, and Bemaitso. Unofficially, it targeted a fourth commune, Andilamena (Figure 4.2).[20] Project documents and interviews with local project representatives indicated that about half of *fokontany* in each commune were selected to participate, with only a select number of households participating within each *fokontany*. Cluster sampling was used to identify a representative sample of three different subject groups in these communes: beneficiary households in beneficiary *fokontany*, non-beneficiary households in beneficiary *fokontany*, and non-beneficiary households in non-beneficiary *fokontany* (see Appendix B for detailed sampling design).

Survey questions captured household wealth (as measured by key assets and socioeconomic indicators), education level, land ownership, ethnicity and immigration status, food insecurity, coping strategies, and adaptive capacity. They also measured household political connectivity as a product of household and extended family members' (*havana*) positions in government, institutions of customary governance, security forces, and community-level leadership, as well as household members' participation in local committees (Figure 4.3). This measurement of

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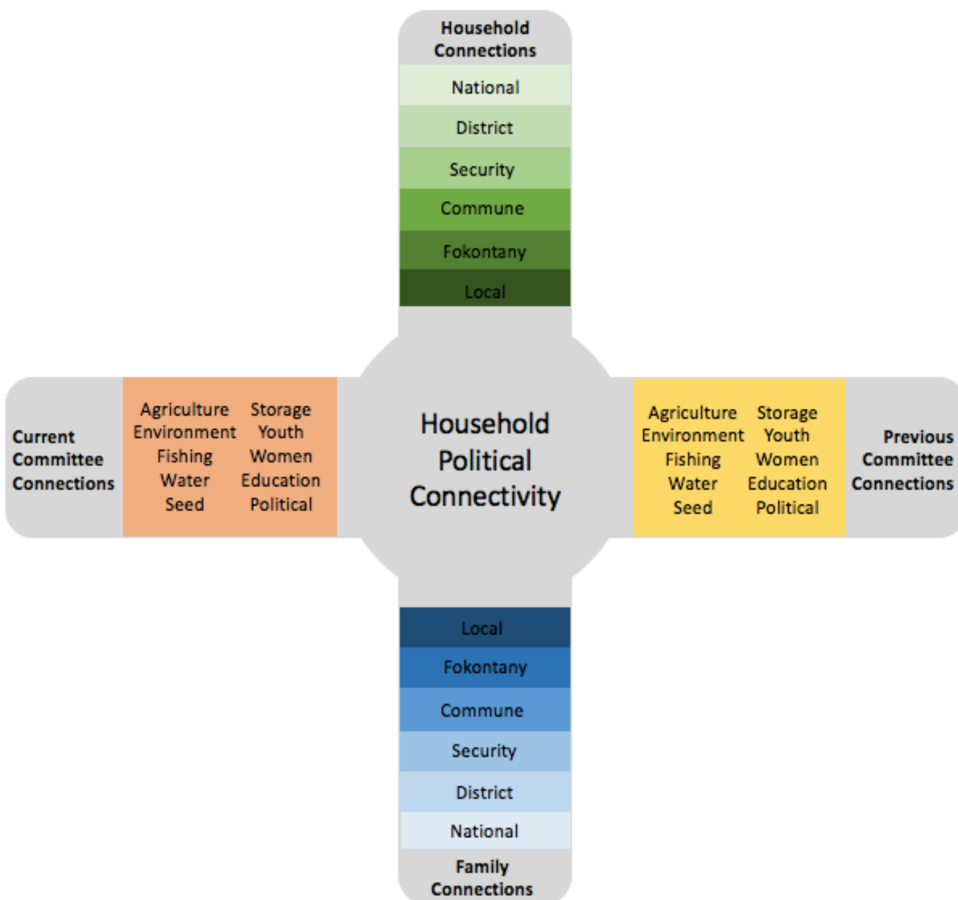
[19] The AFRice project included a later "upscaling" phase, which focused on extending findings from the Alaotra-Mangoro region to two additional regions: Vakinakaratra and Itasy. Due to time and resource constraints, this study focuses on the distributional outcomes in Alaotra-Mangoro only.
[20] Interviews revealed that a number of the project benefits intended for Bemaitso had been redirected to a fokontany in Andilamena, outside the official intervention sites. The sampling design was altered to account for the additional project site (see Annex A for more detail).

household political power draws on the concept of communities as networks: "structured by unequal power relations and unequal access to knowledge, resources, and decision-making" (Yates, 2014). Specifically, this measurement is predicated on the notion that access to state resources in rural Madagascar is shaped by family connections to both formal and informal institutions, especially positions within the state patronage structure. Power is a complex concept and measuring it is inherently problematic (Hydén, 2006). I recognize that power is not necessarily embodied *only* in the positions captured, and instead treat the political connectivity measure as a proxy: a snapshot of how a given household's network interfaced with the state apparatus at the time the survey was conducted.

Figure 4.3 Household Political Connectivity Measured Along Four Dimensions



Finally, the survey captured forms of household participation in the AFRice project: how beneficiaries heard of it and were selected to participate; the direct benefits received by beneficiary households, both tangible (e.g., adapted rice seed) and intangible (e.g., agricultural trainings); and the indirect benefits theoretically accessible to all households in the project sites (e.g., benefits from improved infrastructure or access to improved forecasting). Survey questions – particularly the food security index and socioeconomic indicators – were refined to local context through focus group feedback in the three official communes (Appendix C). The survey was additionally tested over two days of survey team training in the regional capital, Ambatondrazaka. It was administered by a small team of local enumerators, in local dialects of Malagasy, over a two-month period (October-November 2019). Respondents received no compensation.

Understanding Distributional Outcomes: I used a Multi-Level Model (MLM) to explore differences between households that benefited from AFRice and those that did not. MLMs allow the researcher to analyze data in which one set of units is clustered within another set of units (Krull & MacKinnon, 2001). In this case, the households represent the first level of analysis (Level 1) clustered within the secondary level of *fokontany* (Level 2). The data collected represent 599 Level 1 units and 24 Level 2 units.[21]

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[21] Clustered data present methodological challenges when approached with standard regression techniques, including misestimation of standard errors at the higher level of analysis and violations of the assumption of independence of errors at the lower level of analysis. Applying an MLM to the data collected accounts for "clustering effects," allowing for variability between and within villages. This estimation of shared variance leads to improved precision.

The MLM incorporates index variables for food insecurity, household assets, political connectivity, and three different measures of AFRice project benefits (Table 4.1). Other variables in the model include: household land ownership (measured in total hectares), household head education level (measured in years), and village distance from a national highway (a mean of all household responses in a given village, measured in minutes walking). Additional sensitivity analyses were conducted using different measures of land ownership (such as potential agricultural value) but none improved model fit. All control variables, except for village distance, are grand mean centered to ease interpretation.

Table 4.1 Index Variables

Index Variable	**Method**	**Appendix**
Short Term Food Insecurity	Frequency of a household's use of food insecurity coping strategies in past week multiplied by severity weight of each strategy. Strategies identified and weighted in focus groups.	D
Assets	Combined value of household's durable goods and livestock, divided by number of household members.	E
Political Connectivity	Number of household and extended family connections to political positions (formal and informal) and committee participation (current and previous). Household and family positions consolidated into hierarchy levels. Number of connections at each level summed and weighted according to Principle Component Analysis.	F
Level of AFRice Participation	Number of forms of direct benefit a household received from participation in AFRice, including tangible (e.g., adapted rice seed) and intangible benefits (e.g., participation in trainings and community activities).	G
Value of AFRice Benefits	Estimated value of direct benefits a household received from AFRice, based on an assumption of a minimum amount received.	G
Level of AFRice Indirect Benefits	Number of forms of indirect benefit a household received from participation in AFRice, such as upgraded infrastructure for improved irrigation and access to updated weather forecasts.	G

There are three main caveats to the use of an MLM to analyze the survey data. First, the model described below is relational, not causal. It enables the comparison of two groups (beneficiary and non-beneficiary) in terms of the outcome variable, political connectivity, accounting for the nested structure of the data and controlling for other variables. The model does *not* evaluate how households changed over time nor how they changed as a result of participation in AFRice. Adaptive capacity, for example, might be higher among beneficiary households but, through this model, it is not possible to know whether this difference in capacity was the result of participation or of other factors. Political connectivity, however, was unlikely to be altered by project participation.

The second caveat is that, due to the lack of baseline information, the data collected represents only a snapshot in time. The model provides only information about how the two groups compared in the final months of the AFRice project in 2019. This limitation also affects specific variables. Food security, for example, fluctuates seasonally in Alaotra-Mangoro (Dostie, Haggblade, & Randriamamonjy, 2002). The seven-day recall window of the food insecurity index, which respondents preferred for accuracy, might limit the comparability across the 60-day survey period. It is important to note, however, that the survey was conducted during a relatively stable season for food security, just before the “lean period” (Minten & Barrett, 2008).

Finally, the sampling method, which relied on local informants to identify a sufficient number of beneficiary households, prevented the use of other village-level variables. Data on household wealth, for example, was not randomly selected from the full sampling frame, and therefore cannot be utilized as an L-2 variable. This limits the utility of the model to analyze cross-level interactions. Village distance from a national highway, however, did not rely on random sampling for accuracy and is used as an L-2 indicator of geographic isolation.

Findings and Analyses

Indications of Inequity: Interviews revealed that throughout the course of the AFRice project decision-makers within the Ministry of Environment moved to centralize and privatize project resources (see Chapter 2). They stripped other ministries and agencies of decision-making power and financial control, and rebuffed opportunities to collaborate with external agencies. Through a series of kickback schemes, officials involved in the project directed a significant portion of AFRice resources to narrow elites within and closely connected to the government: high-level bureaucrats within the Ministry of Environment, consultants, and private contractors. UNEP officials, tasked with project oversight, recognized that patronage shaped project implementation, but struggled to effectively intervene to steer more equitable outcomes. Though they invoked fiduciary standards to rectify the most extreme instances of financial mismanagement, they did not address the more systemic manifestations of patronage, such as salary kickback schemes. As little as one-fifth of the overall project budget reached the intervention sites in Alaotra-Mangoro.

Interviews also indicated that, despite targeting low-income farmers, informal networks influenced the distribution of project benefits as much as any criteria of income or vulnerability. Many project documents that could have informed analysis of AFRice's equity – such as workshop attendance sheets – were either missing, incomplete, or publicly unavailable. Those that were available lacked transparent criteria for vulnerability and the selection of households for participation. Local project representatives could not describe the process by which target groups were determined. Several project actors said that benefits had been distributed through "self-designation" and "word of mouth." The project's final evaluation noted that though "the project aims to support the livelihood of low income farmers, [it] does not distinguish between income levels among beneficiary groups" (Bégat, 2020, 102).

International and domestic consultants acknowledged that political influence had likely played a role, especially *chiefs fokontany* who had significant leeway to distribute resources. A domestic consultant claimed that most of the project's benefits went to elites: the project was for those with "good connections" and therefore "increased the gap between the richest and poorest." During preliminary site visits, the survey team discovered that many of the project benefits intended for the commune of Bemaitso had been re-directed to another *fokontany* in a neighboring commune, entirely outside of official project sites. The survey team also observed that valuable tools appeared to have been distributed to the wealthiest households in project sites.

Survey design and data collection were driven by four main hypotheses. Hypothesis 1 (H1) was that beneficiary households would have higher levels of political connectivity than non-beneficiary households. Other hypotheses were: (H2) that households with higher levels of participation would have higher political connectivity, (H3) that the more valuable the benefits received from AFRice, the more politically connected the household, and (H4) that access to indirect benefits of the project, theoretically available to all households in project sites, would also be positively associated with political connectivity. The following household characteristics were also expected to influence household political connectivity: socioeconomic status, education level, land ownership, household vulnerability, and geographic isolation.

Household Characteristics: Appendix I provides the characteristics of surveyed households. The majority of respondents belonged to the Sihanaka ethnic group, though other ethnic groups enjoyed a significant presence. Surveyed households were low-income by international standards, with average value of selected assets estimated at $1,514. They demonstrated wide variation, however: the asset value of the poorest household in the sample was estimated at $1.30 (the cost of a flashlight); in contrast, the asset value of the wealthiest household was estimated at $21,361. Education levels were low at 6.6 years average, but relatively high when considering that 58% of Malagasy citizens have not completed primary school (*National Education Profile,* 2018). Other variables of interest also varied widely, including land ownership, geographic isolation, and food insecurity. Most households had experienced some form of food insecurity in the past seven days. Though leasing and share-cropping rates were high, they do not necessarily indicate poverty as reverse tenancy is common in Alaotra-Mangoro (Bellemare, 2009).

In addition to low measures of general adaptive capacity (e.g., wealth and education), households demonstrated low specific capacity, characteristics that are necessary for managing climate threats (Eakin et al., 2014). They had limited access to banking and use of crop insurance was rare. A significant percentage of households, however, accessed and used weather forecasts (60% and 41% respectively). Household livelihood strategies were relatively diverse, with an average of 4.3 different forms of income. Nevertheless, most households (82%) had relied on some form of long-term coping strategy in the previous calendar year.

By design a third of the sample participated in the AFRice project. Of beneficiary households, 55 received the most valuable benefit, adapted rice seed. 164 households received the least valuable benefit, payment for tree planting. There was wide variation in level of participation, value of benefits received, and level of indirect benefits. The majority of beneficiaries reported hearing about AFRice from a local official (n=79) or AFRice representative (n = 77). The majority reported volunteering for participation (n =177), with a smaller number reporting they were selected to participate by an AFRice representative or local official.[22] Among beneficiary households, 64% believed that participating in AFRice was equitable. Only 47% believed that the distribution of benefits was equitable.

Household Differences in Political Connectivity: The model presented below compares the political connectivity scores of two groups (beneficiary and non-beneficiary households), controlling for other household- and village-level characteristics that I hypothesize also influence household political connectivity. The null model for this dataset is:

$$POL_{ij} = \beta_{0j} + \gamma_{00} + r_{ij} + u_0$$

It demonstrates that the mean political connectivity score of all households in the data set is 2.341. The Intraclass Correlation Coefficient (ICC) is 0.1964. This ICC indicates that 19.64% of the variation in households' political connectivity is explained by village-level variance, supporting the value of using a multi-level technique.

The model used to compare the political connectivity score of beneficiary and non-beneficiary households is:

$$POLCON_{ij} = \gamma_{00} + \gamma_{01}VDIST + \gamma_{10}BEN + \gamma_{20}ASSETS + \gamma_{30}LAND + \gamma_{40}EDUC + \gamma_{50}FOOD + u_{0j} + u_{1j}BEN + u_{2j}ASSETS + u_{3j}LAND + u_{4j}EDUC + u_{5j}FOOD + r_{ij}$$

Household wealth, land ownership, education level, food security, and village distance are control variables, level-1 and level-2 characteristics that I hypothesize will also influence political connectivity. The primary coefficient of interest is project participation (BEN). For the

[22] Responses reported as raw totals rather than percentages because respondents were able to submit multiple responses.

primary hypothesis (H1), I expect that the coefficient on the participation variable (γ_{10}) will be positive.

The range of each variable is presented below (Table 4.2). After grand-mean centering, the mean and standard deviation of the four control variables are not particularly relevant.

Table 4.2 Grand-Mean Centered Variables

	POL	BEN	ASSETS	LAND	EDUC	FOOD	VDIST
Min	-2.34	0	-328.03	-3.17	-6.19	-27.02	-119.80
Max	4.97	1	4584.57	69.23	9.81	130.978	729.86
Mean	0	0.33	0	0	0	0	0
SD	1.67	0.46	527.03	6.83	3.44	27.48	191.22

The correlation between the outcome and predictors are (Table 4.3):

Table 4.3 Correlation Matrix

	POL	BEN	ASSETS	LAND	EDUC	FOOD	VDIST
POL	1	--	--	--	--	--	--
BEN	0.148	1	--	--	--	--	--
WEALTH	0.184	0.054	1	--	--	--	--
LAND	0.167	0.074	0.209	1	--	--	--
EDUC	0.266	0.245	0.230	0.152	1	--	--
FOOD	-0.060	-0.031	-0.252	-0.106	-0.273	1	
VDIST	-0.086	0.199	-0.120	-0.069	-0.076	0.100	1

Table 4.4 displays the primary model output. The expected political connectivity score for a household that did not participate in the AFRice project, and has average household assets, average land ownership, average education level, average food insecurity, and whose village is an average walking distance from a national highway is 2.226. The coefficient on household participation indicates that participation in the AFRice project is associated with a 0.338 increase in the political connectivity score. The coefficient is statistically significant at $p < .05$. This finding indicates that households that participated in the AFRice project are expected to have higher political connectivity than households that did not participate, controlling for other

household and village characteristics that might have influenced political connectivity. In terms of other predictors, wealth had a small but significant positive effect on political connectivity, and education level had a relatively large and significant positive effect. Total land ownership, food insecurity, and village distance did not have significant effects. The primary model accounted for an additional 31% of the unexplained variance compared to the null model.

In addition to the primary model, three secondary models predict the association between three additional measures of AFRice benefits and household political connectivity. These three measures are: a household's Participation Level (sum of the number of benefits received and activities in which it participated); the Value of Direct Benefits received by a household from AFRice; and the Level of Indirect Benefits (sum of the number of ways a household indirectly benefited from the AFRice project). Table 4.4 also displays the output from these models.

