

# **100 billion dollar COP-out**

**A critical analysis of the illusions and realities of climate adaptation**

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# Abstract

Climate adaptation has become central to North-South relations, with billions of dollars promised from developed to developing countries to support adaptation planning. Yet despite facing radically different climate challenges from sea-level rise to desertification to glacial melt countries produce remarkably similar National Adaptation Plans. This thesis investigates what this convergence reveals about how adaptation planning operates and whose interests it serves.

Using structural topic modeling to analyze all English language National Adaptation Plans submitted to the UNFCCC, I develop the “Dominance Index”—a new way to measure that quantifies how concentrated adaptation discourse is around particular themes. The analysis reveals extraordinarily high centralization across all contexts,

Three key patterns emerge. First, universal concentration occurs despite diverse environmental challenges, suggesting systematic institutional constraints rather than climate-responsive planning. Second, procedural topics, institutional arrangements, financial mechanisms, planning processes, dominate discourse regardless of category, with over half of the discourse. Third, p-value patterns reveal that higher-income countries enjoy greater discourse autonomy while lower-income countries show stronger institutional capture, providing statistical evidence that financial dependence shapes planning homogenization.

These findings provide empirical validation for critical theories about adaptation as contemporary colonialism. Drawing on the concept of “epistemicide,” I argue that adaptation planning as it is practiced eliminates alternative knowledge systems in the quest to support vulnerable countries. Rather than enabling diverse responses to environmental change, the adaptation regime transforms political questions about climate justice into technical problems of resource allocation and capacity building.

The thesis contributes both methodologically, through computational tools that make the operation of power in governance processes quantifiable, and theoretically, by demonstrating how climate governance continues colonial relations through new vocabularies. The findings suggest that genuine climate justice requires not better adaptation planning but recognition of the multiple worlds that exist beyond adaptation frameworks.

# 1 Introduction

Climate adaptation has become the new unifying story in North-South relations, yet the stories that drive it are strikingly diverse. In corporate boardrooms, executives declare “we need climate action to stay competitive in world markets.” Conservation organizations insist “we need climate action to save biodiversity.” Development professionals state “I need people to buy carbon credits so I can put food on the table.”

These narratives, economic, ecological, existential, seem to demand fundamentally different responses. A corporation’s competitiveness strategy should look nothing like a biodiversity protection plan, which in turn should differ from a smallholder’s survival strategy. Yet when we examine how climate adaptation actually unfolds through formal planning processes, a puzzling pattern emerges.

Countries facing radically different climate futures—small island states confronting rising seas, landlocked nations battling desertification, mountain kingdoms losing glaciers—produce remarkably similar adaptation plans. Their National Adaptation Plans, submitted to the United Nations Framework Convention on Climate Change (UNFCCC), converge on the same topics. The diversity of climate impacts meets the homogeneity of climate responses.

This convergence cannot be explained by shared environmental challenges, as the challenges themselves are profoundly different. Instead, the pattern points to something more systematic: the operation of what development anthropologists call the adaptation regime, a transnational space where consultants, frameworks, and expertise circulate, creating standardized approaches to technical problems (Paprocki 2018). The same consulting firms work across multiple countries. The same templates structure different plans. The same indicators measure disparate realities (Mosse 2011).

## 1.1 The Hundred Billion Dollar COP-Out

The title of this thesis captures this puzzle in its double meaning. Climate adaptation represents both a literal “Conference of Parties outcome”—the institutional response to demands for climate justice through the \$100 billion promised at Copenhagen (2009) and the \$300 billion pledged at COP29 (2024). But it also constitutes a “cop-out” in the colloquial sense: an evasion of responsibility. While Southern countries reshape their societies through adaptation planning, Northern countries continue the emissions that drive climate change. While consultants design resilience projects in vulnerable communities, the systems producing this

vulnerability continue unabated. As we all know, vulnerability does not fall from the sky (Ribot 2013).

This represents what the concept of “vulnerability” now plays in global relations—a role remarkably similar to “underdevelopment” in the twentieth century. Where once countries were diagnosed as underdeveloped and required development, they are now assessed as vulnerable and need adaptation. Where development economists calculated GDP gaps, climate scientists now model exposure indices. Where structural adjustment programs promised to fix economic deficiencies, adaptation projects now promise to address climatic ones. The vocabulary has changed, but the underlying structure persists.

## 1.2 Research Questions and Approach

To investigate this adaptation apparatus, I pose three research questions that probe different dimensions of the adaptation regime:

How does climate adaptation planning conceptualize justice, and what possibilities does this enable or foreclose? Through what mechanisms and whose knowledge do adaptation interventions become legitimate and necessary? Does the current adaptation regime advance climate justice or reproduce colonial relations under new vocabularies?

To answer these questions, I employ an approach that makes patterns typically hidden in the sheer volume of policy documents visible. Using computational text analysis, specifically structural topic modeling (M. E. Roberts, Stewart, and Tingley 2019a), I identify thematic patterns that structure adaptation discourse across all National Adaptation Plans submitted to the UNFCCC. This approach accounts for both the specific national details, sorting out all words that occur in less than 10% of the corpus and the general boilerplate words that occur in more than 80%.