For all three additional measures of benefits, the coefficient is positively associated with political connectivity and statistically significant at $p < .05$. For Level of Participation, a one-unit increase in the form of a household's direct participation in AFRice is associated with a 0.057 increase in the political connectivity score. As the scale for this variable is between 0-21, a household that participated in every AFRice training and activity, and received every tangible benefit, would expect to have a political connectivity score 1.2 points higher than a household that did not participate. For Value of Direct Benefits, a one dollar increase in value of benefits a household received from AFRice is associated with a 0.004 increase in the political connectivity score. As the scale for this variable is between 0-211.2, a household that received the highest value of benefits would expect to have a political connectivity score 0.84 points higher than a household that did not receive direct benefits. For Level of Indirect Benefits, a one-unit increase in the form of a household's indirect benefits from AFRice is associated with a 0.049 increase in the political connectivity score. As the scale for this coefficient is 0-15, a household that received all the indirect benefits of the project would expect to have a political connectivity score 0.74 points higher than a household that did not indirectly benefit. Other predictors retain their positive or negative associations, and statistical significance or insignificance, across the three additional models.

Table 4.4 Multi-level Model Outputs

	Primary	**Secondary**		
	Participation	**Participation Level**	**Value of Benefits**	**Indirect Benefits**
Dependent Variable	Political Connectivity	Political Connectivity	Political Connectivity	Political Connectivity
AFRice Benefits	0.338^{**}	0.057^{***}	0.004^{**}	0.049^{**}
	(0.167)	(0.016)	(0.001)	(0.023)
Household Assets	0.001^{***}	0.0005^{***}	0.0005^{***}	0.0005^{***}
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Land Ownership	-0.018^{*}	-0.018^{*}	-0.018^{*}	-0.020^{*}
	(0.011)	(0.011)	(0.011)	(0.011)
Education Level	0.111^{***}	0.105^{***}	0.108^{***}	0.113^{***}
	(0.021)	(0.021)	(0.021)	(0.021)
Food Insecurity	0.003	0.003	0.003	0.003
	(0.003)	(0.003)	(0.003)	(0.003)
Village Distance	-0.0004	-0.0004	-0.0005	-0.0004
	(0.001)	(0.001)	(0.001)	(0.0005)
Constant	2.226^{***}	2.205^{***}	2.246^{***}	2.201^{***}
	(0.108)	(0.104)	(0.101)	(0.112)
Observations	587	584	584	584
Log Likelihood	-1,089.313	-1,085.940	-1,088.736	-1,089.730
Akaike Inf. Crit.	2,196.627	2,189.879	2,195.472	2,197.461
Bayesian Inf. Crit.	2,235.956	2,229.209	2,234.801	2,236.790

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Discussion

Reinforcing Structural Inequality in Alaotra-Mangoro: Findings from 599 household surveys collected across AFRice's primary intervention sites indicate that households that participated had higher levels of political connectivity than those that did not. This was the case even when controlling for other household and village characteristics that could influence political connectivity. This finding was robust across three additional measures of project benefits. Not only was participation associated with higher political connectivity, but so was the degree to which households were involved and the value of the benefits they received. Even benefits that were theoretically equally-accessible to all households in project sites – such as improved irrigation and access to updated agricultural calendars – were associated with higher household political connectivity. Though the model does not allow claims about causality (e.g., that households were chosen to participate in AFRice because of their political connections), these findings support the hypothesis that households' informal and formal connections to the state apparatus influenced their ability to access AFRice benefits.

These findings are significant because they indicate that the AFRice project reinforced structural inequality within target communities in Alaotra-Mangoro. Despite the fact that AF funding is intended for the "particularly vulnerable," the AFRice project disproportionately benefited households that were already better positioned to adapt by virtue of their socioeconomic status, education levels, and land ownership. Analyzed within the context of national-level qualitative data – which demonstrated that UNEP officials, operating within the apolitical framework of the AF, were unable to effectively navigate power relations – this lends support to similar qualitative cases where international interventions were found to exacerbate inequality in target communities (Artur & Hilhorst, 2012; Mikulewicz, 2018; Nelson & Finan, 2009; Nightingale, 2017; Sovacool, 2018).

Additionally, these findings suggest that power operated at two different levels to shape household access to AFRice benefits. Eriksen et al. (2021) recently argued that apolitical interventions can contribute to inequality through processes of "accumulation by adaptation," summarized as: "the way in which already powerful members of the community may 'capture' and monopolize resources, capitalizing on their own privileged access and in so doing, further marginalizing the most vulnerable" (Kliemann, 2021, 3). In Alaotra-Mangoro, the association of political power and access to project benefits appears to have gone beyond capture by powerful elite to include broader uneven distribution of knowledge and information through informal community networks.

At the first level, direct access to AFRice project goods was mediated through patron-client relationships connected to the state apparatus. Government and project officials exchanged direct benefits for bribes, "hosting" (in which families provided meals and other perks), and political support. This assertion is supported not only by the association of direct benefits with household political power, but also by interviews that indicated that officials steered benefits to elite families and even well-connected communities outside of project sites. Members of the survey team also observed that elite households appeared to have disproportionately received the most valuable goods (such as agricultural tools).

Access to project benefits was also shaped, however, by informal power at second, deeper level. Information about the project, and knowledge produced by the project, moved unevenly through community networks, particularly extended family networks (Yates, 2014). Households with more connections to positions of formal and informal power may have been more likely to hear about the project, and to learn where and how benefits would be distributed. This second level operation of power helps explain why goods that were theoretically accessible to all households in intervention sites – such as updated crop calendars – were nevertheless disproportionately accessed by better connected households. It also helps explain why the majority of households reported volunteering for participation, rather than being directly selected by an individual in a position of power. Differentiated access to project benefits was thus shaped by dynamics of both patron-client relations and redistribution through kinship networks.

Prospects for Democratizing Adaptation in Madagascar and Elsewhere: Critical adaptation scholars debate how adaptation organizations should account for power and improve equity in internationally financed adaptation. Some argue for a fundamental rethinking of current apolitical and technocratic approaches (Eriksen et al., 2021; Ireland & McKinnon, 2013; Taylor, 2014). Others argue that a total paradigm shift is unrealistic and advocate working within existing power relations to make adaptation more equitable (Mikulewicz, 2018). Both camps agree, however: adaptation decision-making should be more democratic (Eriksen et al., 2015; Marino & Ribot, 2012; McCarthy, 2014; Swyngedouw, 2013). Democratization will require shifting decision-making to local levels, where international actors design and implement adaptation initiatives with local communities as partners rather than beneficiaries (Eriksen et al., 2015). Such a shift will also require spreading decision-making as evenly as possible within communities (Mikulewicz, 2018).

I argue that prospects for democratizing internationally financed adaptation in highly inequitable contexts like Madagascar are bleak for two reasons. First, there is little indication that the overall architecture of climate finance is shifting to enable decision-making at local levels. Multilateral climate funds under the UN Climate Convention continue to locate decision-making primarily at the national level (Schalatek, 2019). In the case of AFRice, decision-makers within the Ministry of Environment moved to consolidate decision-making power and privatize project resources, delegating only negligible funding and authority to local decision-making bodies.

Likewise, international actors operating outside the UN Climate Convention – multilateral development banks, bilateral agencies, and private entities – are similarly unlikely to cede decision-making authority to local levels. Despite criticism, not just from adaptation scholars but also critical development scholars – these actors have shown little inclination to shift away from technocratic and apolitical frameworks (Hout, 2012; Unsworth, 2015; Yanguas & Hulme, 2015). They are unlikely to see it as within their mission to challenge structural inequality in countries like Madagascar any time soon.

Second, the depth of structural inequality in AFRice's intervention sites in Alaotra-Mangoro illustrates the challenge international actors face in democratizing decision-making. Mikulewicz (2018) has suggested that they should assist communities in "creating spaces of political deliberation that are conducive to inclusive and equitable decision-making and distribution of benefits" (27). Development scholars, like Evans (2004), have similarly argued that "thick participatory institutions" can improve citizens' abilities to make their own choices. These findings demonstrate, however, that the challenge is more complex than avoiding elite capture and elite domination of participatory spaces (McNamara & Buggy, 2017; Tschakert et al., 2016). Some households in Alaotra-Mangoro inherently have broader networks, and more connections, which enables them greater access to resources, knowledge, and information. At the same time, international actors cannot rely on traditional decision-making bodies to enable equitable decision-making and outcomes. Research on decentralization in natural resource management and development has shown that transferring decision-making power to traditional and informal institutions can consolidate existing patterns of inequality, particularly when not accompanied by transfers of information, financial, and technical resources (Agrawal et al., 2012). This could be the case in contexts like Alaotra-Mangoro, where informal democratic processes remain strong at local levels, but traditional deliberative bodies, such as *fokonolona* (village councils), are not equally accessible to all community members (Rasamoelina, 2017).

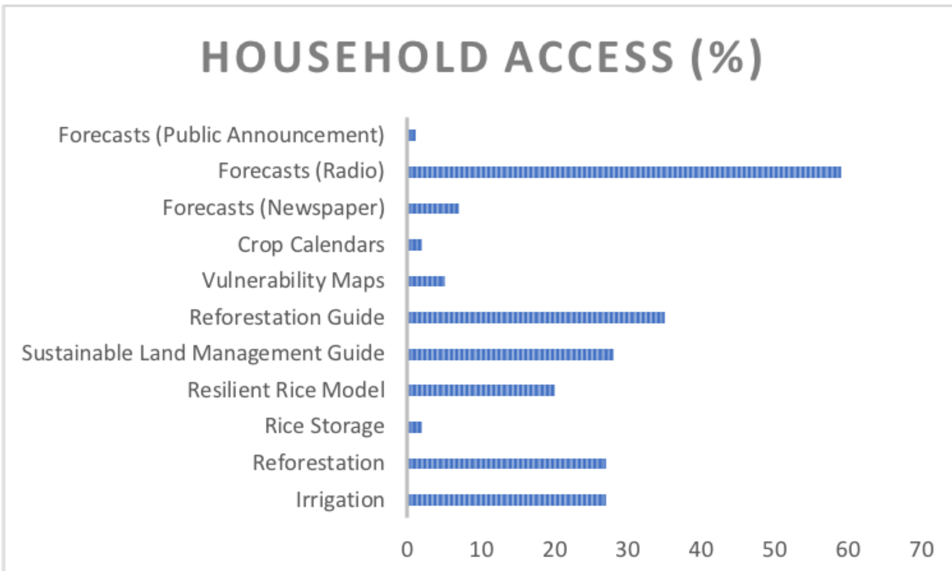
Advancing Equitable Adaptation in Inequitable Environments: Though outcomes in this case were highly inequitable, these findings nevertheless may point to opportunities to advance more equitable outcomes. I argued in Chapter 2 that a “good enough” approach to adaptation – focused on identifying positive outcomes and the circumstances under which they occur – could point to realistic strategies for adaptation organizations to engage with informal power. In this case, one outcome was notably more equitable than the others: weather forecasts broadcast over radio. Both beneficiary and non-beneficiary households widely accessed (61%) and used (48%) these updated forecasts. In fact, of the indirect benefits AFRice provided, forecasts enjoyed by far the broadest reach (Figure 4.4). This is likely because a majority of households (68%) in the sample possessed a radio. Further, as an identical number of households reported receiving radio broadcasts, this indicates that most if not all households had access, even in the most remote sites.

I argue there are two primary reasons this outcome was more equitable. First, forecasting built on existing institutional strengths (Andrews, 2013; Booth, 2011). Madagascar’s Meteorological Agency[23] already had the capacity to develop and disseminate forecasts. Radio ownership is widespread in rural Madagascar (Francken, Minten, & Swinnen, 2012). Low-income households are also accustomed to accessing and using these forecasts to make decisions about when to plant crops, particularly rice. The second reason is that the information itself was

[23] Direction Générale de la Météorologie

democratized. A household's access to these forecasts did not rely on either connections to the state apparatus or dissemination of information through community networks. Thus, in the case of Alaotra-Mangoro, democratizing information might offer one path to more equitable adaptation.

Figure 4.4 Percentage of Households Accessing Indirect Project Benefits



Radio forecasts, of course, are not a total solution to the challenge of adaptation in Madagascar, nor do they offer a comprehensive strategy to make internationally financed adaptation more equitable overall. Such insights are necessarily contextual. The potential of radio is likely greater in context like Madagascar, where rural communities are disconnected but radio usage widespread, than in other contexts. Nevertheless, I highlight this finding to demonstrate that adaptation scholars and practitioners, by identifying positive outcomes and building on the institutional arrangements that facilitate them, can develop realistic strategies to make adaptation more equitable even in highly inequitable environments.

Conclusion

This study measured the distributional outcomes of an internationally financed adaptation project in the Alaotra-Mangoro region of Madagascar. Specifically, I examined the equity of project outcomes and whether benefits reached “particularly vulnerable” households as mandated by the Adaptation Fund. Drawing on findings from 63 interviews at the national level, I hypothesized that patronage influenced distribution of benefits to households in the project’s primary implementation sites. I used a multi-level model to analyze 599 household surveys and compare the political connectivity of beneficiary and non-beneficiary households.

I found that project participation was strongly associated with household political connectivity, as measured by household and family members’ connections to formal and informal positions of power. This finding was robust across four different measures of participation. I concluded that it is likely that, despite the AF mandate, the project disproportionately benefited households already better positioned to adapt. This study provides quantitative support for what has previously only been theorized or qualitatively investigated: internationally financed adaptation can exacerbate structural inequality in targeted communities. Taken together with the national-level findings described in Chapter 2, this illustrates the risks of adaptation organizations’ apolitical approaches to intervention, particularly their inability to recognize informal institutions and power.

This study also unpacked how informal power operated at two levels within project sites to shape access to benefits. In addition to patron-client relationships enabling elite capture, the uneven movement of knowledge and information through informal kinship networks also contributed to unequal access. These findings demonstrate the depth of structural inequality within these communities and the challenges that adaptation organizations face in democratizing decision-making. I argue, however, that there may still be opportunities to advance equity even in highly inequitable environments. By focusing on positive outcomes – such as the broad access to and uptake of climate forecasting – adaptation scholars and practitioners can build on existing institutional arrangements to understand how these positive outcomes can contribute to making internationally financed adaptation more equitable.

These findings do have limitations. Because the model used here is relational, not causal, the quantitative findings alone are insufficient to conclude that political connections played a direct role in influencing project participation and distribution of benefits. Considered in the context of qualitative findings from interviews and observations, however, the data strongly support a causal relationship. It is also important to note the inherent difficulties of measuring power. The political connectivity variable is a proxy: a snapshot of a given household's connections at the time the survey was collected. Finally, it is important to note that almost all sampled households, including beneficiaries, are vulnerable by international standards: the majority have few assets, rely heavily on agriculture, and demonstrate low general and specific capacity to adapt. The conclusions drawn here speak to the *relative* vulnerability of these households, within project sites and within Madagascar.

Providing international support to the most vulnerable communities, and the most vulnerable households and individuals within those communities, poses a tremendous challenge for international actors. There are no easy answers for how these actors should navigate structural inequality within countries and communities. A "good enough" approach offers a first step: identifying equitable outcomes and strengthening the institutions that enable them can advance equity in internationally financed adaptation short-term. But longer-term, adaptation organizations must also develop strategies for expanding out from "islands of effectiveness," deriving principles for success that can guide efforts to make broader systems more effective, accountable, and equitable long-term.

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Chapter 5 Conclusion

This dissertation looked at informal power in international climate finance at three scales. At the global scale (Chapter 2), I examined the overall architecture of public climate finance, focusing on the ways in which it differs from development aid. I found that climate finance is grounded in new principles of restitution, country ownership, and the use of climate specific criteria in decision-making. As a result, I argued, spaces are emerging within this architecture for experimentation and risk-taking with new approaches to informal institutions in countries receiving international funding. In particular, shifts in decision-making power from donor countries to recipient countries offer opportunities to re-consider approaches suggested in the context of development aid.

In Chapters 3 and 4, I empirically investigated how informal institutions of clientelism and patronage shaped the equity of internationally financed adaptation projects targeted at the particularly vulnerable. At the national level (Chapter 3), I found that government decision-makers in both Madagascar and Mauritius directed project benefits through informal channels and used project resources as part of broader efforts to build political power. Despite these similarities, the equity of project outcomes differed in each country. While outcomes in Mauritius were relatively equitable, outcomes in Madagascar were highly inequitable. I argued that these divergent outcomes can be explained by characteristics of each country's institutional environment, especially the way that informal institutions interacted with formal mechanisms of accountability, and the alignment of incentives for government decision-makers.

At the sub-national level in Madagascar (Chapter 4), I investigated the distributional outcomes of the same internationally financed project in its primary intervention sites. Drawing on findings from the national level, I tested the hypothesis that households' connections to the patronage structure of the state influenced access to project benefits. I found that project benefits were strongly associated with household political connectivity and concluded that the project likely disproportionately benefited households already better-positioned to adapt. I further argued that access to project benefits was influenced not only by connections to state patronage, but also the uneven movement of information and knowledge through informal community networks.

Overall, the findings from Mauritius and Madagascar illustrate how informal power can influence internationally financed adaptation and that current apolitical approaches risk reinforcing inequality. New approaches are needed to ensure equity, especially in targeting funding to socially disadvantaged and politically marginalized groups. A paradigm shift in international modes of intervention is unlikely, however. Adaptation organizations have shown little willingness to challenge structural inequality, or to cede decision-making authority to local levels. Nor does democratizing decision-making offer a panacea, as decentralization has been shown to reinforce inequality in other contexts.