The methodological contribution lies in developing tools that can reveal the operation of power in large-scale governance processes. The Dominance Index makes abstract concepts like epistemicide empirically tractable, showing not just that knowledge systems are marginalized but how this marginalization operates through mundane planning processes. This approach bridges critical theory and empirical analysis, providing systematic evidence for processes typically observed through ethnographic work. This approach does not in any way replace these ethnographic accounts, but it enables a global comparison of the discourse and in the future, a way to compare across policy domains, to see if the same patterns can be observed.

## 1.3 Key Findings

The analysis finds a high discourse centralization across all National Adaptation Plans. Countries show dominance values substantially above baseline indicating that adaptation discourse

concentrates on a narrow set of topics, despite removing the most used words. This concentration suggests systematic constraints at play, operating across all adaptation planning rather in a more or less context-agnostic way.

Most significantly, procedural topics dominate regardless of climate vulnerabilities. Topics related to planning processes, institutional arrangements, and financial mechanisms appear among the top themes across virtually all country groupings, accounting for around half of total discourse. Environmental challenges matter less than institutional requirements in shaping what countries discuss in their adaptation plans.

The p-value patterns reveal a crucial insight about autonomy and dependence: higher-income countries show weaker group constraints (higher p-values), indicating greater discourse autonomy, while lower-income countries show stronger institutional capture (lower p-values). This provides statistical validation that financial dependence shapes discourse homogenization—countries must speak the language of international institutions to access climate finance.

## 1.4 Theoretical Framework

These patterns are analyzed through the concept of “epistemicide”, where one worldview systematically destroys others (Santos 2016; Escobar 2018). This concept captures the subtle coercion embedded in adaptation planning operates, rather than the direct suppression. It frames this process, the dismissal of other knowledge as unreasonable, as a form of violence. Traditional ecological knowledge, community-based practices, indigenous cosmologies, and local innovations find no legitimate expression in documents dominated by vulnerability indices and results-based management frameworks.

Furthermore, a central part of their argument is that the problems the world is facing are because of the way we see the world, and to solve them, we need an ecology of knowledges (Santos 2016) and a world where many worlds fit (Escobar 2018).

This argument is similar to the field of critical future studies, where the western modern worldview is conceptualized as capitalist realism, based on the argument that it is easier to imagine the end of the world, than imagining the end of capitalism (Godhe and Goode 2018; Goode and Godhe 2017).

The convergence observed in adaptation discourse represents what critical scholars identify as the continuation of colonial control through seemingly neutral technical processes. This connects to broader analyses of how development discourse forecloses alternative futures (Escobar 1995, 2018) and how climate governance operates as an “anti-politics machine” that transforms political questions into technical problems (Ferguson 1994; Li 2007).

## 1.5 Chapter Overview

Following this introduction, Chapter 2 situates climate adaptation within the UNFCCC system, examining how mitigation, adaptation, and loss and damage create a the basis for global climate governance. Chapter 3 reviews two competing perspectives on adaptation planning, the “adaptation nexus” approach seeking technical solutions and the “adaptation regime” critique revealing colonial continuities.

Chapter 4 develops the theoretical framework, drawing on epistemologies of the South, critical futures studies, and discourse analysis to understand how adaptation planning might reflect epistemological diversity or monoculture. Chapter 5 details the methodology, explaining how structural topic modeling and the Dominance Index can reveal patterns of convergence and divergence.

Chapter 6 presents the empirical findings, demonstrating high discourse centralization across all categories with important variations by income level, region, and geography. Chapter 7 discusses these findings through the lens of critical theory, arguing that adaptation operates as epistemicide that forecloses alternative futures by rendering adaptation technical, rather than political, maintaining colonial relations.

If current approaches systematically eliminate the knowledge systems and social arrangements that enable genuine resilience while imposing frameworks that create new dependencies, then adaptation represents not climate response but a form a green colonialism (Whyte 2018). This analysis becomes essential for those seeking to support communities facing climate impacts without reproducing the relations that produce vulnerability in the first place.

The question driving this research is ultimately about possibilities: Can communities adapt to environmental change according to their own politics, or will the machinery of adaptation planning continue eliminating alternatives? The evidence suggests that current approaches serve institutional needs while failing those most vulnerable to climate impacts. Understanding these dynamics is a necessary first step toward imagining how adaptation might operate otherwise, supporting rather than supplanting the diverse ways communities navigate environmental change.

The recent dismantling of USAID by the american administration, and its new regulations around the use of words in academia and public projects, complicates the picture. An interesting follow up study would be to see if the discourse maintains the same centralization, but with the words swapped out, or if the withdrawal of the US as the central power in this will shape the concentration.



## 2 Context

This chapter explains how international climate governance operates through the United Nations Framework Convention on Climate Change and its three main pillars. Mitigation focuses on reducing greenhouse gas emissions, primarily through economic mechanisms like carbon markets and climate finance. Adaptation addresses adjusting to climate impacts, connecting closely with development assistance and aid flows to vulnerable countries. Loss and damage deals with compensating for climate harms that cannot be avoided through mitigation or adaptation, raising questions about responsibility and reparations. Understanding these three pillars, and how adaptation has emerged as an important part of North-South relations, provides essential context for analyzing how countries plan their responses to climate change.

### 2.1 The UNFCCC: A Political Arena

The United Nations Framework Convention on Climate Change, established at the Earth Summit in Rio de Janeiro in 1992, is fundamentally a political arena where nations engage in struggle over responsibility, resources, and power (Hall and Persson 2018). Despite its technical veneer of scientific assessments and economic mechanisms, the UNFCCC represents a site where countries attempt to both achieve as much climate progress as possible while avoiding as much responsibility as possible. The outcomes of this political struggle are shaped not by scientific imperatives alone but by the relative power of different actors and their capacity to define problems and solutions.

The UNFCCC serves as the arena where everyone connected to climate work congregates, consultants, politicians, NGOs, businesses, and bureaucrats, building its own epistemological community (De Francesco and Guaschino 2020). This creates powerful epistemic communities that shape how climate challenges are understood and addressed. The same networks that once promoted structural adjustment now advocate climate finance. The same projects that were formally development projects, are now designing adaptation projects (Paprocki 2018; Dewan 2022).

The UNFCCC operates on what might be called “bathtub logic”, a linear understanding where greenhouse gas emissions lead to climate change, which leads to environmental impacts, which cause damages. This seemingly neutral framework structures all climate governance around three sequential responses: mitigation (reducing emissions to prevent climate change), adaptation (adjusting to unavoidable impacts), and loss and damage (compensating for unavoidable harms). But this technical framing obscures profound political implications.

The bathtub understanding itself shows some of the limitations of this approach. Climate change is not simply a matter of emissions flowing into an atmospheric container until it overflows. The metaphor eliminates questions of power, justice, and structural inequality by reducing complex social-ecological relationships to hydraulic engineering.

Within this framework, mitigation appears as the primary response, turning off the taps to prevent overflow. Adaptation becomes a secondary measure for dealing with water already in the tub. Loss and damage emerges as compensation when the tub overflows despite other measures. This hierarchy is not neutral but serves particular interests. For Northern countries with high historical emissions, mitigation implies expensive economic transformation. For Southern countries facing climate impacts, adaptation provides a way to appear helpful while avoiding responsibility for the overflow.

The UNFCCC’s evolution through these three pillars, mitigation established at Kyoto (1997), adaptation at Cancun (2010), and loss and damage in Paris (2015) reflects growing recognition of climate impacts and the inadequacy of mitigation alone (E. Roberts and Huq 2015). But it also reveals shifting North-South dynamics where each new pillar serves as what might be termed a “side payment” - compensation offered to maintain consensus while avoiding fundamental changes to the global economic order.

Everything that is not mitigation becomes, in effect, a mechanism for managing inadequate climate action. Adaptation finance promises to help Southern countries prepare for climate impacts while Northern countries continue emitting. Loss and damage funds offer future compensation while avoiding present liability. The result is a system that appears to address climate injustice while carefully preserving the arrangements that produce it.

## 2.2 Mitigation

Climate mitigation emerged as the first pillar of climate governance, establishing North-South power dynamics through differential responsibilities that would later shape adaptation approaches. The Kyoto Protocol, adopted in 1997, set legally binding emissions reduction targets for 37 industrialized countries, with an average reduction of 5.2% from 1990 levels to be achieved by 2012 (Hall and Persson 2018). This approach established a key North-South dynamic: developed countries would take the lead in emissions reductions, while developing countries were granted space to pursue economic development without binding emissions targets.

The Protocol created market mechanisms for carbon trading through “flexibility mechanisms” - Emissions Trading, the Clean Development Mechanism (CDM), and Joint Implementation (Peskett, Schreckenber, and Brown 2011). The CDM became a significant channel for North-South cooperation, allowing developed countries to implement emission-reduction projects in developing countries and earn certified emission reduction credits. Through these mechanisms,

developing countries under no obligation to cut emissions could sell carbon credits to industrialized nations with reduction obligations (Peskett, Schreckenberg, and Brown 2011).

However, the geographic distribution of CDM projects revealed how market-based approaches reproduced existing inequalities. The majority concentrated in larger emerging economies like China, India, and Brazil, while least developed countries, particularly in Africa, hosted relatively few projects (Peskett, Schreckenberg, and Brown 2011). This pattern showed how carbon markets reinforced global investment patterns, excluding the poorest countries despite their greater vulnerability to climate impacts (Dunlap 2018).

The expansion of climate finance and market mechanisms has created new forms of what scholars term “green colonialism” - the appropriation of land and resources in the Global South for Northern climate goals (Dunlap 2018). Wind energy projects in Mexico’s Isthmus of Tehuantepec, marketed as climate solutions, have displaced indigenous communities and disrupted traditional livelihoods (Dunlap 2018). Carbon credit plantations in Uganda have enclosed communal lands, forcing peoples off their land (lyons2014?).