This dissertation therefore focused on identifying opportunities for and approaches to advancing equity within current frameworks. In particular, I argue for a "good enough" approach that focuses on equitable outcomes as much as inequitable ones. Such an approach requires adaptation organizations to be attuned to different institutional forms and functions. It is necessarily contextual, requiring on-the-ground knowledge of sociopolitical dynamics that remain under-developed in many organizations. In Mauritius – and other countries where informal institutions have been shown to contribute to equity – this approach might include increasing transparency of international interventions, partnering with domestic actors that can effectively mediate between formal and informal power, and recognizing the reality of trade-offs in government decision-making. In Madagascar – and other countries where informal institutions are unlikely to contribute to equity – this approach might entail identifying other opportunities (like democratizing information for adaptation through radio) and seeking to build on the institutions that enable them.

Ultimately, a "good enough" approach must not only advance equity for adaptation with current frameworks but also contribute to broader efforts to transform inequitable systems. Identifying positive outcomes is just the first step for adaptation organizations. The second is to strengthen effective and equitable institutions, derive principles from what is working, and seek to expand out from "islands of effectiveness." Current discussions about the need to fundamentally rethink modes of international intervention, in addition to being unrealistic, overlook how change is usually incremental, and how international actors can play a positive role in making systems more effective, accountable, and equitable long-term.

Finally, this dissertation has shown that spaces are emerging within the overall architecture of climate finance to enable experimentation with these types of new approaches to informal power. Insights derived from such experimentation could feed back into global policymaking and generate a slower, but longer-term shift in international interventions. Taken together, these new spaces in the architecture and approaches in recipient countries, have the potential to contribute to making climate finance, and particularly internationally financed adaptation, more equitable.

Appendix A. Qualitative Evidence

The tables in this appendix summarize the qualitative evidence supporting the "Findings and Analysis" of Chapter 3. In the left column of each table are evidentiary statements from the text. Supporting qualitative evidence – drawn from interviews, document analysis, participant observation, and external sources – is in the corresponding column on the right. Quotes provided in the text are expanded in the right column to provide additional context. Above each table are synthesis statements from the text.

Names and identifying information are redacted to ensure the privacy of interviewees. When multiple quotes are attributed to a single interviewee, they are listed under one header. Some interviewees requested not to be recorded, others not to be quoted. I have noted this where it is the case.

Table 5. Clientelism and Private Sector Interests in Mauritius

Synthesis	
Clientelism and informal private sector lobbying both played roles in the Ministry of Environment's selection of the AF project sites in Mauritius. Interviews also revealed that private sector interests influenced selection of a second project site.	
Text	**Source(s)**
The first site, Riviere des Galets, is a small fishing community on the island's southern coast. A 2003 government report on coastal erosion, which served as the basis for site selection, identified it as a high priority site for intervention.	<u>Document</u>: A 2003 study of coastal erosion commissioned by the Ministry of Environment identified critical priority sites for intervention in Mauritius coastal zone. It gave Riviere des Galets a "high priority rating," noting its "high exposure to southeast trade waves and southerly swell" (Baird, 2003, 4-28). The report also noted that the shore is lined with dwellings 15-20 meters from the embankment, protected by failed infrastructure" (Baird, 2003, 4-31). <u>AF Project Document</u>: The project proposal cites the Baird report as the justification for site selection (*Proposal for Mauritius*, 2011, 7-11).

Periodic storm surges over-topped a failing sea wall, flooding homes and forcing inhabitants to evacuate to higher ground.	Document: A 2011 report from the International Organization for Migration (IOM) noted that Riviere des Galets has "high vulnerability to sea-level rise and storm surges. The village has been flooded numerous times in recent years" (Gemenne & Magnan, 2011, 37). Significant flooding events occurred in 1987, 2001, 2004, and 2006. Interview, Foreign Consultant: "You are in a community of, I think about, I think its 400 or 500 people in Riviere des Galets. It's a fishing community. And they are right on the shoreline. They've had several storm surges they've survived through where they've had their homes inundated. Where they've had to evacuate to high ground." Interview, Domestic Consultant: "At RDG, the case was that just before they started writing the project, they had an event that happened where houses were flooded, where people would go on the radio and say they thought they were going to die."
Project actors indicated, however, that the main reason the Ministry of Environment selected the site was the widespread incidence of asbestos that needed to be addressed because of health implications.	Interview, Foreign Consultant: "So, all of the houses were built with asbestos in Riviere des Galets. Literally, and it was kind of like in the past 20 years, they've realized people are dying from asbestosis. Yea, like while I was there, they were showing me, one of these women's husbands was dying, like he was really coughing hard. Asbestosis. They are a critical problem with asbestosis there, and it was confirmed in the report. I am just going to say it. It's my opinion that the government was much more concerned about the asbestosis, you know, this is…every house is built with it. It is a material of quite a few of these houses. When they have storm surges, or when they have a storm, pieces of asbestos break off. And then you know, these particles get into the food that they are growing and its spoiled. You've got children playing with asbestos. You know, they are making their own little cubby house, they are being children, literally playing with this stuff." "So my conclusion in doing the consultations there is that: asbestos homes were much more serious and imminent cause of human loss of life and health than a storm surge that might happen, as [redacted] said, the kind of storm surges you would see would happen every ten years. People recover from them. But of course, if you've got asbestos and you're living in this asbestos environment, and continuing to live and not changing that, then you've got people dying of asbestosis." Interview, Foreign Consultant: "Don't get me wrong. There is climate. They are at risk of storm surges. They are at risk of losing their life if they do not evacuate during the storm surge. So they have their evacuation centers. Of course, it's not pleasant to get your asbestos house flooded. I don't think that anyone wants that. But the more imminent problem was the asbestos, and that agreement with the government that that land behind

	Riviere des Galets was going to be given for this project to rebuild on."
Riviere des Galets includes a number of homes constructed as part of a state housing project known as Cité EDC.	Document: A 2018 report from the Mauritian political party Lalit identified Riviere des Galets as one of 60 locations of EDC estates in Mauritius. It noted that though residents in many inland sites were eligible to have their land purchased by the Mauritian government, residents of EDC estates in coastal regions were not eligible (Lalit, 2018). Documents: The presence of EDC housing in Riviere des Galets is confimed by multiple news reports (Hérisson, 2011). One report refers to "77 families living in former working-class housing estates" ("Montée des Eaux - Riviére des Galets: Residents want to be relocated," 2010). Document: A 2011 IOM report included interviews conducted among residents of Riviere des Galets. It noted that though most residents own their houses, they do not own their land but rather rent from the state (Gemenne & Magnan, 2011, 42).
Built following a devastating cyclone and intended to temporarily house the most disadvantaged, many EDC houses were constructed with asbestos paneling (Hérisson, 2011; *National Action Plan on Asbestos*, 2002).	Document: A 2018 report from the Mauritian political party Lalit stated that the Ministry of Housing built 60 housing estates, commonly known as "Site EDC." It noted that the "houses made of asbestos panels were then leased to those who could not afford housing." Lalit estimated that 2,850 houses with asbestos were still in place in Mauritius (Lalit, 2018). Document: "Between 1963 and 1991, the Mauritian Government in partnership with the British Government developed and constructed a new housing model called the EDC (European Development Community) houses in the southern part of Mauritius. The materials used to construct the EDC houses were mainly concrete slabs, iron sheet roofs, and asbestos panels: these houses were rented at a low cost to those who could not afford a house" (Ramsamy-Iranah et al., 2020, 7).
As the AF project was under design, the government of Mauritius faced increasing pressure from opposition politicians and civil society organizations to replace the housing or relocate residents.	Document: The independent Truth and Justice Commission, established in 2009, explored the impact of slavery and indentured servitude in Mauritius. It found that "certain housing estates (residences) have been constructed with asbestos, a substance known as a serious health hazard" (Truth & Justice Commission, 2011, 419). The Commission recommended that "these houses should be pulled down on a phase to phase basis and other units constructed with proper material" (Truth & Justice Commission, 2011, 12). Document: A 2011 article in Mauritius' primary newspaper, L'Express, noted the increasing pressure on the government to address asbestos housing, including calls from the opposition party and the Moderator for the Committee for the Banning of Asbestos (Hérisson, 2011).

	Interview, Foreign Consultant: "Of course, in a more innocent time, people didn't know what this did. But we now know. And we now know that, you know, thankfully Mauritius does have standards. It's, you know, it's trying to improve themselves. So they know that they've got to give these people new homes. Full stop. It's dangerous for them to be living where they are."
Local politicians promised relocation for residents of Riviere des Galets before the AF project began.	Interview, Foreign Consultant: "It was a headache because there were numerous arguments, I have heard, and the third party of consultants came up with a serious recommendation, best practice, cost effective solutions. But no, the decision [to relocate] has already been made and they went against that. It wasn't in their interest and they were risking a blow to their own budget." Interview, Domestic Consultant: "Clients not knowing what they want is still something for Riviere des Galets. The thing about relocation, that was something else. Because when we started the project, people already knew that, okay, we have the opportunity to get relocated. Then we had to tell them: no, this has not been decided yet. It is still being investigated, these kinds of things. There were things which was a little difficult, that when we went into the field, we saw the difficulties…They were already building up an expectation that they were getting a house, plot of land, and compensation. We had to tell them that: no, still not the case, we are investigating."
The government had already reached an agreement with a nearby sugar plantation, the largest land owner in southern Mauritius, to provide a relocation site (Azor & Ramoo, 2019). The estate would "donate" the land, likely in exchange for tax breaks on a real estate development. As one consultant said: "nobody gives land that close to ocean for free."	Interview, Foreign Consultant: "It's like: does it trigger the safeguard? Yes? We really can't do it with this project. Full stop. …And then having it used as a political tool, where for me, it's still not clear whether those people would've had to have paid any kind of rent on that sugar plot that was given to, given for the project. And what were the…and nobody gives land that close to the ocean for free." "At the same time, the sugar industry is closing down in Mauritius. And behind Riviere des Galets, there is a sugar area. It's like fields that was being marked. This was news to us when we arrived to Mauritius. They did not put this in the Terms of Reference. They just hid it. They just said: great, you've got the consultants. We didn't know we were being used at the time by the government. But we were designing the, not a managed retreat, a resettlement. And it was, this is where the politics now come into play. So, this very influential family was willing to donate a plot, a very large area of land behind Riviere des Galets where there is sugar being grown at the moment. They were willing to donate the land to do the resettlement. And that's what was told to us." "Because the numbers are fully there, you can see where our assumptions are, in terms of the feasibility. Of course the fact that you didn't have to pay the land, made it much more feasible. Like, you know, the numbers were: wow. One of the caveats of this, and everyone would say: "no, no, no, it's land, donated for free." And you know better. You know better."

	<u>Interview, Domestic Consultant</u>: "Yes, we spoke of relocation in RDG and there was at some point talk about it. I never saw anything on paper and this was dealt with at the level of the Ministry. It was like one of the sugar estates would be providing land for the inhabitants. But eventually the land did not come, like it was never officialized." <u>Interview, Foreign Consultant</u>: "With the southern one, Riviere des Galets, there were a lot of preconceived ideas of what should be done there. Partly because it was a squatters colony. With our agreement from the agency, we were supposed to be looking at what is the best thing to do. But we were being told, straight away, that those people had to move off there, straight away." <u>Interview, Mauritian Civil Society</u>: "The government would not acquire land. The government would negotiate with the sugar estates and get a plot of land from them…These guys, what they want to do is convert these agricultural lands into residential land and normally this conversion of the land is supposed to be taxed. So there is a land transfer duty tax – duty, they call it. I think these guys negotiate with the government and they don't pay the land transfer duty. And the counter part of this too, normally the private sector will give land for the government for social development and other things. The land which was valued, say for example, 10,000 dollars. They sell it at maybe a number of times its actual value. So the value of the land just appreciated by 10 times the actual price." "So what these guys do, they call it *morecllement* in Mauritius. They partition the land into smaller parts. The land to middle income families. Very small plots as compared to the land that is being sold to other people. So it is only a small portion of that land and recently they had started to create what we call "smart cities." So smart cities, with a commercial zone, residential zone, and other facilities. These smart cities obviously got an investment scheme. So people would develop these smart cities and they would not pay any tax. So again, they would give government a portion of that land for social purpose. It is quite controversial. There are some benefits, obviously. It brings development. Obviously, when foreign investment is decreasing over the years, you have people within the people investing. Obviously, that is a good thing. But on the other hand, when you see that as people we pay tax directly, so whatever we earn we pay. And these guys, they develop but they don't pay any taxes on these "smart cities." And mostly, these lands, as I said, they sell these lands for maybe 10 times, 20 times the real price of land." <u>Document</u>: A 2016 news report indicated that the residents Riviere des Galets were soon to be evacuated to land that "belongs to the Saint Felix Sugar Company" and that "the

	Ministry has taken steps to acquire this plot" ("Des Habitants de Riviére des Galets Seront Évacué," 2016).
Despite the fact that the 2003 report recommended upgraded coastal protection works, the government established an expectation for relocation, both among the community and the consulting team contracted to recommend a course of action. As one domestic consultant described, the residents believed they would get "a house, a plot of land, and compensation."	<u>Document</u>: The 2003 report on coastal erosion recommended "coastal protection works" to replace the failing infrastructure in Riviere des Galets (Baird, 2003, 4-31). <u>Interview, Resident of Riviere des Galets</u>: "They said they are relocating us to a government land, probably a sugarcane estate around here." <u>Interview, Domestic Consultant</u>: "Clients not knowing what they want is still something for Riviere des Galets. The thing about relocation, that was something else. Because when we started the project, people already knew that, okay, we have the opportunity to get relocated. Then we had to tell them: no, this has not been decided yet. It is still being investigated, these kinds of things. There were things which was a little difficult, that when we went into the field, we saw the difficulties…They were already building up an expectation that they were getting a house, plot of land, and compensation. We had to tell them that: no, still not the case, we are investigating." <u>Interview, Foreign Consultant</u>: "It was a headache because there were numerous arguments, I have heard, and the third party of consultants came up with a serious recommendation, best practice, cost effective solutions. But no, the decision [to relocate] has already been made and they went against that. It wasn't in their interest and they were risking a blow to their own budget."
The Terms of Reference for the project required that a "managed retreat" be evaluated among the options. Several members of the consulting team noted that the main challenge the community faced was not storm surge but asbestos and resulting incidences of "lung diseases."	<u>AF Project Document</u>: "The option for managed retreat (relocation of the vulnerable communities) at Riviere des Galets site shall be explored among other adaptation measures. The costing of relocation of community and other recommended adaptation measures shall be worked out." (UNDP, 2014, 30). <u>Interview, Domestic Consultant</u>: "Many of the houses were built in the 1960s. There was a project in the 1960s for some housing projects and those projects would make low cost houses for low income people. There were, in those houses which date back in the 1960s, asbestos, even though we signed a convention on asbestos. People are still living in houses made with it. Nothing has been done, even though we mentioned it a couple of times in the meeting. You know they have parents, children, and some of them would be having some kind of lung diseases." <u>Interview, Foreign Consultant</u>: "The government was much more concerned about the asbestos.. [Relocation] is what the government wanted, and it was because of the asbestos in the homes. They wanted to promise. And, of course, you have the local politicians saying: if you vote for me, we will give you a

	new home and it is going to be in the sugar plot area. So, you are very close to where you were, and we are going to call it "managed retreat."
The consulting team rejected relocation as an option, arguing that it triggered UNDP and Adaptation Fund social safeguards.	Interview, Foreign Consultant: "Now you've got this new piece of land behind you. This is not so much as a managed retreat as it is a resettlement. And at that point, I rang up the UNDP, I said: guys, I have actually done a lot of work on social safeguards and resettlement before. On hydropower and forests, great ones for that. I said: this is not the right mechanism. This is not the right fund to do this with." "Now this was, this is when our consulting team and the government of Mauritius got into a massive…this is where the project kind of faltered. And it was politically driven. And that's why I give you the background of the sugar guys and the asbestosis. Because I had to call the UNDP and say, your social safeguards are now triggered. Full stop. You have to take action, you know." "So to be clear, to be absolutely clear, this part of the project is a very good example of how you can politicize climate finance. And I take my hat off to the UNDP. They have the safeguards, they do have the safeguards that puts the stops on things and say: slow down a bit. We've got some triggers going on here, so what does that mean for us? That's why we have safeguards." Interview, Foreign Consultant: "Our position was, well let's continue to look at what the situation is and what's the best way to do it…right now I am working on a couple of projects in the Pacific, one of them is in Tonga, and we are looking at ten and thirty years planning horizons, we know that we have to move there. They live less than a meter above mean sea level. So we are looking at buying land. And that is something we found there: at the bare minimum, even if you're going very, very fast, to move a whole village is going to take at least a decade. Finding your land, getting your infrastructure, and all the rest of that. So that is why in the end, it came back to that: what is best way or approach? There's overtopping and coastal hazard. How is it going to get worse with sea level rise? And that was where the continuing enlargement, there were already existing revetments, so enlarging those, that's why we chose that."
Unlike Riviere des Galets, which is in the island's less prosperous south, Mon Choisy is located in the prosperous and tourism-focused northwest. Though many project actors observed that the area experienced high rates of erosion, the 2003 government report did not identify it as a priority site.	Document: The 2003 coastal erosion report identified Grand Baie as a priority site (Baird, 2003, 4-20). The report's location map indicates that the assessed location is in the town's harbor, distinct from the beach of Mon Choisy (Baird, 2003, 4-19).
Mon Choisy was, however, an important area for real estate development, particularly a large	Document: Mon Choisy Property Development Limited received approval for modifications to the Pamplemousses – Rivière du Rempart District Council outline scheme in August 2011,