These examples reveal how climate mitigation creates new “sacrifice zones” - places rendered disposable for the greater good of climate action (Tornel 2024; Wilhite and Salinas 2019). The central logic mirrors earlier extractive relationships where Southern resources served Northern development, now repackaged as global environmental necessity.

Climate finance represents the latest iteration of development finance, promising to mobilize private capital for environmental goals (buchner2023?; Stern, Songwe, and Bhattacharya 2022). The idea of blended finance, combining public resources to leverage private investment, echoes decades of similar promises in development assistance (asiandevelopmentbank2008?). Yet this approach fundamentally misunderstands the problem of climate change as a shortage of capital rather than a political struggle over how capital is allocated.

The problem of climate mitigation is essentially political-economic, not developmental. Every dollar spent represents a choice, shift spending to less polluting sectors through tax and emissions trading systems, shift spenders from private consumption to public care (Foller 2024), or simply spend less through degrowth approaches (Escobar 2020). From this perspective, the world continues spending vastly more on fossil fuel subsidies than on climate solutions, making the transition financially feasible if politically difficult (buchner2023?).

There is no lack of scholarship on the possible ways for the global north to rework its economies to stay within planetary boundaries (mazzucato2021?; raworth2017?). Yet, these options get considerably less traction than these development approaches. With recent development in monetary theory, the idea of public debt might also be reimaged (kelton2020?). This to say, climate finance to developing countries is a form of outsourcing of the politics of climate action, rather than to do the political work at home.

The Paris Agreement marked a shift from binding obligations to voluntary “nationally determined contributions,” introducing a universal framework where all countries contribute while

maintaining differential responsibilities (Hall and Persson 2018). This flexibility came at the cost of ambition, with initial NDCs putting the world on track for approximately 3°C of warming rather than the Agreement’s 1.5-2°C goal. This ambition gap reinforces critiques that the climate regime prioritizes political feasibility over transformative action (Williams 2020).

International cooperation through climate finance flows (\$100 billion promised at Copenhagen 2009, \$300 billion pledged at COP29 2024) appears substantial but remains marginal compared to global fossil fuel investments. The larger question is whether climate finance represents genuine cooperation or a mechanism for maintaining Northern control over Southern development pathways while appearing to address climate justice.

## 2.3 Adaptation

As Kyoto’s mitigation targets proved inadequate and governments faced resistance to ambitious measures, climate adaptation gradually gained prominence (E. Roberts and Pelling 2018). This shift emerged from recognition that even with ambitious mitigation, some climate impacts were occurring and others were inevitable.

The Cancun Adaptation Framework (2010) formally established adaptation as the second pillar, creating the Adaptation Committee, National Adaptation Plans process, and approaches to address loss and damage (Mizuno and Okano 2024). These mechanisms established institutional arrangements that would shape North-South relations in adaptation governance, with developed countries providing finance that developing countries could access through specific procedures and criteria.

Vulnerability manifests differently across contexts, revealing the political nature of these constructions. In industrialized countries, adaptation focuses on managing infrastructure and adjusting systems to changing conditions (Hall and Persson 2018). In developing countries, adaptation intersects with broader development challenges - poverty reduction, food security, disaster risk reduction, public health. The boundaries between adaptation and development blur, leading to debates about “adaptation mainstreaming” versus transformative approaches (Ireland and McKinnon 2013; Scoville-Simonds, Jamali, and Hufty 2020).

These different conceptualizations reflect underlying North-South dynamics. Northern adaptation appears as technical adjustment to climate parameters. Southern adaptation becomes development intervention addressing comprehensive social vulnerability (Scoville-Simonds, Jamali, and Hufty 2020).

The adaptation funding landscape materializes these relations through institutional arrangements and power dynamics. The Adaptation Fund, Least Developed Countries Fund, Special Climate Change Fund, and Green Climate Fund create complex architectures where adaptation finance consistently lags behind mitigation finance (Persson and Remling 2014).

Adaptation funding faces unique challenges absent in mitigation. Unlike emissions reductions, which provide common metrics, adaptation lacks universally agreed measures of effectiveness (Persson and Remling 2014). This measurement challenge is not merely technical but reflects deeper questions about what constitutes successful adaptation and who defines success. These definitional struggles shape resource allocation and ultimately determine whose adaptation is supported.

The emergence of “maladaptation” as a policy concern reveals fundamental tensions in adaptation approaches (Schipper 2020; Eriksen et al. 2021). Maladaptive interventions increase vulnerability rather than reducing it, often through projects that appear technically sound but ignore social and political contexts.

Coastal protection that displaces flooding to poorer communities, drought-resistant seeds that create farmer dependence on corporations, early warning systems that reach connected populations while missing marginalized groups all represent maladaptation that serves some interests while harming others. Maladaptation could then, instead of eliminating vulnerability, just shift it between groups. This then becomes a question of how one imagines vulnerability to be produced (Ribot 2013).

I would argue that we are going to be adapting to climate change for the rest of our lives, as we have been developing before, and civilizing before that (Ferguson 1994). Adaptation risks becoming the new default way of observing and intervening in the world. The same institutional apparatus that promoted development now advocates adaptation, using similar frameworks, employing similar experts, and producing similar relationships of dependence (Paprocki 2018; Dewan 2022).

The adaptation governance landscape’s multi-level nature - requiring action at global, regional, national, and local scales - creates challenges for coherence while enabling institutional control. International frameworks provide guidance and resources, but adaptation’s context-specific character requires localized assessment and response (Ireland 2010; Scoville-Simonds, Jamali, and Hufty 2020). This tension between global standardization and local specificity enables Northern-dominated institutions to establish frameworks while claiming to support local autonomy.

## 2.4 Loss and Damage

Loss and damage emerged as the third pillar recognizing that some climate impacts exceed adaptation limits, particularly for the most vulnerable nations (E. Roberts and Huq 2015). The concept’s development reveals contested politics of climate responsibility and liability, from the Alliance of Small Island States’ 1991 proposal for international insurance to the Warsaw International Mechanism (2013) and incorporation into the Paris Agreement (2015) (Toussaint 2021).

This two decade political struggle reflects the resistance from developed countries concerned about liability claims, with the United States explicitly insisting that Paris Agreement Article 8 “does not involve or provide a basis for any liability or compensation” (Vanhala and Hestbaek 2016). The exclusion of liability language reveals how climate governance manages justice claims while avoiding fundamental challenges to existing arrangements.

Loss and damage operates through a time displacement that complicates traditional transitional justice frameworks (Wallimann-Helmer 2023). Where transitional justice typically addresses past harms through truth, reconciliation, and reparations, loss and damage addresses future harms while avoiding acknowledgment of past responsibility (teitel2003?; daly2021?). This temporal confusion enables developed countries to provide “support” for future climate impacts while denying liability for historical emissions that cause these impacts.

Loss and damage can be understood legally, calculating damages, establishing climate attribution, assigning responsibility, and providing compensation (Wallimann-Helmer 2023). Alternatively, it can be framed as risk management, reducing risk through adaptation, transferring risk through insurance, and managing residual risk through resilience measures (Mechler et al. 2020). The legal framing challenges existing power relations by asserting accountability, while the risk management framing depoliticizes loss and damage as technical challenge.

These competing framings reflect fundamental tensions regarding climate responsibility. The compensation approach directly challenges conventional development frameworks by asserting that historical emitters bear responsibility for climate damages (Vanhala and Hestbaek 2016).

Loss and damage must also then find a way to identify victims and the right remedy, proving difficult. The best known proponents of Loss and Damage are Small Island Developing States, and especially the Marshall Islands (brun2016?; ourbak2018?). Here, the difficulties of identifying who the victim is, is it the country for losing its land, or the people that have to move, or is it the landowners that lose their wealth, become clear.

It also makes it important for the countries to perform and challenge their victimhood in strategic ways (dvorak2018?; krystalli2021?). This performance requires demonstrating both current suffering and future helplessness, but also the ability to deliver as governing bodies. Yet some countries resist this characterization, seeking to maintain agency while acknowledging vulnerability (Corbett et al. 2020; carter2020?).

The adaptation frontier, the line between what is deemed adaptation and what is beyond adaptation is a political decision as well. In theory, everything could be adapted given sufficient finance, political will, and social acceptance. The question becomes opportunity cost, what societies are willing to sacrifice to maintain particular arrangements under changing conditions. Loss and damage emerges where these costs become unacceptable, but who determines acceptability remains contested.

The breakthrough at COP27 establishing loss and damage funding arrangements, followed by operationalization at COP28, represents significant progress (Janzen et al. 2021). Initial

pledges of approximately \$700 billion appear substantial until compared with estimated loss and damage costs of \$290-580 billion annually by 2030 for developing countries alone. The recent COP29 commitment of \$300 billion annually by 2035 suggests increasing recognition while remaining far below assessed needs.

These funding commitments could operate as the ultimate side payment, when remembering the bathtub metaphor above. Instead of cutting emissions or extraction of carbon sources, the framework allows for loss and damage to enable continued Northern emissions, as long as they are properly compensated.

The evolution of loss and damage from activist demand to institutional mechanism illustrates how the UNFCCC system manages justice claims. By incorporating loss and damage into formal governance structures, the system appears responsive to demands for climate justice while constraining how these demands can be articulated and addressed. Future damages become manageable through risk assessment and insurance mechanisms, while historical responsibility disappears into technical discussions of attribution and causation.

The climate governance system that emerges from this political arena serves particular interests while claiming to serve universal ones. Understanding this system's operation, how it transforms political questions into technical problems, how it manages justice claims without addressing structural causes, how it maintains North-South relations while promising transformation - provides essential context for examining how adaptation planning functions within these broader dynamics.

## 3 Literature review

This chapter presents the two main strands of climate adaptation research. One is sympathetic, the adaptation nexus, while the other is critical, the adaptation regime. Climate adaptation is concerned with vulnerability to climate damages, and the main disagreement centers on how vulnerability is produced and what constitutes appropriate response.