resort and golf course that broke ground soon after the AF project was initiated.	enabling the development of an 18-hole golf course. It also received approval for the Parc de Mont Choisy Integrated Resort Scheme, which enabled the 1200 acre Mont Choisy Golf and Beach Estate (Limited, 2014).
A number of project actors and civil society representatives highlighted the influence of private sector interests, particularly real estate, in shaping government policy. As one domestic consultant described: "The private sector, with their investment and their links into the government, has a major say on what happens on the coast and in terms of future development." Another explained: "The cabinet has their arms twisted behind their back by the private sector."	<u>Interview, Mauritian Civil Society</u>: "Many of the decisions are taken in big boardrooms of corporations. If you look at the EIA [Environmental Impact Assessment], for example, if you look at the amendments brought to the EIA, they have been brought on the basis of challenging what has been done to the different projects that have been produced to the EIA. What I mean is that the corporations, when they find that their interests are being threatened, they take decisions and those decisions are somehow brought to the government for them to enact…policy decisions are made by, like I told you, they are taken in board rooms and then implemented by the different policymakers, Ministers or whoever. They are done to favor those corporations and those who believe in those kind of development models. I think it is important to say that question will be more about why it is so, and I think this is so because if we look at our elections, how our democracy is being corrupted by money. You just follow the money and you see what is the interest behind. And when you see the interest behind, then you understand why law is being amended and done to favor those who actually put money into our election at that period of time." <u>Interview, Foreign Consultant</u>: "Another issue is the influence the private sector has on any development, any planning decision in the country. What that means for economies that are so reliant on tourism – regardless of the discussion about blue economy – you know tourism will have to be a major part of the plan. So the private sector with their investment and their links into government has a major say on what happens on the coast and in terms of future development. And I have noticed it with a number of meetings I had with stakeholders there. Basically, from NGOs' perspective, they say they will do anything they want. To the private sector, they say to the government: if we were not here then Mauritius would be a lot further behind. You know we need money. We provide so much money and so much employment. So, the private sector adds a whole dynamic to the whole equation. They are very influential to what happens." <u>Interview, Foreign Consultant</u>: "When you start to write sustainable development plans, you have to really know what their expected plans are. And that makes any of the plans so difficult to get changes, because you know you have to be able to influence the cabinet and the cabinet already have their arms twisted behind their back by the private sector." <u>Interview, Mauritian Civil Society</u>: "What triggered everything, in fact, in Mauritius, was not coastal erosion. It was flooding. It was flash floods. So when they started to have flash floods and

	people, you know, popping out and saying: look, you know, we are having problems now. People just died in the tunnel, over here. Then people, the government started to wake up…Let's put it like this. The coastal zone is important, but it is still on flooding, linked to climate change. So they put a lot of money in funding adaptation and then, and they create a kind of emergency funding which they can apply directly to the Prime Minister's office…And on top of that the Minister of Environment has put, I think, 100 million rupees to cater for coastal erosion. Because people also started to complain slowly about coastal erosion. But the people complaining about coastal erosion are mainly people having private dwellings on the beach, *campement* owners as we call them in Mauritius, or hotels. People that normally have money. So are you going to prioritize flooding, which affects poor people, or are you going to prioritize beach erosion? The only thing is that the tourism sector, which is a pillar of our economy, is now threatened." <u>Interview, Mauritian Civil Society</u>: "If we take the example of hotel building or beach grabbing. If you look at the tourists industry, it is designed to benefit mostly big resorts and hotels. We could have imagined for example a different kind of tourism industry: how do the people as a whole benefit from that industry? If we take the example of Rodrigues, which is not based on big resorts, but based on benefitting the people and the culture over there. It gives a different approach also in regards to our environmental and ecological environment. It is not based on beach grabbing. If you go to Rodrigues, the beaches are still accessible. The beaches are available for local and tourist, which is not the case here for Mauritius. If we take that standpoint, Mauritius is like our economy. Our so-called development is geared toward what the oligarch wants and this we can see in our approach to the issue of environment or ecology."
According to an international consultant, hotel interests played a significant role in steering site selection: "They are doing this property development, this golf course near Mon Choisy…a lot of money is going up there to develop the area, so let's make it a nice beach."	<u>Interview, Foreign Consultant</u>: "So that's the reason why, at least from my…of course, they are doing this property development. Now I remember. They are doing this property development, the golf course near Mon Choisy. So, they were also looking at, you know, if it's a place, again, a lot of money is going up there to develop the area, so let's make it a nice beach. You've got to start somewhere, why not that one? If you can do that beach, it's the hardest one, one of the difficult beaches to restore I think, with all of the things that had gone with the removal of the seagrass."
A UNDP official confirmed that Mon Choisy was selected for "tourist values."	<u>Interview, UNDP Official</u>: "Mon Choisy was about its tourist values. If it was lost it would have an impact on the local economy." <u>Interview, UNDP Official</u>: "I remember that we also had this project on Mon Choisy beach, which a really, highly touristic place."

	AF Project Document: "The coastal zone of ROM is critically important to the economy of the country, in terms of domestic and international tourism, as well as fisheries" (*Proposal for Mauritius*, 2011, 41). AF Project Document: "Mon Choisy is one of the top five beach destinations on the island of Mauritius" (UNDP, 2014, 28).
Private interests also shaped project implementation. The Terms of Reference for the consulting team emphasized the importance of "preserv[ing] economic activities" linked to the beach.	AF Project Document: "The proposed adaptation options for Mon Choisy should preserve the economic activities linked to the public beach" (UNDP, 2014, 8-9). AF Project Document: "The proposed adaptation options will have to cater for existing economic activities," including "ongoing economic activities and nautical activities in the lagoon." (UNDP, 2014, 1). Interview, Foreign Consultant: "If we are to think about the political interests in Mon Choisy, to sum up. You have the hotels that were interested in what it would mean for them, especially regarding the sea grass and the boats in the lagoon….So there you go, you've got tourism interests, hotel interests, property development interests, fishermen interests, tourist interests, public beachgoers interests. And I think that the public beachgoer needs to be viewed very differently to a foreign tourist. They have a very different value and perception of their environment. So a tourist won't care if the trees are removed. The public beachgoer will care if the trees are removed. Lots of different interests on this one, and you know it really brought to light how hard it is to restore a beach with so many pulling interests. You had a lot of opposition to the implementation of that project." Interview, Foreign Consultant: "In the north it was quite different. We did get some resistance from the political side on what should be done. Again, from our side, we just try to keep out of that. And, yea, go ahead with what we believe should be done."
The government rejected recommended measures – including an artificial reef that would extend above the ocean surface, the replanting of seagrass, and a reduction in motorized boat activity – that would reduce erosion but leave the beach less aesthetically appealing, especially to foreign tourists.	Interview, Domestic Consultant: "One thing was that for Mon Choisy, at first we designed a stretcher that will stop the erosion. Literally stop the erosion. So went on and we did our survey, modelling, and biological survey….We designed a stretcher that would stop the erosion on the beach. And when they had a look at the stretcher – it was a very big stretcher, which had to be massive to stop the waves and the current from coming in – they were a little bit shocked and not very happy it. That was their demand: to stop the stretcher….We had some various comments. One was like it was a runway for a plane. These kind of things. It had to be massive to stop that kind of waves, especially during a cyclone…It was not aesthetic for a lagoon at Mon Choisy." "For Mon Choisy, I am not too sure to what extent it is successful. Firstly, we did not get any kind of cyclone to

	eventually see if the design has been effective and these kinds of things. One thing about the design is that, when we had proposed the design, we were also asked to modify the design so as to suit the project manager. This was some kind of issue like the heights of the reef walls. It is a certain height. If it was just slightly emerged out of the water, it would have been even more effective at times of cyclones, because of the higher water level. And it would have been easier to break the waves…So what happened was that in committees eventually we were told that they want this and this, this, this. They were the clients and we had to give them what they wanted, you see. And at the end of the day, there was some kind of modification during the implementation phase." "It was for aesthetic reasons, navigation and all these things. Well, you see some rocks there. What's wrong with that? When you think of how much more efficient it would have been 20-30 centimeters higher up. It is really – it can be very much more efficient but they did not think of it that way. They probably wanted less efficiency but more aesthetic." "What I would think was that the clients, the person advising the clients who were in the project, they also did not see the importance of a few details of the height of the borders. They did not see that kind of importance. They placed the importance on lots of other things, like they did not see the details like the height of the water. They did not see that kind of importance and placed the importance on other things such as beach aesthetic, beach navigation."
The government also warned the consulting team not to recommend the removal of private infrastructure that exacerbated erosion, for example cement berms installed by resorts under ambiguous legality.	Interview, Foreign Consultant: "We've got to work with the real environment. And we were told by the government of Mauritius: we are not to remove or touch the shrine. There's a shrine on the corner of the beach. It's a Hindu shrine. So of course we respect. And then anything south of that shrine cannot be touched. You can't, we can't say, guys you need to remove those cement structures that are creating a different wave environment that will not lead to a full restoration of your environment."

Table 6. Institutionalized Patronage in Madagascar

Synthesis	
To decision-makers in the Ministry of Environment, responding to the incentives of this institutional environment, AF funding represented an opportunity for patronage and profit. Throughout the seven-year implementation of the AF project, the Ministry of Environment increasingly consolidated decision-making and financial power.	
Text	**Source(s)**
The Malagasy Ministry of Environment, like most branches of the government, is part of a broad system of state patronage in	Interview, Malagasy Government: "We understand that the governance in the Ministry of Environment as a whole is very bad, very poor."

Madagascar in which employment, contracts, and other perquisites are distributed based not on merit but on partisan connections.	Interview, Foreign Consultant: "They try to orient as much of the money to their own interests, notably GEF [Global Environment Facility]. Which is kind of a fiasco, allow me to say, where the Ministry funds a number of bogus projects, through bogus NGOs, which are creations of people in the Ministry to siphon off money." Interview, Malagasy Civil Society: "We do know that there is a lot going on within the Ministry of Environment. Like, you know, giving permits for people who exploit the forest...This is not legal, as officially the Ministry of Mining has suspended all of these permits. But behind the woods they are still doing it, because of corruption. But once again no one will give evidence of this."
An unpublished 2018 report from the Committee for Protection of Integrity – an internal governance initiative – found that more than 600 individuals collected a salary from the Ministry despite having neither offices nor portfolios. According to this report, around a third of all positions in the Ministry are sinecures.	Government Document: The Committee's report aimed to survey 30% of the Ministry's staff as an "initial inventory of governance." The report noted: "The lack of staff control is one of the major problems identified. Available budget items are used without necessarily meeting the actual needs in terms of skill or number. The investigators found that the number of staff registered at the central level (source list produced by Human Resources Directorate) on sites visited, does not always coincide with the actual number of staff practicing." The report recommended "standardized recruitment meeting the real needs in terms of skill and number," as well as "the identification of [Ministry] staff to ensure attendance, and allocation." (*Rapport d'Enquete Tenant Lieu d'Etat Initial de la Gouvernance au Sien du Secteur Environnement*, 2018) The report identified 1,869 Ministry staff. If approximately 600 of these are without portfolio (see interview below), around one-third of all positions are sinecures. Interview, Malagasy Government: "We understand that many people are working in the Ministry without any office, any job in fact. Six hundred people work in the Ministry without any office, job, function. They just take a salary…They have a list of persons in the Ministry and many directions, services, like that. Many people. And we asked: what do they do? Where are they? Can we see them. No, no. No office. They come in the morning: hello, hello. And they leave. That's what the problem is. Not only in the Ministry of Environment. We saw that directly. We spoke to the *responsable* in human resources. And he explained himself, what is his situation. But we cannot understand how this is possible. Who decides?...Somebody makes a decision. Under the table. Friends, relatives come in, come in. Sign up. Take the money."
Following the 2009 political crisis, the government of Madagascar was, in the words of one international consultant, "resource starved." Inter-ministerial competition over financial	Interview, Foreign Consultant: "One thing in Madagascar, I think, that is not the case in other countries I have worked in, is the extreme competition for resources. But this is due to the political transition, the sort of timing when we came in with that project…And I think that's probably the case in all the countries

resources was fierce, and climate finance represented a novel and significant form of income.	that have poor governance, that kind of competition and pressure is there." Interview, Foreign Consultant: "Because of all the power struggles between different ministries and because, you know, the sudden influx of resources basically was a godsend, I think for ministries that had been weak." Interview, Foreign Consultant: "I mean, if you remember the context back in 2010, the donors had almost deserted the country. They were just beginning to come back maybe. Projects were really slow getting off the ground. There was not a lot of trust." Interview, Malagasy Civil Society: "For example, during this last coup in Madagascar in 2009: so from 2009-2013, there was no financing, no funding from abroad."
The AF proposal framed the project as "inter-sectoral:" a partnership across government ministries, agencies, and parastatal organizations.	AF Project Document: "Agreements were concluded between the Ministry of Environment and the Ministry of Agriculture, and a further set of Memoranda of Understanding were under development at the time of writing, for delivery of joint activities with [the] Water Directorate, Meteorological Services, Health. Informal agreements were also concluded with bilateral partners (World Bank, JICA, AFD) and ongoing projects (BV-Lac) on future collaboration (pending re-initiation of programming), particularly regarding joint implementation of watershed rehabilitation activities. Discussions with regional centers such as IRRI and World Vegetable Centers were also underway at the time of writing, and the World Vegetable Center had expressed formal interest in participating in the project." (*Proposal for Madagascar*, 2011, 46-47). "Though [a] Memorandum of Understanding ratified between [the] Ministries of Agriculture and Environment during project preparation, the Ministry of Agriculture (MinAgri) will be entrusted with the technical coordination of the project and deployment of on-the-ground activities. Specific project activities will be delivered through sub-contracts with participating institutions, such as Ministries, NGOs, research institutions (particularly FOFIFA), and local organizations. Collaboration with FOFIFA, a key project partner, will be further formalized through a tri-partite MOU between MEF, FOFIFA, and MinAgri." (*Proposal for Madagascar*, 2011, 56-57).
As it unfolded, however, the Ministry of Environment stripped these other ministries and agencies of decision-making power, and in some cases of their roles entirely.	Interview, Foreign Consultant: "Regarding the process of development, what I know is that throughout project development, project implementation, I have heard so many times people saying that they were not involved, and other sectors, like agriculture, were not involved enough." Interview, Malagasy Civil Society: [requested not to be recorded] Funding given to the Ministry of Environment will not be given to others, even if they are better qualified or prepared to the meet

	the goals of the funding. "If you have the solution, but I have to give you the money, then it is not a good solution." AF Project Document: The project's independent mid-term review noted a lack of inter-ministerial and inter-sectoral coordination, attributing the project's "low level of achievement at year three" in part to "limited coordination between government institutions regarding the implementation of the project" (Palazy, 2016, 4). "There is a major gap in coordination between sectors and use of the expertise of governmental and non-governmental institutions, which is a barrier to the success and sustainability of the project" (Palazy, 2016, 43). "The involvement of other sectors to date has been very limited. Relevant institutions have not been sufficiently consulted during the project design to enable ownership of the project." "Consultations with other institutions or projects is insufficient." (Palazy, 2016, 50).
For example, the Ministry of Agriculture, which traditionally received a far larger share of international aid than that of Environment, retained only nominal involvement despite the project's heavy agricultural focus (Adaptation Fund, 2018).	AF Project Document: "Though [a] Memorandum of Understanding ratified between [the] Ministries of Agriculture and Environment during project preparation, the Ministry of Agriculture (MinAgri) will be entrusted with the technical coordination of the project and deployment of on-the-ground activities." (*Proposal for Madagascar*, 2011, 55-56). AF Project Document: "Despite the MIRR [integrated rice resilience model] falling directly under the MAEP's [Ministry of Agriculture's] mandate, the MAEP was not sufficiently involved during the first years of the project" (TE, 102) Interview, Foreign Consultant: "We said: it's fine for the Ministry of Environment to lead and coordinate the project, but you need a partner who has agricultural expertise, particularly in terms of rice. So it as sort of back and forth argument that, you know, while this project may be housed in the Ministry of Environment, it still needed to have a strong agricultural partner. And at the time [project team member] did not get along with the Ministry of Agriculture. Or the Minster of Environment did not get along with the Minister of Agriculture, or something like that. So we went with FOFIFA, a neutral partner. And at the time FOFIFA also needed resources, so it worked well because they really needed money to start working on the project." Several project actors also acknowledged that the project should have been housed in the Ministry of Agriculture. Interview, UNEP Official: "It's also a mistake to have this project housed in the Ministry of Environment, to a large extent, right? Because it is an agriculture project."

	Interview, Foreign Consultant: "So it turned out, which I think was an unfortunate choice, but it turned out this was designed as an agriculture adaptation project, but it was placed in the hands of the Ministry of Environment." Interview, AF Project Team: "It should be assigned to the Ministry of Agriculture because the project is about planting rice, but fortunately we got it."
The International Rice Research Institute, which played a prominent role in the project's original design, was removed entirely for what several UNEP officials and international consultants described as "political reasons."	AF Project Document: "The project will strengthen scientific and technical capacity to develop a model for Integrated Resilient Rice (or Modèle Intégré de Riziculture Résiliente – MIRR), working with experienced national partners in this field (FOFIFA) and international centers of rice expertise (IRRI and World Vegetable Center)…" (*Proposal for Madagascar*, 2011, 11). Interview, Foreign Consultant: "At the beginning we also wanted other organizations to be partners, active partners, like IRRI in particular. We really wanted IRRI to be involved because, you know, they have an office in Madagascar. And they have so much expertise and technical advice to give. And already were very active in terms of adaptation to climate change in the rice sector. And we launched negotiation after negotiation and we tried, we really really really really really really tried to get them on board as implementing partners. But it didn't work out…An I think the problem wasn't with IRRI. I think the problem was with the Ministry of Environment. And I think – you know, I didn't delve deep into it because in the end it was just a waste of time to try to figure it out– it didn't seem like they were interested. I think the Ministry of Environment didn't seem like they were interested. I think it probably had to do with the fact that IRRI normally works with the Ministry of Agriculture. And so, you know, again the political rivalry and the relationship may have tainted the whole discussion. But they were willing, IRRI I mean. I remember."
The Meteorological Agency's role was limited to a "formality," according to a Meteorology official, installing weather stations, without a budget for either maintaining them or analyzing the data collected.	Interview, Malagasy Government: "They did not value the training from the Met Office. Because they did not even know how to use [the station]. But in general, there is a need for a station so they just set one up. When you use it and once you suggested to do something, they refuse and insist that it's not included in the budget." "Actually, there was no money set aside for the Met Office to install the station in Alaotra. Instead, they invited us, for example, we go on a mission to Ambatondrazaka to see the station." Interview, Malagasy Government: "It is normal if it does not work, because there is no good coordination. That is, the fact there was no available data to the Met Office to be sent to the farmers at all…In fact, the AFRice project does not consider at all that the project requires the Met Office to conduct analysis to set up a station in Alaotra-Mangoro for the station to send updates on

	the weather forecast to the farmers…In other words, it is just a formality to have the Met Office in there."
As an international consultant described: "The Ministry of Environment, traditionally very weak and traditionally resource-poor, did not want to hand over any of the climate resources."	Interview, Foreign Consultant: "I think that's the source [of tension between the Ministries of Environment and Agriculture]. The main source is that by the time all the donors came back, the Ministry of Agriculture was the main recipient of all the funding…Within all the development flows, basically. And so, you know, the Ministry of Environment, traditionally very weak and traditionally resource-poor, did not want to hand over any of the climate resources. And it still doesn't want to hand over any of the climate resources." Interview, UNEP Official: "It's a problem you see often in these projects because the focal point that has to approve the projects is in the Ministry of Environment, because climate change is an environment issue. And then of course they want to get the money for internal use rather than giving it to other ministries." Interview, Malagasy Civil Society: "If we look for funding or projects somewhere else, the people in the Ministry of Environment are not happy thinking that the funding should not go to us but to them, that we should not benefit from that funding. That is an obstacle I should not be loud about."
As the Ministry of Environment stripped other ministries and agencies of their roles, the tasks were transferred to consultancies.	Interview, Domestic Consultant: "This project was about five million dollars, I guess. And among these five million almost 3.5 million is just for consultancies." Budget Analysis: This perspective is confirmed by budgetary analysis of annual project reports that shows that as much as 83% of the project budget was dedicated to consultancies and private contracts (see Annex H). According to a range of project documents, AFRice engaged at least forty consultants through private contracts.
The gradual restructuring enabled actors within the Ministry to collect kickbacks on these contracts in several ways. First, through what one domestic consultant referred to as the "tuition and fee system," actors within the Ministry could demand a portion of external consultancy fees. From a $70,000 contract, a consultant might pocket as little as $15,000.	Interview, Foreign Consultant: "I remember at some point realizing that, you know, money that was supposed to go to one consultant went to one consultant and his 27 staff. It was like: you're not supposed to do that, right? It's just against the rules." Interview, Domestic Consultant: [requested not to be recorded] Under a "tuition and fee" system, consultants were required to pay back a large portion of their salary to the project official who approved the contract. Reported that for a $70,000 consulting contract, the consultant would keep only $15,000, with the rest collected as kickbacks. Interview, Foreign Consultant: "Like we knew, for example, in terms of procurement there were kickbacks going on. We knew that, you know, for the longest time there wasn't a clear process for procurement of goods and services. And when we finally set up some stuff, some procedures, we realized there were people in the procurement department who were getting kickbacks because,

	you know, whatever. And then even the project team was having to pay some part of their salary.”
Second, tasks originally intended to be completed by civil service employees in their official capacity were converted to private consultancies taken under their personal names.	The agricultural extension agency, FOFIFA, secured a number of these contracts. Interview, Domestic Consultant: [requested not to be recorded] The consultant stated that FOFIFA employees had received a number of private contracts originally intended to be completed in their official roles. The consultant said that FOFIFA “paid for a piece of the pie,” and was engaged in “business not research.” Observation: The researcher spoke directly with three FOFIFA employees who completed private contracts.
Finally, members of the AF project team were subject to salary kickbacks. Members of the team, who were paid from AF funds, were required to pay part of each paycheck to their immediate director and part to the director above him or her.	Interview, UNEP Official: “Many different things that are really not reflecting well on the government there. I can say about, in general, without going into details, there have been issues about salary kick-backs, we have heard about.” Interview, AFRice Official: “The first challenge I see is the institution itself. Because with such a project, the institution usually sees that the money belongs to them. But the money is of course for the country and its local population should be the beneficiaries. And that’s usually the challenge. The decision-makers tend to ask for money from the project. Then you face a problem with the payment, because the procedure is that the national project director must sign for the payment. Then the CFO signs the other one. So there are two signatories. When you get to the CFO, you have a problem because they may threaten you when they want something.” Interview, Foreign Consultant: “Like we knew, for example, in terms of procurement there were kickbacks going on. We knew that, you know, for the longest time there wasn’t a clear process for procurement of goods and services. And when we finally set up some stuff, some procedures, we realized there were people in the procurement department who were getting kickbacks because, you know, whatever. And then even the project team was having to pay some part of their salary.” “Definitely corruption and the whole thing that comes around it: fear. There is a lot of fear among people who work in the government in Madagascar…People are afraid of talking. They are afraid of saying what they think. They are afraid of losing their jobs from one day to the next. And it happens a lot, because there is a lot of political rotation up there.” Interview, Foreign Consultant: [requested not to be directly quoted] Staff of the project were required to cash their paychecks and deliver one-third to their Director and another one-third to their Director’s Director.
The AF project also invested in infrastructure in project sites,	Interview, UNEP Official: “For the water infrastructure where there was, it was quite clear that there were, you know, pushes

enabling further patronage in the distribution of construction contracts. In the case of a number of large irrigation infrastructure contracts, a UNEP official acknowledged: "It was quite clear that there were, you know, pushes and pulls from very high up in the Ministry that were influencing that process." The same official said the pressure could come from as high as the Minister of Environment.	and pulls from very high up in the Ministry that were influencing that process. And we, you know, that was kind of good example where if we are able to do our work well we can intervene. And we did intervene. And the issue was rectified." <u>Interview, UNEP Official</u>: "We had the challenge with the water infrastructure procurement process. And it basically just delayed things so much. The fact that we had to kind of, we ended up rejecting the original process and restarting the procurement because it wasn't conducted in a proper way. The selected service providers clearly weren't selected for the right reasons." <u>AF Project Document</u>: The report notes the procurement process for water infrastructure works experienced "major delays due to the need to address and rectify lack of transparency in the project" (*5th Project Performance Report*, 2017). <u>AF Project Document</u>: "The double signature system is intended to strengthen financial procedures against potential risks of corruption and favouritism when awarding contracts to external parties when awarding contracts to external parties, by adding a second layer of verification upon validation of payments. However, this system did not prevent such risks, as pressure was reportedly exerted onto the project team to select some contractors instead of others for no valid reasons (e.g., for construction of storage facility units)" (Bégat, 2020, 90).
In one case, a contract for the construction of community granaries was initially awarded to several companies that had been created just days before and were all owned by a single individual.	<u>Interview, UNEP Official</u>: "We also have specifically the issuing of one contract on the rice storage facilities…There was something going on in terms of the selection of that contractor that built those. Clearly they did not have, they didn't…I saw the paperwork. They did not have any qualifications and it was on paper. It was like four different companies that were all created the day before, almost, they got ahold of the contract. And apparently owned by the same person. And you know, you know what I…and then they started building. I mean, they did build something right? But it turned out that they didn't meet the specifications, things like insulation on the bottom, that was not there. Which meant that basically the rice would rot very quickly and it would not work at all…So we did manage to solve that I guess by catching it. And we tried to recover some of the funds. There is this guarantee thing with a private bank that the contract has to have. So you could recover some of the money, but we definitely have some losses there. And most disturbing was that the contract was awarded in the first place, right?" <u>Interview, UNEP Official</u>: "There was a similar issue…with the storage facilities, so this kind of the post-harvest part of the rice production cycle…basically they did not perform, the selected contractors. I don't know whether that had anything to do with an improper procurement process, quite likely. But they basically had to, the work that they had started doing had actually advanced

	quite far on the storage facilities, basically they had to be taken down and re-started. So again, a big delay there." Observation: The researcher visited all three communes during collection of survey data (see Chapter 4). Informants in each site confirmed that the initially constructed granaries were demolished and reconstructed.

Table 7. Public versus Private Project Benefits (Mauritius)

Synthesis	
The AF projects in Mauritius and Madagascar differed significantly in the nature of the benefits each government chose to distribute, especially within project sites. The two cases also differed in the concentration of project resources, both financial and technical.	
Text	**Source(s)**
In Mauritius, all benefits were collective. The AF project prioritized coastal infrastructure – including revetments and artificial reefs, mangrove plantations, and refuge centers – that benefited entire communities.	AF Project Document: "The programme structure, with approximately 82% on coastal protection measures; 11% on enabling environment (early warning, policy mainstreaming, training) and 7% on knowledge dissemination and management is believed to be the most effective and balanced way of realigning and initiating the coastal adaptation process in ROM, with a priority given to actual interventions that reduce coastal vulnerability" (*Proposal for Mauritius*, 2011, 6).
The project also developed an Early Warning System for storm surges that covered the whole island of Mauritius, as well as the remote outer islands of Rodrigues and Agalega.	AF Project Document: "Given the previous experiences with storm surges on the south coast (with wave velocities of 50 km/hour), a warning circumference around each island of ROM will be defined, such that coastal communities have at least three hours warning of possible incoming surges (so, incidence of abnormal waves through a circumference at least 150-200 km from the coast (for each of Mauritius, Rodrigues, and Agalega))." (*Proposal for Mauritius*, 2011, 14). Document: A report on the final early warning system notes that "coastal communities in Mauritius, Rodrigues, and Agalega Islands are able to evacuate timely and safely in case of predicted extreme water levels" (Bogaard et al., 2016). Interview, Mauritius Government: "The model is an extensive one. It covers Mauritius, Rodrigues, and Agalega. Even for Agalega, we have all the same products that we have for Mauritius. And we – even in Rodrigues and Agalega – we have officers from our office who are posted there."
In contrast, in Mauritius, most project funding was dispersed to communities in the form of coastal infrastructure.	AF Project Document: "The programme structure, with approximately 82% on coastal protection measures; 11% on enabling environment (early warning, policy mainstreaming, training) and 7% on knowledge dissemination and management is believed to be the most effective and balanced way of realigning and initiating the coastal adaptation process in ROM, with a

	priority given to actual interventions that reduce coastal vulnerability" (*Proposal for Mauritius*, 2011, 6).
The AF project collaborated and shared resources with other agencies. Instead of contracting out capacity-building trainings to consultants, they provided the funding to the University of Mauritius.	<u>AF Project Document</u>: "The project team has spent considerable efforts in developing constructive working partnerships (involved in project oversight, inter sectorial technical committees, and those active in support of site-level implementation. Formal MoUs, the chosen protocol for partnerships have been signed with UoM, Met Services, NGOs including the fishermen's and the women's associations and Reef Conservation. Other engagements were evident and are observed by MTE with the University of Mauritius, the Metrological Service, the Marine Oceanographic Institute, Ministry of Environment and Sustainable Development, Ministry of Finance and Economic Development, Ministry of Housing and Lands, Ministry of Fisheries and Rodrigues, Ministry of Public Infrastructure, Beach Authority, Ministry of Tourism and Leisure, Ministry of Local Government and Outer Islands, District Councils, Mauritius Oceanography Institute, Mauritius Meteorological Services, University of Mauritius, and relevant NGOs/CBOs (see below), including Reef Conservation and Shoal (Rodrigues)" (Hodge & Valaydon, 2015). <u>Interview, Mauritius Government Official</u>: "When I put that project and started capacity-building, [my colleagues] were very much interest because what I learned, they also learned the same things. Now, what they chose to retain, that is up to the person. But there is a lot – I involved a lot of them. In each and every step, I put them there. So right now, the operation, I don't look at it. There are two guys and I told them: you are responsible."

Table 8. Public versus Private Project Benefits (Madagascar)

Text	Source(s)
In contrast, in Madagascar, many of the project benefits were individualized. Households in Alaotra-Mangoro received valuable rice seed, seedlings, and agricultural tools on an individual basis.	<u>AF Project Documents</u>: Review of the project's six annual Project Performance Reviews (PPRs) and the Mid-Term Review indicated that the AFRice project distributed at least ten tons of rice seed, as well as non-rice seed and compost to households in Alaotra-Mangoro. <u>Observation</u>: While conducting household surveys, the researcher observed that households in Alaotra-Mangoro had received agricultural implements from the AFRice project, though there was no indication of this in project documents
Most infrastructure, including investments in irrigation and reforestation, benefited only some within communities and contracts were structured to enable private kickbacks to Ministry officials.	<u>AF Project Documents</u>: 4.1 kilometers of primary canal was cured and dredged in Manakambahiny. 5.3 kilometers of drain and 3.1 kilometers of canals were cured and dredged in Bemaitso. 13.5 kilometers of primary canal were drained in Ambohijanahary (*6th Project Performance Report*, 2018).

	Observation: While conducting household surveys in Alaotra-Mangoro, researcher observed that only a small number of households in the targeted communes benefited directly from the AFRice project. For detailed information about kickbacks see Table 6.
As described above, the project itself was also increasingly privatized within the government. Funding was highly centralized in Madagascar, with little of the budget reaching households in Alaotra-Mangoro.	Described in detail under Table 6.
Because project actors sought to retain decision-making and financial control, they avoided collaboration and information sharing with other agencies, not only within the government, but also externally.	Malagasy Government: "As far as PCP-Riz in particular is concerned, there is no collaboration. The PCP-Riz is trying to figure out what AFRice is and what they can do to support them. But the PCP-Riz could not collaborate with anyone, and what happened was that people called PCP-Riz to know why we were not in Ambatondrazaka, why we did not get involved in certain activities and I simply answered that I know nothing about that." Interview, Malagasy Government: "It is normal if it does not work, because there is no good coordination. That is, the fact there was no available data to the Met Office to be sent to the farmers at all…In fact, the AFRice project does not consider at all that the project requires the Met Office to conduct analysis to set up a station in Alaotra-Mangoro for the station to send updates on the weather forecast to the farmers…In other words, it is just a formality to have the Met Office in there." Interview, Domestic Consultant: [requested not to be recorded] The Ministry of Environment and FOFIFA also refused to share financial resources with the Regional Directorate for the Environment, leading the local branch of the Ministry to play a minimal role in the project.
A number of international organizations were active in Alaotra-Mangoro and a representative of one organization reported that the government rebuffed a proposal to collaborate.	Foreign NGO/Civil Society: [requested not to be recorded] Reported that when the project began in Alaotra-Mangoro, they tried to approach to get involved and were rebuffed. Also said that the AFRice project made no efforts to coordinate with local partners active in the area, like AFD (which has invested significantly in a watershed approach), the World Bank, and JICA.

Table 9. Vulnerability and Equity (Mauritius)

Synthesis
Mauritius and Madagascar face a similar range of climate hazards, but each government utilized different framings of vulnerability in rationalizing site selection. These frames contributed to the relative equity of project outcomes in each case.

Text	Source(s)
The government of Mauritius framed the AF project around public values, economic impacts, and “life or death situations.”	AF Project Document: “The coastal zone of ROM is critically important to the economy of the country, in terms of domestic and international tourism, as well as fisheries” (*Proposal for Mauritius*, 2011, 4). Interview, Domestic Consultant: “They are very exposed…in the month of June or July, you get really huge waves, which makes the place difficult to stay in. It can be really terrifying to stay there. You see your kitchen being flooded. So they are vulnerable because they wouldn’t have any other place, and they build their life around this. There were houses where the whole family starting from grandparents, parents, children, grandchildren, 27 of them were staying in 10 square meters of building.”
Though it chose to focus the project in the coastal zone – the country’s “economic engine,” in the words of one UNDP official – project actors repeatedly emphasized the importance of reaching the most socially vulnerable.	Interview, UNDP Official: [requested not be recorded] The Coastal zone as the “economic engine” of Mauritius recorded in researcher’s contemporaneous notes. Interview, UNDP Official: “This project on the south of the island, where the options were basically protecting the village. In this case, it was really poor people, really needing assistance. So protecting the village or moving the people, and getting the people to move.” Interview, Domestic Consultant: “In Riviere des Galets, the livelihood and the life of the people at times, it was said that their lives were at stake. Because when you have very rough seas, the waves and the sea would come into their house. It will flood their houses and at times, it was said, that in some houses there was 50 centimeters of water.”
As a domestic consultant described the failed attempt to relocate the residents of Riviere des Galets: “It was mainly to save their lives. Not their livelihoods, but their lives.”	Interview, Domestic Consultant: “When we were at the initial stages in the meeting with the Ministry of Environment, it was mainly to save their lives. Not their livelihood, but their lives. At times it was such a terrifying moment for these people to live through storm surge or these events where there are surges coming or waves crashing in their house.” Document: “The objectives [sic] at Riviere des Galets is to protect the lives and livelihoods of the people” (UNDP, 2014, 23).
Mauritius’ unpublished National Coastal Zone Strategy found the coastline near Riviere des Galets and the project’s third site, Quatre Soeurs, to be among the island’s most socially vulnerable, as measured by education, income level, and land ownership.	Document: The National Coastal Zone Strategy (as yet unpublished) created a coastal vulnerability index (CVI) that classified areas according to low, medium, and high risk. Social vulnerability (based on Relative Development Index) was one of four parameters used to calculate the CVI. The report identified both Riviere des Galets and Quatre Soeurs among the most socially vulnerable coastal sites in Mauritius (AGRER, 2019, 259).