The literature in this field maps onto broader debates in development studies, where the study of interventions in other societies has a long theoretical history. These competing paradigms reveal fundamentally different understandings of what adaptation is, how vulnerability is produced, and consequently, what appropriate interventions look like.

### 3.1 Adaptation Nexus

The adaptation nexus fundamentally rests on what could be understood as an idea of modernization. Within this framework, climate vulnerability emerges primarily from the absence of particular capacities, technologies, or institutional arrangements that enable effective response to environmental challenges. This logic creates a seemingly natural division of labor: Northern countries and international institutions possess the technical expertise, financial resources, and institutional knowledge needed to address climate challenges, while Southern countries require assistance to build the capacity necessary for effective adaptation (Ireland 2010).

This approach has deep roots in mainstream development thinking, where the main idea was to make sure that countries modernized, rapidly and effectively, through the imagined stages of growth, to finally become industrial economies (Escobar 1995). This was not to happen without considerable change and suffering, for the greater good.

The goal of modernization was shared in both the neo-liberal and the neo-marxist approaches, with the rapid industrialization of the Soviet Union also being part of this paradigm, although after the fall of the Soviet Union, the neo-liberal paradigm was the only one left, and the shock-therapy model of industrial development the central one (gevorgyan2018?)

After the largely failed attempts with shock therapy, the mainstream attention shifted to more bottom-up and participatory approaches that had been on the fringes before. The participatory turn in development, initially championed by scholars like Paulo Freire and Robert Chambers, emphasized the importance of incorporating local knowledge and ensuring community involvement in development processes (Freire 1970; Chambers 1994).



However, as these participatory techniques became institutionalized within major development organizations, they underwent significant transformation. What began as radical challenges to expert-driven development became tools for more effective implementation of essentially unchanged development paradigms (**banks2015?**).

The participatory development movement of the 1990s ran parallel to the emergence of human security frameworks that expanded the concept of security beyond state-centered military concerns (UNDP 1994; Rothschild 1995). This expansion occurred along both ontological and epistemological lines, recognizing new objects of security (individuals, communities, environments) and new ways of understanding security threats (Buur, Jensen, and Stepputat 2007).

When climate science began documenting large-scale future risks (**lenton2023?**), including the transgression of planetary boundaries (**steffen2015?**; **richardson2023?**), this existing apparatus of expanded security thinking naturally incorporated climate change as a security challenge requiring coordinated response (Wæver 1995).

The “local turn” in international interventions further shaped this evolution (Mac Ginty and Richmond 2013; Mac Ginty 2015). Recognition that top-down interventions often failed to achieve their objectives led to increased emphasis on local ownership, cultural sensitivity, and context-specific approaches. However, this local turn occurred within institutional frameworks that maintained fundamental assumptions about the need for external expertise and resources. The result was hybrid approaches that emphasized participation and local adaptation while preserving the basic structure of Northern institutions designing and funding interventions in Southern contexts.

International frameworks consistently emphasize the importance of incorporating local knowledge and ensuring that adaptation measures are “locally adapted” to specific contexts (**lavoine2024?**; **lawrence2024?**). Organizations promote participatory approaches that supposedly enable communities to identify their own priorities and design appropriate responses (**ipes-food2018?**; **diaz2016?**).

The ecosystem services framework exemplifies how the nexus approach attempts to bridge global and local concerns (Almenar et al. 2021; **gret-regamey2012?**). By quantifying the economic value of natural systems, this approach promises to make environmental protection economically rational while incorporating both local values (**bingen2000?**; Sen 2000) and global concerns like biodiversity conservation and climate regulation (**woodhead2019?**; **brander2012?**; **pascual2023?**; **lawrence2022?**).

The central thing is that this framework enables the calculation of co-benefits, where single interventions can simultaneously address multiple challenges - climate adaptation, biodiversity conservation, poverty reduction, and economic growth. And since these approaches go across scales, both large scale infrastructure development, the shock therapy-model where one can trade some suffering for the greater good and small-scale projects aimed to help a certain community, can co-exist in the same epistemological community (De Francesco and Guaschino 2020).

The practical implementation of nexus approaches relies heavily on standardized tools and frameworks designed to manage complexity while ensuring accountability to donors and implementing agencies. The logical framework approach, with its apparently value-neutral methodology inherent in its name, breaks complex social and environmental challenges into discrete problems with measurable solutions (**ortengren2004?**).

These tools promise to limit exposure to the unpredictable aspects of local contexts while ensuring that interventions can be planned, implemented, and evaluated according to recognizable criteria. While these tools often are well-suited to extract local knowledge, it puts the emphasis on the person doing the workshop, and the people analysing the data, making them easy to do wrong (Dewan 2022).

The role of non-governmental organizations in this system reflects the broader transformation of development practice (**banks2015?**). NGOs that deliver services based on donor budgets often function as implementation agencies rather than independent advocates, creating dynamics where the distinction between NGOs and government agencies becomes minimal (**kansiime2019?**). This convergence around service delivery models reinforces the technical orientation of adaptation interventions, where success is measured by the effective delivery of predetermined services rather than by more complex measures of social or environmental transformation.