	<u>AF Project Document</u>: "80% of people in this zone [of Riviere des Galets] live below the poverty line" (TOR/Project Brief) <u>Document</u>: The IOM's 2011 report noted that Petit Sable, which is in the Quatre Soeurs area, is "quite marginalized within Mauritius: transportation is difficult and government interventions are scarce" (Gemenne & Magnan, 2011, 42).
Inhabitants of Riviere des Galets, predominantly Creole, are also among the most politically marginalized.	<u>Observation</u>: The government of Mauritius does not does not publish data on ethnicity because of its political sensitivity. A research assistant confirmed the predominantly Creole make up of Riviere des Galets during several visits to conduct interviews.
Though the third project site, Mon Choisy, is relatively prosperous and features influential hotels that target foreign tourists, its beach is also among a dwindling number that allow public access.	<u>Interview, Domestic Consultant</u>: "Well, when you look at the issue, in a general sense it is the same, it's erosion. But then what is at stake is very different. Whereas in Riviere des Galets, you have a community of, we should say quite a poor community living there, or fisherman, people with very low income who live in Riviere des Galets. Whereas in Mon Choisy, it is more hotel, public beach, bungalows extending to the seaside." <u>Interview, Foreign Consultant</u>: "Assessing that shoreline erosion, particularly in Mon Choisy beach. Because that is actually a high value beach. It is a public beach. And those public beaches are in short supply, because the hotel industry has really taken hold of a lot of the shoreline. So this is a very special beach in the sense that it's a place where the public will definitely go on the weekend." <u>Interview, Foreign Consultant</u>: "It's one of the highest value beaches in Mauritius in terms of public participation. You know, we did every week, every day, we were counting people on the beach. And it's one of the most visited beaches by the general public because of the lagoon. It's not one of those high wave environments. And it is a lovely…like, I see the charm of the beach. It does have a longer shore line if you go up the north of the beach, and it's very pleasant up there. On the south side of the beach there is a lot of food vendors and the car park. And it does have parking. It's got a lot of shade. So that was actually one of the big features that made this beach attractive for some of the beachgoers."
Members of the project team acknowledged an effort to balance public and private interests: "We really wanted to look at two different kinds of things. One where the local population is vulnerable. The second one where the hotels are there at the public beach."	<u>Interview, Domestic Consultant</u>: "Here, I think we really wanted to look at two different kinds of things. One where the local population is vulnerable. The second one where the hotels are there at the public beach. I think that they wanted to get some kind of, to get a project to work on those so as to be used as a model and eventually replicate what has been proposed here."
Additionally, the focus on dispersed goods in project sites	<u>AF Project Document</u>: The project's final report notes that the project: planted 20,000 mangroves in Quatre Soeurs; completed a

spread benefits relatively equally within communities.	1,000 square meter refuge center in Quatre Soeurs; constructed a rock revetment 430 meters long in Riviere des Galets; and installed 995 artificial reef units in Mon Choisy (Boolkah, 2021, 2-3).
In Mauritius, in contrast, collaboration and information sharing enabled capacity-building across government and non-government agencies. A number of non-project actors noted that the government is already replicating project results in other sites.	Interview, Mauritian Civil Society: "The government has put forward twelve projects around Mauritius. So Flic en Flac is in the pipeline. You have Blue Bay. You have twelve projects around Mauritius which 100 million rupees allocated for that this year. Next financial, they will get more money. So I think it's around the island. But Mon Choisy is a really nice pilot project in terms of putting in [an] artificial reef, trying to re-boost the biodiversity." Interview, Domestic Consultant: "I think that they wanted to get some kind of- to get a project to work on those so as to be used as a model and eventually replicate what has been proposed here. So like in Grand Sable there were some Japanese expert (JICA) and Japanese Corporation National Agency who came and proposed some revetment as a mean to control erosion made up of gravel and on an experimental basis and the ministry did not even wait for a year to assess and started to replicating that kind of let's say technology." Interview, Mauritian Government: "So when I put that project and started capacity building, [my colleagues] were very much interested because what I learned, they also learned the same things. Now, what they chose to retain, that is up to the person. But there is a lot – I involved a lot of them. In each and every step, I put them there. So right now, the operation, I don't look at it. There are two guys and I told them: you are responsible."
The University of Mauritius continues to offer some courses developed with project funding	Observation: Research assistant confirmed ongoing courses with University of Mauritius administrative staff in April 2021.
Most, though not all, project documents are publicly available and accessible.	Observation: Researcher accessed the majority of project documents online. Documents can also be accessed at the Ministry of Environment library.

Table 10. Vulnerability and Equity (Madagascar)

Text	**Source(s)**
The government of Madagascar framed the AF project around economic value and agricultural productivity (Antilahy Herimpitia, 2017; *Proposal for Madagascar*, 2011).	AF Project Document: "As a consequence of the economic importance of rice, as well as the large number of people involved in its cultivation and trade, it is possible to affirm that benefits of any rice productivity increase would be widely distributed and would directly enhance the well-being of rural households" (*Proposal for Madagascar*, 2011, 5). "The region is Madagascar's principal rice growing region, with approximately 120,000 ha of paddies. It is home to the country's most productive farms, with average yield per ha standing 25%

	over the national average, or an average of 250,000 and 300,000 tons annually – an average of 3.5 or 4 tons per hectare." (*Proposal for Madagascar*, 2011, 13) "…identified by NAPA [National Adaptation Plan of Action] as one of the most vulnerable regions and a priority area for adaptation investment due to its relative importance in the country's economy" (*Proposal for Madagascar*, 2011, 18). "Currently considered as most vulnerable to variability but also considered the highest productivity region in the country" (*Proposal for Madagascar*, 2011).
Alaotra-Mangoro is less socially vulnerable than many other regions of Madagascar, with higher per capita income and employment levels (Borgerson et al., 2018; Sulla & D'Hoore, 2014).	<u>Document</u>: A 2014 report from the World Bank found Alaotra-Mangoro to be the sixth wealthiest of Madagascar's 22 regions, with a 51% poverty rate. By comparison, the poorest region, Atsimo Antsinanana, has a 97.7% poverty rates, which the authors note makes it "probably the poorest area so defined in the world" (Sulla & D'Hoore, 2014, 95). The report is based on the Madagascar Household Income and Expenditures Survey and relies on data from 2010, around the time the AFRice project was designed.
Universally, project actors stressed the region's importance as the country's "breadbasket" and "first granary."	<u>Interview, AF Project Team:</u> "They are the first rice producer in Madagascar. That is to say, it is Madagascar's rice granary when there was no climate change yet." <u>Interview, UNEP Official:</u> "That priority must come from some vulnerability assessment or priorities. And the identification of Alaotra is natural, I guess, if you're looking at adaptation of rice in the sector, because that is the main rice producing region of Madagascar." <u>Interview, Malagasy Government</u>: "Alaotra-Mangoro has more potential because at least if it's going to be drier, or whatever, at least they can still do something...Alaotra-Mangoro is in fact important for us, I mean for Madagascar. Because it's our, what's it called? Rice basket." <u>Interview, Domestic Consultant</u>: "There you find the details that make Alaotra unique first, and I would like to note that it is also a rice granary. We are reputable for having so many varieties …Technologically and technically speaking, Alaotra is more advanced compared with the others due to the fact that it is a granary." <u>Interview, Foreign Consultant</u>: "The reason why they did it there was because at the time the guidelines for the Adaptation Fund were also that you needed to have a big impact. So if you're going to do it in a place, if you were going to do something on rice, you were going to do it in the place where you had the biggest potential adaptation impact. Which was going to be Alaotra because it's the place where there's productivity. It's the place the produces most of the country's rice."

In contrast, Malagasy policymakers, including AF project team members, characterized the southern regions – then facing drought, famine, and out-migration – as "always in crisis." Some said they saw the distribution of state resources to the south as a "waste."	Interview, Malagasy Government: "Of course in the south there is a drought. But it's like that: a drought. That's the climate. The normal climate. So I am wondering if you shouldn't put more money in helping those who can really, who still have their hard a little bit up so they can survive…There is no water. I mean, no, there is a lot of water down [underground]. Unless you take a lot of water from drilling, but that is different. And in climate change the driest place is going to get drier. It's a waste of resources. We need to conserve the resources. So, for me, you need to put more, like what's projected, into Alaotra-Mangoro, where we have some potential so we don't go into the hole." Interview, Malagasy Civil Society: "Climate change has had some impacts in the south. There is drought. But if you look at the meteorological information, they are still receiving 300 mm of precipitation. Such precipitation would be no problem in a place like Morocco or Algeria. They receive as little as 100 to 200 mm. The issue is water management. Putting money towards climate change won't work. Climate change is just a found diagnosis to the problem of water scarcity. The south is always in crisis." Interview, Malagasy Government: "We should not use climate change as a reason to take action, because the land here [in the South] is already arid and dry in general. The rainy season is probably only four months out of twelve, so the weather is generally hot here. Climate change has probably accelerated, but we cannot put the blame on climate change as a reason for all the issues."
Unlike the project sites in Mauritius, Alaotra-Mangoro is a politically important region. The location of the AF project followed a pattern of political and ethnic patronage in the distribution of state resources.	Interview, Foreign NGO: "[Alaotra] is to a certain extent a bread-basket, but there are others which are high rice-producing regions. But it's also a huge money maker for certain people, whether it's the people who ensure the road isn't maintained, or maintained only when their trucks are going through, to those who market the rice from there, to those who own the land."
Located in the highlands, Aloatra-Mangoro is populated primarily by the Sihanaka ethnic group, which is among the groups that benefit from cultural and geographic proximity to the Merina.	Survey Results: Household surveys found that 60% of respondents in communes targeted by AFRice identified as at least partially Sihanaka.
At the time of project design, many in the region were disenchanted with the central government.	Both elites and voters in Alaotra-Mangoro had strongly supported the former president, Ravalomanana, who was unlawfully removed from power in 2009.
In an indication of the project's political importance, the Prime Minister visited the launch workshop by helicopter, a level of	Interview, UNEP Official: "When we launched the project, it was amazing the kind of attention that it got. It was almost used politically. So we had the, you know, it's a relatively small project. It's like five million, right? We were launching it in

political engagement that a UNEP official described as "completely unprecedented."	Alaotra, in Ambatondrazaka, the capital. And we actually had the acting Prime Minister at the time was flying out by helicopter to attend this little workshop which was with plastic chairs, fifty people, you know? And the Minister of Agriculture was there as well. And we had after the speeches and all that, we had like driving around with armored vehicles around the area to check out the sites. And he had photos taken. I think this was just prior to election that was supposed to be making the government official….But since then they haven't paid attention, I think. It was just a stunt, a one-time stunt."
Furthermore, measurement of distributional outcomes in Alaotra-Mangoro found that project participation was strongly associated with higher levels of household political connectivity rather than vulnerability (see Chapter 3).	Described in detail in *Chapter 4*. AF Project Document: "Generally, the project aims to support the livelihood of low-income farmers but does not distinguish between income levels among beneficiary groups." (Bégat, 2020, 102).
In Madagascar, the privatization and concentration of resources within the Ministry of Environment also undermined capacity-building in other ministries and agencies, a primary project objective.	Interview, UNEP Official: "This thing with having the [AFRice Team] report to Director, having him clear things. It has really meant that it has been really, really hard. I mean, pushing pushing pushing them to do things…In terms of just pure building capacity among people we work with directly, it was not super successful, I guess…the simple fact that we were probably in the wrong Ministry to begin with. So if you're building capacity, you're building it with the wrong people." Interview, Foreign Consultant: "For one thing, these was no such thing as adaptation back then. We were all learning and sort of making it up as we went along, pretty much. So it wasn't surprising that people who were working in government, in Environment Ministry, didn't know what adaptation required. So that's one aspect. The other aspect is, you know, is what I was referring to earlier, is the fear. So you're in a job for one reason, and you've managed to hold on to it for so many years. You know, there is no learning taking place. You only go where your Ministry or your DG or your Director tells you to do. There is no, people who are at the working level don't have any kind of freedom to pursue interest or learn or get trained and so on."
For example, the government mapping agency, FTM, was originally tasked with developing vulnerability maps. After an early workshop, however, the agency was removed from the project and the contract privatized. FTM – whose representatives said they never learned why they lost their role – still lacks the capacity to develop these maps.	Interview, Malagasy Government: "We had a lot of meetings earlier at the beginning but FTM was not included as they actually implemented it. We do not know why. We really do not know what happened. We have no idea because no one contacted us, no one cared anymore as they carried on." Interview, Malagasy Government: "I was there but when they implemented it we were not included. The truth is that the Ministry of Environment did not have the data itself at all. So it is impossible to do the mapping because we have literally nothing to be mapped."

The skill is now privately held, and commodified by, a private consultant.	Interview, Domestic Consultant: ": I was an employee at FTM before I left. I come to FTM because I know there was something that they have established with FOFIFA about the project. I approached them to know what they have done about the map."
The focus on consultancies also inhibited the dissemination of information, including project results such as the resilient rice model. Many of the research documents the project claims to have produced are either publicly unavailable or non-existent.	Interview, Foreign Consultant: "I think [capacity] remains very much at the localized level because of, for example, the last workshop I went to, which was the national MIRR [integrated rice resilience model] workshop in April, I still got some people, like in the national rice platform, who were super interested in the model. But basically they didn't seem to know anything about it yet. Which was a bit shocking to me. I think there is still a major problem of communication between institutions and sharing results, information, despite all the efforts we have made of, you know, broadcasting documentaries at the local and national radio, and national TV…I still got some shocks during the last months of the project, being like: you don't know about that?" Interview, Domestic Consultant: [requested not to be recorded] Observed that many project reports "don't exist." They "only exist on paper." Observation: Researcher was granted access to the AF project's file sharing platform online. Most project documents were available neither through open public search nor through this platform, as of August 2021.

Table 11. Recognition and Intervention of Oversight Agencies (Mauritius)

Synthesis	
UNDP and UNEP were differently situated in their oversight roles in Mauritius and Madagascar.	
UNDP, Mauritius	
UNDP had an office in Mauritius that employed a largely Mauritian staff. Its long history in the country gave UNDP officials contextual knowledge of the sociopolitical dynamics.	Document: The UNDP signed a Standard Basic Assistance Agreement with the Government of Mauritius in 1974 ("UNDP in Mauritius," 2021).
This knowledge enabled officials to specifically recognize how the "culture of clientelism" shaped project implementation and outcomes.	Interview, Foreign Consultant: "Whereas in Mauritius they really have this culture of clientelism. And it's like: if your kind, then it's…and that is what they are expecting from us as consultants. Well, we're your clients so you should do what we say."
International staff and consultants pointed to the important mediating role that Mauritian staff played between the Mauritian government, UNDP, and consultants.	Interview, Foreign Consultant: "[UNEP Official] was really stuck in the middle between when we didn't go for this managed retreat. It was hard days for [him/her]…But I feel quite grateful. [S/he] supported our journey there, where we recommended rock revetment. And [s/he] was, you know, [s/he] was very good when [s/he] had to tell the government: actually the UNDP does

	not have the means and the mechanisms to do a full managed retreat like this." Interview, UNDP Official: [The Project Steering Committee] is for governance between UNDP, the government, and everybody else that's critical, sectors like agriculture, local government in this case. On the other hand, you've got your technical group. So you've got to set up these two things and a lot of projects don't. And the implementing agents that are supporting them don't really provide a good guide. But [UNDP official] was working on this one. And [s/he] would be working with the government, hand holding, saying the things I would be saying on a daily basis, and probably coaching them on many things."
UNDP officials intervened when informal power threatened to undermine the project's equity. For example, the UNDP rejected the relocation of the community in Riviere des Galets on the grounds that "this is not so much a managed retreat as a resettlement."	Interview, Foreign Consultant: "This is where the project got very political very quickly. We were asked to look into what's called a managed retreat. You're familiar with managed retreat? Alright. At that point, and it was in the Terms of Reference. It's like: alright, we can do a technical assessment on whether a managed retreat is possible. We are not property developers here. So, you know, we proposed technical assessments, that's to determine this. But this is…at the end of the day this is a UN project. And the UN is not, and especially the UN Development Program, they don't have the mechanisms to resettle people"
They enforced the AF and UNDP's social safeguards, citing divided support within the community, especially linked to the differences in wealth.	Interview, Foreign Consultant: "And they wanted to know…and of course they were also building right in front of the shoreline. I mean we were going into construction zones. We went to every single house in Riviere des Galets and we saw that a lot of them were constructing. And the community was very split about whether they wanted to move or not, as a community. As a UN project the whole community would have to decide to move. If you do a managed retreat in a project like this, it's not some opt in and some opt out. It's, either you need this and this is the last line, or you're gonna have your house inundated very very often in the near future, and in the long-term future." Interview, Foreign Consultant: "When we did the consultations, we had to ask everybody. What are your thoughts on participating in this managed retreat? If you did move out of your home, the government might provide you with a home that is very similar to the next door neighbors. You don't get to design it yourself. It would have two bedrooms. It was a very standard house structure, that for those that were quite poor in the community, it looked very attractive. But for those who were quite well off, it was a big no no. It was like: guys, I have invested so much money into building my own house here. Why should I have to move?" Interview, Resident of Riviere des Galets: "They said they are relocating us to government land, probably a sugarcane estate around here. But when the representatives of the village are asking them about this, we are not getting a response. Sometimes

	they say that the villagers themselves do not want to be relocated, which is true because it is hard to leave everything and go away. And the rise in the sea level do not affect them so much. But, on the other side, there are people who live closer to the sea who are very much affected by flooding and want to move. But the government are saying that they will relocated all of us or none at all, because they cannot just send a few of us to live there, because what will happen to the rest of the estate? They would be wasting precious land." <u>Interview, Domestic Consultant</u>: "The location of the plot of land was not to the taste of the inhabitants [of Riviere des Galets]. At times they were saying it was too far. Some were saying that proposed land gets flooded during heavy rains. And the relocating would have been much more expensive in the sense that it is not only giving the people the plot of land, but also there would be the need to build houses. At the end of the day, the Ministry was so badly prepared with that idea that they did not have any kind of negotiation plan that they will try to negotiated with the inhabitants. So it never happened. They were like going there with nothing much planned, and when it came to compensation they did not think that the various households have different kind – I don't know how to say it – economy. Some will be having a big house. Some a smaller house. How to make the difference between those. So the people did not buy that." <u>Interview, Mauritian Civil Society</u>: "When you look at Riviere des Galets, people didn't want to move. Government went to see them. And they say: okay, we are going to give you a portion of land inland. They say no, we want to stay here, it is our place, we want to stay here."
At the same time, UNDP officials tolerated trade-offs between public and private interests, as at Mon Choisy where the influence of local hotels prevailed.	<u>Interview, Foreign Consultant</u>: "You have to pick your battles and you know that, if the ultimate aim was to get [the plan] through the cabinet, no matter how much you have to work to justify the numbers you do have to bend and you sadly have to adapt and tweak your methodology and your algorithms to fake it." <u>Interview, Domestic Consultant</u>: "Here, I think we really wanted to look at two different kinds of things. One where the local population is vulnerable. The second one where the hotels are there at the public beach. I think that they wanted to get some kind of, to get a project to work on those so as to be used as a model and eventually replicate what has been proposed here."

Table 12. Recognition and Intervention of Oversight Agencies (Madagascar)

Text	Source(s)
In contrast, UNEP was not well-situated to mediate between informal power and formal governance requirements. Without an office in Madagascar, UNEP officials would usually visit for one or two short stints a year.	AF Project Document: "…the absence of a UNEP country office did not help when specific engagement with the hierarchy of the MEDD was necessary to discuss financial and management issues. The UNEP TM, based in Washington DC, USA from 2017 onwards, could not visit as often as they wanted, and Skype discussions cannot replace personal interaction." (Bégat, 2020, 101). Interview, UNEP Official: "There were lots of issues, obviously, around corruption where, you know, to the best of our abilities we try to keep an eye on things, but we are not based there and we rely on the project team." Interview, UNEP Official: "I can tell you from experience that other implementing agencies interpret that balance differently from what UNEP does. UNDP, for example, has the country offices heavily involved in project execution even, you know. As I said it is not clearly defined politically how you are supposed to be interpreting it. In my view, this is actually more in line with the intentions. Because the way UNDP [does it], for example, is often almost bypassing the national government and keeping them out."
None of the officials or international consultants spoke Malagasy.	Observation: Researcher spoke with all UNEP officials and foreign consultants and confirmed none spoke Malagasy, the primary language of Madagascar.
Though UNEP officials recognized that informal power shaped project implementation, they were unable to diagnose the specific mechanisms or to understand the incentives of government actors. They acknowledged "procurement problems," "corruption," "improper influence," and "political decision-making," but not patronage.	Interview, UNEP Official: "We had some issues around the procurement, procurement processes." Interview, UNEP Official: "So there were a lot of issues, obviously, around corruption where to the best of our abilities we try to keep an on things, but we are not based there and we rely on the project team." Interview, Foreign Consultant: "But I can tell you the way things worked in Madagascar back then involved a lot of corruption. And you know, even if you try to pretend it is not there, it was there and it stopped us from doing a whole bunch of things. Or it created a whole bunch of delays. And when we, you know me as an external consultants, and [redacted], as an international organization, we are not necessarily informed explicitly of those things but we knew they were there."
As a result, they intervened only in circumstances where violations of formal governance requirements would be visible on a global level, for example through audit reports.	Interview, Foreign Consultant: "So there is always that little clause in the project document that funding may stop if, when, whatever. I have never seen them do it. But, you know, in the case of Madagascar we had to have interventions from the [UNEP] senior management at some point. So they spoke to the Minister. There were letters exchanged, and things sort of

	seemed to get back to normal. But, you know, by that time it was probably too late. The damage was done." Interview, UNEP Official: "Our role as the implementing entity is that we have the accountability and fiduciary responsibility, vis-à-vis the Fund, in this case the Adaptation Fund. And we are the organization that passed the accreditation process for the Fund…So, for example, for this project my role has been really more higher level oversight, and you know, fund management aspects. You know working on progress reports with the team for submission to the Adaptation Fund, because they require yearly reports. You know, verifying what's in the expenditure reports, processing cash advances, that sort of thing…We try to keep a particularly close eye on big procurement processes. We also rely quite a bit on audit reports. We get the quarterly expenditure reports that we review. So I am able to see that, you know, at least on paper the funds were used for the right activities, in line with the project. But then, you know, I am not, it's not my role to go through every single voucher to make that what was in the expenditure reports is actually backed up by the voucher. That's the job of the auditors. So that's also another important kind of check and balance we do have in place." Interview, UNEP Official: "For the water infrastructure where there was, it was quite clear that there were, you know, pushes and pulls from very high up in the Ministry that were influencing that process. And we, you know, that was kind of good example where if we are able to do our work well we can intervene. And we did intervene. And the issue was rectified."
In the case of the contract granted to newly created companies, UNEP officials insisted the below-standards granaries be demolished and the contract re-issued.	Interview, UNEP Official: "We also have specifically the issuing of one contract on the rice storage facilities…There was something going on in terms of the selection of that contractor that built those. Clearly they did not have, they didn't…I saw the paperwork. They did not have any qualifications and it was on paper. It was like four different companies that were all created the day before, almost, they got ahold of the contract. And apparently owned by the same person. And you know, you know what I…and then they started building. I mean, they did build something right? But it turned out that they didn't meet the specifications, things like insulation on the bottom, that was not there. Which meant that basically the rice would rot very quickly and it would not work at all…So we did manage to solve that I guess by catching it. And we tried to recover some of the funds. There is this guarantee thing with a private bank that the contract has to have. So you could recover some of the money, but we definitely have some losses there. And most disturbing was that the contract was awarded in the first place, right?" Interview, AF Project Team: "They used them for the foundation, or is that how you call it? At the base of the storage facilities. Its foundation. The bricks that are not of good quality

	and stuffed with mud. But there had been some economic survey on the norm. How can the storage facilities adhere to the climate standards and against insect infestation due to moisture? But they did not comply so UNEP had to come to the site. It had to be completely destroyed. Actually, in that case, the deposit should be confiscated because the guarantor had a problem with the assigned job. But even the deposit was gone. So instead of using that money on something else, the project had to pay again to be able to complete the three storage facilities." <u>Observation</u>: Researcher also visited the granaries in the three communes in Alaotra-Mangoro and confirmed from numerous local sources that they had been demolished and rebuilt during the course of the project.
They did not intervene, however, in the more systemic manifestations of patronage, such as salary kickbacks. As an international consultant explained: "Because there was no way we were going to change that. And the only thing that was going to happen is that it was going to cost people their jobs, you know? For talking. There would be, there would definitely be *les représailles*, you know? So we didn't pursue."	<u>Interview, Foreign Consultant:</u> "And in the end, that's why we didn't do a more thorough intervention when we found out all the things about the corruption…Because there was no way we were going to change that. And the only thing that was going to happen is that it was going to cost people their jobs, you know? For talking. There would be, there would definitely be *les représailles*, you know? We didn't pursue." <u>Interview, Foreign Consultant</u>: "Well, we had a really hard time navigating that. At the time when [name] took over – so that was after the midterm evaluation basically – was when things started getting a little but more explicit, that we knew something was happening that was not right. And we didn't really know what to do. And in our case, we are only consultants. So the only thing that we can really do is relay the information and say, you know, we suspect there is a problem here. And it is really up to UNEP to decide what they want to do in term of risk managing the project." <u>Interview, Foreign Consultant</u>: "UNEP never does direct disbursing, right? So most of the time they just hand over the funds to whatever Ministry is implementing the project and expect some kind of reporting back…And there are so many ways you can fake the books. I mean, reporting template are not, you know…how many reports did we get for that project? Maybe one. And even audit reports will say: yea, you know, you got invoices for everything you spent. But it doesn't say that everything you spent you were supposed to spend."
Largely unable to steer the project towards more equitable outcomes, UNEP was, as a domestic consultant remarked, "trapped in this system too."	<u>Interview, Domestic Consultant</u>: "From UNEP I have heard that there is too much political pull inside the coordination of the project, that they can't see clearly through what happened inside the department. From the department side, they are saying that UNEP is involved too much and micromanaging the project, but they have no flexibility to propose something better. I think the truth is in between."

	Interview, Foreign Consultant: "[You] can't undo it. So you have to sort of change your reporting basically, to make sure that it is open and transparent, right? Because you're still breaking the rules, essentially." AF Project Document: "A potential perverse impact of strong country ownership could be that the transparency of procurement processes is not perceived as compelling a requirement as it would be if UNEP or the AF were more present in daily implementation" (Bégat, 2020, 104).

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Appendix B. Sampling Design

599 household surveys were collected from the AFRice project's intervention sites in the Alaotra-Mangoro region. Officially, the project targeted three communes: Manakambahiny Andrefana, Ambohijanahary, and Bemaitso. Project documents indicate that about half of *fokontany* in each commune were selected to participate, with only a select number of households participating within each *fokontany*. Cluster sampling was used to identify a representative sample of three different subject groups in these communes: beneficiary households in beneficiary *fokontany*, non-beneficiary households in beneficiary *fokontany*, and non-beneficiary households in non-beneficiary *fokontany*. Because an exhaustive sampling frame (such as a list of households for each *fokontany*) did not exist, the next lowest aggregation of households, *fokontany*, was used to randomly identify clusters for surveying.

In the first phase of sampling, a random number generator was used to select 12 clusters (4 of each subject group) in each commune for surveying. In the second phase, approximately 15 households were selected within each cluster. The method of selection differed for beneficiary and non-beneficiary households. Because only a small portion of the households benefited, random sampling was not possible for beneficiary households. Instead the survey team relied on *chiefs fokontany* (local government officials) and *tangalamena* (village elders) to initially identify beneficiary households, then used snowball sampling to identify additional beneficiaries. This method may have introduced some bias to the sample, as local leaders may have identified wealthier or more politically connected households for surveying. For non-beneficiary households, the survey team used the UNICEF "pencil spin" technique to randomly select households (Maxwell & Caldwell, 2008). Most *fokontany* had only one significant village, but in cases where there was more than one the team divided to survey households in both.

The sampling design was made more complex by the discovery, during preliminary site visits, that many of the project benefits intended for the commune of Bemaitso had been re-directed to another *fokontany* (Ambatoharananana) in the neighboring commune of Andilamena. At that juncture, the survey team had neither the time nor resources to fully sample the entire commune (i.e., collect 12 clusters). Neglecting to include Andilamena, however, had the potential to bias the findings, particularly because local informants indicated that political connections played a role in redirecting the benefits. Therefore, three additional clusters were added to represent Andilamena: one each of beneficiaries and non-beneficiaries in Ambatoharana, and one from a randomly selected non-beneficiary fokontany.

Table 13. Survey Clusters per Commune

	Beneficiary Fokontany		**Non-Beneficiary Fokontany**	**TOTAL**
	Beneficiary Households	*Non-Beneficiary Households*	*Non-Beneficiary Households*	
Commune Manakambahiny	52 households (4 clusters)	65 households (4 clusters)	60 households (4 clusters)	177 households (12 clusters)
Commune Ambohijanahary	63 households (4 clusters)	65 households (4 clusters)	61 households (4 clusters)	189 households (12 clusters)
Commune Bemaitso	63 households (4 clusters)	60 households (4 clusters)	64 households (4 clusters)	187 households (12 clusters)
Commune Andilamena	15 households (1 cluster)	16 households (1 cluster)	15 households (1 cluster)	46 households (3 clusters)
TOTAL	193 households (13 clusters)	207 households (13 clusters)	200 households (10 clusters)	599 households (39 clusters)

Appendix C. Survey Development Focus Groups

Six focus groups were conducted in the three official AFRice project implementation sites in Alaotra-Mangoro. In each commune, one focus group was held at the commune head and one at a more rural location, suggested by the mayor of each commune. The goal in selecting rural sites was to obtain a balance of perspectives. A total of 99 individuals participated. Participants were selected to facilitate broad representation from local officials, members of local management committees, heads of women's groups, farmers, and livestock raisers. Though the gender balance of the total participants was roughly equal (47% women), the gender break-down varied by group. All participants consented to participate.

Table 14. Focus Group Location, Date, and Composition

	Commune	**Fokontany**	**Participants**	**Date**
1	Manakambahiny	Manakambahiny	12 (4 women, 8 men)	September 30, 2019
2	Manakambahiny	Manaratsandry	11 (5 women, 6 men)	October 1, 2019
3	Ambohijanahary	Ambohijanahary	13 (5 women, 8 men)	October 2, 2019
4	Ambohijanahary	Sodeca	24 (18 women, 6 men)	October 3, 2019
5	Bemaitso	Bemaitso	14 (6 women, 8 men)	October 4, 2019
6	Bemaitso	Ambodifamotsotra	25 (12 women, 13 men)	October 5, 2019

Topics discussed included: sources of household income, household assets, food security strategies and severity, immigration, and important positions within communities.

Appendix D. Short-Term Food Security Index

Food security is a useful measure of vulnerability in this context because, though it is widespread across Madagascar, it also varies widely within communities (Harvey et al., 2014). A recent survey utilizing the CSI method found that 98% of households around Lac Alaotra experienced some food insecurity (Borgerson et al., 2018).[24] During the "lean period" (December-March), 40% of households lacked sufficient food. 27% of households lacked sufficient food for a six month period, and 5.5% lacked sufficient food year round.

The food insecurity index was developed and weighted in focus groups following the Coping Strategies Index (CSI) method (Maxwell & Caldwell, 2008). The CSI is based on the possible answers to a single question: "What do you do when you don't have adequate food, and don't have money to buy food?" It focuses on measuring the frequency and severity of household coping behaviors in a specific local context according to four basic categories: dietary change, short-term measures to increase household food availability, short-term measures to decrease number of people to feed, and rationing. The higher the score, the higher the household's insecurity.

In the first step of the design process, contextually specific coping strategies were identified in focus groups interviews with community members in project sites in Alaotra-Mangoro (see

[24] The area around Lac Alaotra and the Alaotra-Mangoro region are not synonymous. Alaotra-Mangoro includes areas, such as the District of Andilamena, that do not directly border the lake.

Appendix C). A preliminary list was presented to participants, who added relevant strategies and removed strategies not used in that community (Table 15). The second step was to categorize and weight the strategies depending on how severe participants perceived them to be. Participants grouped individual coping behaviors according to similar levels of severity, from least severe to most severe, then assigned them a range of weights from one to four. Finally, the weights were averaged across all focus groups to generate a single weight for each strategy (Table 16 and Table 17). Conducting this exercise across a series of focus groups, with a balance of representatives, accounted for different strategies and levels of perceived severity across communities.

As part of the household survey, respondents were asked to identify how many times in the past seven days they had relied on each individual coping behavior (0-7). The frequency of each behavior is weighted by the perceived severity of that behavior, and this is summed across all of the behaviors in the list to produce a single food security score for each household.