States themselves are understood within this framework as having mixed track records in delivering development outcomes, creating natural justification for limiting exposure to unpredictable local political dynamics (**banks2015?**). Technical approaches promise to insulate interventions from the complexities of local governance while focusing on measurable outcomes that can be evaluated according to international standards. The emphasis on building institutional capacity aims to strengthen state systems while ensuring they operate according to internationally recognized best practices.

This nexus understanding sees vulnerability as an individual's, community's or state's lack of certain skills, capabilities, or access to resources. When the right resources are provided, this is expected to trigger an upward spiral where outcomes improve across multiple dimensions (Schipper 2020). This conceptualization focuses on characteristics of individuals or communities that make them susceptible to harm - limited assets, poor infrastructure, weak institutions - and frames vulnerability primarily as a condition rather than a process.

The nexus approach maintains that standardization and convergence reflect genuine learning and the dissemination of best practices. Complex challenges like climate adaptation require sophisticated technical knowledge, and it makes sense that countries facing similar challenges would adopt similar solutions. International coordination prevents the wasteful duplication of effort while ensuring that limited resources are used effectively. Frameworks like those developed by the Climate Policy Initiative attempt to create taxonomies that prevent climate finance from becoming so broadly defined as to lose meaning (**buchner2023?**).

## 3.2 Adaptation Regime

The adaptation regime critique fundamentally challenges the nexus assumption that the South lacks something the North can provide. Instead, this perspective argues that the South is systematically oppressed by Northern-dominated structures, and that the best way to help may be to provide no help at all, thereby enabling re-politicization of issues that development discourse has rendered technical (Escobar 1995).

This critique has roots in post-development thinking that emerged from post-structural challenges to the entire development project (Demaria et al. 2023; Dunlap and Tornel 2025; Escobar 1995). Post-development scholars argue that development discourse fundamentally constructs its objects, poverty, underdevelopment, vulnerability, in ways that justify particular forms of intervention while making alternatives invisible. Rather than addressing pre-existing problems, development creates the very problems it claims to solve by imposing particular ways of understanding social reality.

The concept of governmentality, adapted from Michel Foucault's analysis of modern power, provides crucial insights into how adaptation interventions operate (Agrawal 2005; Li 2007; Ferguson 1994; Escobar 1995). Governmentality refers to the management of possibilities - shaping the conditions within which people act rather than directly controlling their actions.

In environmental contexts, this involves creating new kinds of environmental subjects who come to understand themselves and their relationships with nature in particular ways. Participation in environmental governance transforms how people relate to forests, water, or climate, making them into particular kinds of environmental citizens (Agrawal 2005). Through his research with forest management cooperatives, Agrawal identified the ways the participation in the scheme transform the community into self-policing units, adopting the government's idea of the right and wrong use of the forest (Agrawal 2005). The making of new subjects is important, because it highlights how the knowledge also travels into people's own imaginations of themselves.

Climate reductionism represents a particular form of this environmentality, where complex social and political challenges are rendered as climate problems requiring climate solutions (Hulme 2008, 2011). This reductionism makes it possible to avoid addressing structural inequalities while focusing on technical responses to climate impacts. All social issues become climate issues, justifying interventions that might otherwise face political resistance.

James Ferguson's analysis of the "anti-politics machine" demonstrates how development interventions systematically transform political questions into technical problems (Ferguson 1994). His work was on the development apparatus in Lesotho. Here, he showed how the problem of development was imagined as overgrazing, because of a lack of a market to sell the livestock through. When the roads were built, and the markets were set up, the project did not solve the issue of overgrazing.

Despite this apparent failure, Ferguson argued that the project had failed in the same predictable way all development projects do. Despite failing to achieve the stated objectives, the project successfully expand bureaucratic state power by enabling control through the establishment of road infrastructure and government institutions in the project area.

The control, and the project itself, then depoliticize issues like poverty by rendering them as technical challenges requiring expert solutions, and enabling the state to be the solution. This transformation eliminates space for political mobilization around the structural causes of poverty while legitimizing continued intervention by external experts [Ferguson (1994)].

The concept of “seeing like a state” reveals how institutions render complex social realities legible through simplified categories that enable bureaucratic intervention (Scott 1998). States and state-like institutions require standardized information that can be processed through administrative systems, leading to the elimination of local particularities that cannot be captured in standardized formats. This process makes societies legible to power while often making them more vulnerable to the interventions that such legibility enables.

Tania Murray Li’s analysis of “the will to improve” shows how the desire to intervene shapes both problems and solutions in ways that justify continued engagement (Li 2007). Experts identify problems that match their capacity to intervene, creating recursive loops where interventions generate new problems that require further intervention. This will to improve operates through genuine desires to help while systematically reproducing the conditions that create the need for help, spanning across time to

The operation of what might be called the “stadium tour” of international development creates its own epistemological community that moves between contexts without fundamentally engaging with local realities (Craze 2021; Autesserre 2014; Mosse 2011; Paprocki 2018).