Table 15. Coping Strategies Identified by Focus Groups

A	Eat smaller meals
B	Eat (rice) fewer times a day, for example just once or twice
C	Eat less preferred foods, for example cassava/maize instead of rice
D	Consume less variety of food
E	Purchase rice on credit
F	Take on rice debt
G	Supplement food with foraging/hunting in the forest
H	Receive/borrow food from family, friends, or neighbors
I	Borrow money from family, friends, or local organizations
J	Reduce money spent on education or health
K	Consume seed stock for next season
L	Skip a loan payment
M	Send children to eat with neighbors
N	Feed working members of household more
O	Harvest crops early

Table 16. Focus Group Weighting of Coping Strategies

Strategy	Focus Group Ranking for Each Individual Behavior							
	FG1	FG2	FG3	FG4	FG5	FG6	Avg.	Rank
a. Eat smaller meals	4	1	3	1	2	1	2	2
b. Eat fewer times a day	2	3	4	3	3	2	2.8	3
c. Eat less preferred foods	1	2	2	2	1	1	1.3	1
d. Consume less variety of food	3	2	1	2	1	2	1.8	2
e. Purchase rice on credit	4	1	4	4	4	4	3.5	4
f. Take on rice debt	-	4	4	4	4	4	4	4
g. Supplement with foraging/hunting	3	3	2	3	2	3	2.7	3
h. Borrow money	2	4	3	4	4	4	3.5	4
i. Borrow food	4	1	3	4	4	-	3.2	3
j. Reduce spending on ed/health	4	3	-	3	3	4	3.4	3
k. Consume seed stock	4	4	4	4	4	3	3.8	4
l. Skip loan payment	4	-	-	4	4	4	4	4
m. Send children to eat with others	-	4	-	1	3	4	3	3
n. Feed workers more	3	-	-	-	-	3	3	3
o. Harvest crops early	-	2	-	-	1	1	1.3	1

Severity Weights:
Not severe (*Tsy dia mafy*) = 1
Moderate (*Antonina*) = 2
Severe (*Mafy*) = 3
Very severe (*Tena Mafy*) = 4

Table 17. Final Strategies and Weights

Strategy	Consensus Ranking
Eat less preferred foods, for example cassava/maize instead of rice (*Ahena ny fihinana sakafo tiana ho anina ohatra mangahazo, katsaka no sakafona fa tsy vary*)	1
Harvest crops early (*Manoa vary aloha/ vary ririnina*)	1
Eat smaller meals (*Misakafo kely)*	2
Consume less variety of food (*Tsy mihinana karazantsakafo maro*)	2
Eat (rice) fewer times a day, for example just once or twice (*Tsy dia misakafo matetika*)	3
Supplement food with foraging/hunting in the forest (*Mitady sakafo fanampiny ohatra any anaty ala*)	3
Receive/borrow food from family, friends, or neighbors (*Mahazo na mitrosa sakafo avy amin'ny fianakaviana ' namana, na mpiray vodirindra*)	3
Reduce money spent on education or health (*Ahena ny fandaniambola amin'ny fianarana na fahasalamana*)	3
Send children to eat with neighbors (*Alefa misakafo any amin'ny mpiray vodirindrina ny zaza*)	3

Feed working members of household more (*Izay miasa ihany no atao betsaka sakafo ambiliha*)	3
Skip a loan payment (*Tsy fandoavana ny trosa*)	4
Borrow money from family, friends, or local organizations (*Mihindrambola amin'ny, fianakaviana, namana, na otive, sy toerana azo indramambola*)	4
Purchase rice on credit (for example: OTIV/Secama) (*Vary nalaina trosa, ohatra OTIV/Secama*)	4
Take on rice debt (*Atao "vary maintso")*	4
Consume seed stock for next season (*Lany ny tahirin'ny masomboly amin'ny fotoampambolena manaraka*)	4

Appendix E. Household Assets Index

Household assets were calculated based on the value of a basket of household goods divided by the number of household members. This measure was not designed to be comprehensive, but rather to capture differences in wealth based on key assets. It also avoided potentially sensitive questions about income and savings. The basket was developed based on previous local surveys and refined by focus group feedback (Bellemare, 2009; Borgerson et al., 2018). The assets include both durable goods (e.g., flashlight, mobile phone, radio, bike, motorcycle) and the number of each type of livestock a household possesses (Table 18). A local collaborator determined the average value of each asset in Malagasy Ariary in 2019 based on market observation. The value in Ariary was converted to US dollars based on the average exchange rate in 2019: 3,805 Malagasy Ariary to $1. The final index is in US dollars to ease interpretation.

Wealth indexes are often developed through Principle Component Analysis (PCA) (Hargreaves et al., 2007; Vyas & Kumaranayake, 2006). Since data was collected on a range of other SES indicators (e.g. access to clean water), this technique was possible. The PCA, however, identified durable goods and livestock assets as explaining a large proportion of the variance, so only these two indicators were retained unweighted. Wealth measures based on assets do have drawbacks, including the risk of reflecting longer-term wealth rather than "short-run or temporary interruptions, or shocks to the household" (Filmer & Pritchett, 2001). In this case, the outcome of interest is *not* associated with the current resources available to the household, indicating that an index based on assets is appropriate.

Table 18. Value of Household Assets

Value of Durable Goods				**Value of Livestock Assets**		
Shovel	40,000Ar	$2.6		Cow	1 000,000Ar	$264.38
Plow	300,000Ar	$79.3		Chicken	5,000Ar	$1.3
Small Tractor	8,000,000Ar	$2115		Duck	10,000Ar	$2.54
Tractor	16,000,000Ar	$4,230		Turkey	40,000Ar	$10.58
Clock	16,000Ar	$2.6		Dove	5,000Ar	$1.32
Flashlight	5,000Ar	$1.3		Pig	150,000Ar	$39.66
Mobile Phone	30,000Ar	$7.9		Goat	60,000Ar	$15.86
Radio	40,000Ar	$11		Sheep	80,000Ar	$21.15
Furniture	300,000Ar	$79.3		Rabbit	6,000Ar	$1.6
Television	200,000Ar	$52				
Satellite Dish	220,000Ar	$58,16				
Solar Panel	160,000Ar	$42.3				
Gun	5,000,000Ar	$1321,88				
Bike	100,000Ar	$26.4				
Ox-Cart	2,00,000Ar	$525.6				
Moto	3,500,000Ar	$925				
Car	15,130,000Ar	$4,000				

Appendix F. Political Connectivity Index

The political connectivity index is calculated based on the number of political connections a household has and the level of those connections in the state hierarchy. I theorize that the distribution of AFRice benefits occurs at the interface of local kinship networks and the state patronage structure. The index is therefore intended to capture political connectivity specifically as it relates to accessing state resources at the local level, by calculating the extension of each household's informal network and its connections to the state hierarchy.

In the first step of developing the index, the survey captured the total number of household connections in four different dimensions: positions held directly by household members, positions held by extended family members of the household (*havana*), household members current positions on local management committees, and household members positions on management committees in the past five years (roughly the duration of the AFRice project in Alaotra-Mangoro). Household and extended family member connections to the following official government positions were captured: deputy, district head, local branch of national government, mayor, assistant mayor, mayor's office, *fokontany* head, *fokontany* office, military, gendarme, national police, and teacher. Additionally, the following informal positions were captured: elder (*tangalamena*), doctor, pastor, and local police. Current and previous household connections were captured to the following local management committees: agriculture, environment, fishing, water, seed certification, rice storage, education, rice collectors, women, youth, and political.

In the second step, connections of household and extended family members were consolidated into different levels of the state hierarchy (Table 19). Security forces were consolidated into a *separate level because they often transcend these boundaries. The number of connections of each household was summed at each level for both household members, extended family members, and committee connections. In the final step, weights for each level were derived from a Principle Component Analysis (PCA) and used to calculate a single connectivity score (*

Table 20). Greater weight is thus attributed to levels that account for higher proportions of the variance in the data, not necessarily higher levels in the state hierarchy.

Table 19. Levels of Political Connection

Level	Positions				
National	Deputy				
District	District Head	National Office			
Commune	Mayor	Assistant Mayor	Mayor's Office		
Security Forces	Military	Gendarme	National Police		
Fokontany	Chief Fokontany	Fokontany Office			
Local	Elder	Teacher	Doctor	Pastor	Local Police
Committees	Current				
Committees	Previous				

Table 20. Principle Component Analysis Weights

PCA							
House	**Family**	**Level**	**Positions**				
N/A	**.043**	**National**	Deputy				
0.012	**.186**	**District**	District Head	National Office			
0.003	**.212**	**Commune**	Mayor	Assistant Mayor	Mayor's Office		
0.073	**.828**	**Local**	Elder	Teacher	Doctor	Pastor	Local Police
0.002	**.201**	**Fokontany**	Chief Fokontany	Fokontany Office			
0.008	**.408**	**Security Forces**	Military	Gendarme	National Police		
0.117	**N/A**	**Committees**	Current				
0.080	**N/A**	**Committees**	Previous				

Appendix G. AFRice Benefits

Several indices were developed to measure *AFRice benefits.* Participation Level estimates the level of a household's direct participation in the project by summing the number of ways in which beneficiary households could have theoretically benefited. It captures the following tangible benefits, activities, and trainings.

Table 21. Forms of Household Participation in AFRice

Tangible Benefits	Activities	Trainings
Adapted Rice Seed ("Madikatra")	Tree Nursery	Integrated Rice Model ("MIRR")
Non-Rice Seed (e.g., vegetable)	Tree Planting	Compost Production and Use
Compost	Adapted Seed Field Tests	Agroforestry
Fruit Seedlings	Seed Certification	Livestock Management
Non-Fruit Seedlings		Sustainable Land Management
Agricultural Implements		Upland Agriculture/Stabilization ("Lavaka")
		Non-Rice Cultivation
		Post-Harvest Storage
		Water Management
		Pest Management
		Rice By-Product Use
		Climate Change Risk

Value of Direct Benefits estimates in US dollars the value of the benefits a household received from AFRice, based on an assumption of a minimum amount received and estimated value determined through market observation. Though the direct benefits are relatively small in US dollars, they nevertheless represent significant value in the context of low household incomes and assets. A local collaborator determined the average value of each asset in Malagasy Ariary in

2019 based on market observation. The value in Ariary was converted to US dollars based on the average exchange rate in 2019: 3,805 Malagasy Ariary to $1.

Table 22. Estimated Value of Direct AFRice Benefits

Benefit	**Minimum Received**	**Estimated Value**	**Total Value**
Rice Seed	Assume 100 kilo ("Makalioka")	2,160Ar/kilo*100 kilograms = 216,000Ar	$56.7
Non-rice/Vegetable Seed	Assume 100 kilo (Corn)	2,000Ar/kilo*100 kilograms = 200,000Ar	$52.6
Compost	Assume 450 kilo (1/2 ton)	7,000Ar/50 kilo sack*9 sacks = 63,000Ar	$16.6
Fruit Seedling	Assume 100	1,000Ar/fruit seedling * 100 seedlings = 100,000Ar	$26.3
Non-fruit Seedling	Assume 100	500Ar/non-fruit seedling*100 seedlings = 50,000Ar	$13.1
Pesticide Pump	Assume 1	75,000Ar	$19.7
Tree Planting	Assume 10 days	2,500Ar/day*10 days = 25,000Ar	$6.6
Shovel	Assume 1	40,000Ar	$10.5
Watering Can	Assume 1	7,500Ar	$2
Weeding Machine	Assume 1	30,000Ar	$7.9
Spade	Assume 1	10,000Ar	$2.6
Sickle	Assume 1	12,000Ar	$3.2
Sacks	Assume 10	1,200Ar/sack*10 sacks = 12,000Ar	$3.2
Agricultural Implements (Total)	Assume one of each		$29.4

The Level of Indirect Benefits estimates the level of a household's indirect participation in the project by summing the number of ways all households could have theoretically benefited from AFRice. It captured the following dispersed benefits from infrastructure upgrades and access to improved forms of agricultural knowledge. For each form of improved agricultural knowledge product it includes whether the household has heard of it and has a hard copy (if relevant). For weather forecasts, it captures whether households access forecasts via the newspapers, radio, or public announcement (*tamtam*).

Table 23. Forms of Indirect AFRice Benefits

Upgraded Infrastructure	Improved Knowledge Products
Water infrastructure improved water access on agricultural land	Integrated Rice Model ("MIRR"): heard, hard copy
Reduced siltation on agricultural land downhill from reforestation sites	Sustainable Land Management Guidelines: heard, hard copy
Use of post-harvest storage facilities at commune head	Agroforestry Guidelines: heard, hard copy
	Vulnerability Maps: heard, hard copy
	Crop Calendars: heard, hard copy
	Weather Forecasts (Newspaper): heard, hard copy
	Weather Forecasts (Radio): heard, hard copy
	Weather Forecasts (Announcement): heard, hard copy

Appendix H. AFRice Budget Committed to Consultancies and Private Contracts

Calculations are based on annual Project Performance Reports (PPR) submitted to the Adaptation Fund and publicly accessible online. The financial data below represents anticipated costs not actual expenditures, but is nevertheless useful for estimating the proportion of the overall AFRice budget allocated to consultancies and private contracts. Consultancy estimates include budgets for workshops conducted by consultants. All estimates in US dollars.

Table 24. Percentage of AFRice Budget Committed to Consultancies and Private Contracts

PPR	Year	Consult. Allocation	Private Contract Allocation	Total Budget	% Consult.	% Private	% Consult. & Private
PPR1	2013	887,798	190,000	1,903,038	46.65	09.98	56.63
PPR2	2014	579,520	396,411	1,546,580	37.47	25.63	63.10
PPR3	2015	795,264	600,000	1,902,177	41.81	31.54	73.35
PPR4	2016	959,194	952,107	2,753,373	34.84	34.58	69.45
PPR5	2017	926,300	875,120	2,153,903	43.01	40.63	83.64
PPR6	2018	916,700	875,120	2,153,903	42.56	40.63	83.19

Appendix I. Household Characteristics

Table 25. Descriptive Household Characteristics

	Units	Obs.	Min	Max	Mean	SD
AFRice Beneficiary	Y/N	599	0	1	0.33	0.47
Size	#	596	1	15	4.83	1.96
Household Head Age	Years	597	18	110	45.22	13.93
Household Head Education	Years	598	0	16	6.19	3.44
Born in Commune	Y/N	594	0	1	0.64	0.48
Ethnicity		577 (100%)				
Sihanaka		354 (60%)				
Nosimboahangy		70 (11.8%)				
Merina		64 (10.8%)				
Avaratra		49 (8.3%)				
Betsimisaraka		15 (2.5%)				
Other		38 (6.4%)				
Religion		590 (100%)				
Protestant		210 (35.1%)				
Catholic		188 (31.4%)				
Traditional		87 (14.5%)				
Lutheran		19 (3.2%)				
Other		16 (2.7%)				
None		57 (9.5%)				
Socioeconomic Indicators						
Food Security Score	Index	599	0	158	27.02	27.48
Non-Livestock Assets	USD	592	1.3	9437.70	970.90	1502.62
Livestock Assets	USD	596	0	18420.30	540.10	1528.57
Total Assets	USD	592	1.3	21361.30	1514.40	2484.14
Total Assets per Person	USD	589	0.43	4914.03	328.47	527.03
Access to Clean Water	Y/N	596	0	1	0.75	0.43
Distance to Water	Walking Minutes	597	0	60	6.73	10.17
Distance to National Highway	Walking Minutes	595	0	1440	124.1	219.72
Non-Wood Cooking Fuel	Y/N	586	0	1	0.29	0.45
Rice Stockage in House	Y/N	596	0	1	0.81	0.39
House Helper	Y/N	596	0	1	0.14	0.35
Land Ownership						
Owns Land	Y/N	599	0	1	0.79	0.41

Total Land Owned	Hectares	599	0	72.4	3.16	6.83
Leases to Others	Y/N	598	0	1	0.13	0.34
Leases from Others	Y/N	599	0	1	0.41	0.49
Sharecrops to Others	Y/N	599	0	1	0.17	0.37
Sharecrops from Others	Y/N	599	0	1	0.30	0.46
Title	Y/N	464	0	1	0.38	0.49
Adaptive Capacity						
Livelihood Diversification Score	Sum	599	1	10	4.3	1.7
Specific Capacity Score	Sum	599	0	8	2.04	1.78
Coping Strategies Score	Sum	599	0	8	2.02	1.56
Household Political Connectivity						
Political Connectivity Score	Index	595	0	7.32	2.35	1.67
Household Connections	Sum	597	0	5	0.52	0.82
Extended Family Connections	Sum	597	0	15	4.16	3.27
Current Committee Connections	Sum	599	0	5	0.34	0.79
Previous Committee Connections	Sum	599	0	5	0.21	0.60
AFRice Benefits						
Level of Participation	Index	599	0	21	2.49	4.63
Value of Direct Benefits	USD	599	0	211.20	27.88	52.71
Level of Indirect Benefits	Index	599	0	15	2.95	3.25
Perceived Equity in Participation	Y/N	193 (100%)				
Equitable		125 (64.7%)				
Inequitable		61 (31.6%)				
Not Sure		7 (3.6%)				
Perceived Equity in Benefits	Y/N	194 (100%)				
Equitable		93 (47.9%)				
Inequitable		91 (46.9%)				
Not Sure		9 (4.6%)				
Heard of AFRice						
Local Official		79				
AFRice Representative		77				
Friend		25				
Family		20				
Radio		14				
Neighbor		10				
Committee		6				
Television		1				
Public Announcement		1				
AFRice Selection						
Volunteer		177				
Fokontany		9				
AFRice Official		8				
Mayor		7				
Commune		5				
Weather Forecasting						

Possess Radio	Y/N	597	0	1	0.68	0.47
Receive Radio	Y/N	588	0	1	0.68	0.47
Receive Forecasts	Y/N	588	0	1	0.61	0.10
Use Forecasts	Y/N	588	0	1	0.48	0.50
Village Characteristics						
Distance to Highway	Minutes Walking	599	5.3	855.0	125.14	191.22