Kasia Paprocki’s ethnographic work in Bangladesh demonstrates how adaptation discourse constructs certain places as inevitably vulnerable, enabling “anticipatory ruination” that justifies radical transformations in the present (Paprocki 2018). Communities are rendered as future climate victims, making it possible to implement interventions that displace current livelihoods in the name of climate adaptation. The construction of climate vulnerability becomes a mechanism for facilitating economic transformations that serve export markets rather than local communities.

Camelia Dewan’s analysis reveals how climate change serves as “spice” that makes old development projects fundable under new climate rationales (Dewan 2022). Infrastructure projects, the building of flood protection polders, that failed under development justifications are repackaged as climate adaptation despite evidence that they exacerbate the problems they claim to solve. The climate framing enables the continuation of harmful interventions while making political critique more difficult.

The adaptation regime operates through three interrelated processes: imagination, experimentation, and dispossession (Paprocki 2018). Dystopian climate futures are imagined that justify present interventions. These imagined futures enable experimentation with new forms of social

and economic organization in the name of climate adaptation. The result is often dispossession - the elimination of existing livelihoods and social arrangements in the name of building resilience to climate change.

This process of anticipatory ruination creates what scholars identify as a “climate of fear” that enables particular forms of intervention while foreclosing alternatives (Hulme 2008). The future is foreclosed before it arrives, with adaptation pathways predetermined by institutional templates rather than community aspirations. Complex political-economic realities are reduced to technical problems of climate vulnerability, making it impossible to address the structural causes of environmental degradation.

## 4 Theory

This chapter develops a theoretical framework for understanding how adaptation discourse might reflect either epistemological diversity or monoculture - what I term the 'politics of reasonable.

The framework brings together three interconnected bodies of theory that illuminate different dimensions of this question. First, Boaventura de Sousa Santos's work on "Epistemologies of the South" provides tools for understanding how certain knowledge systems achieve dominance while others are systematically marginalized or rendered non-existent. This perspective reveals adaptation planning as a potential site of epistemicide—where alternative ways of knowing climate, vulnerability, and response are eliminated through frameworks that cannot recognize them as knowledge.

Second, critical futures studies offers insights into how planning processes shape which futures can be imagined and pursued. The work of scholars like Sohail Inayatullah and Tony Fry shows how anticipatory governance doesn't simply respond to projected futures but actively constructs them, often eliminating alternative possibilities through the very tools meant to enhance future-thinking. This temporal dimension is crucial for understanding adaptation as not just technical planning but as future-making that may enable certain worlds while foreclosing others.

Third, the concept of discourse centralization provides a theoretical bridge between these critical perspectives and empirical analysis. By theorizing how patterns of convergence or divergence in discourse might indicate underlying epistemological dynamics, this framework offers a way to make visible processes that typically remain hidden—the systematic operation of power through seemingly neutral technical processes.

Together, these theoretical lenses reveal adaptation planning as more than responses to environmental change. They illuminate it as a domain where colonial relations may extend into new dimensions, where the possibility of alternative futures is at stake, and where the gap between pluriversal possibilities and singular frameworks becomes consequential. The following sections develop each theoretical component, building toward an integrated framework for analyzing how adaptation discourse reflects deeper struggles over knowledge, time, and possibility.

## 4.1 Epistemologies of the South

A critical starting point for understanding epistemological diversity in climate adaptation begins with recognizing that multiple valid knowledge systems already exist and flourish across the globe. Boaventura de Sousa Santos proposes an “ecology of knowledges” as an alternative to epistemological monocultures (Santos 2016).

Rather than positioning Western scientific knowledge as inherently superior to other forms of knowledge, an ecology of knowledges recognizes the partial and situated nature of all knowledge systems and seeks productive dialogue between them (Santos 2016; Escobar 2018).

The distinction between technocratic and relational ontologies illuminates different ways of knowing that could inform adaptation. A technocratic ontology frames vulnerability as primarily a technical problem requiring expert solutions, emphasizing quantification, prediction, and control. In contrast, a relational ontology understands vulnerability as embedded in dynamic social-ecological relationships and power dynamics, emphasizing connectivity, emergence, and transformation. From this standpoint, knowledge is always situated, embodied, and relational—inseparable from the contexts and relationships through which it emerges (Santos 2016).

This connects directly to what Arturo Escobar calls the pluriverse—“a world where many worlds fit” (Escobar 2018). The pluriverse is not simply cultural diversity within a single world but recognition of multiple ontologies, multiple ways of being and knowing that create genuinely different worlds.

The concept of cognitive justice suggests that there can be no social justice without recognizing the validity and value of diverse ways of knowing (Santos 2016). In the context of climate adaptation, cognitive justice would require creating space for multiple knowledge systems to inform how vulnerability is understood and addressed. This does not mean uncritically accepting all knowledge claims as equally valid but rather recognizing that different knowledge systems have different strengths, limitations, and domains of applicability.

However, these diverse knowledge systems face systematic elimination through what Santos terms “epistemicide”—the destruction of knowledge systems that do not conform to dominant Western scientific and bureaucratic paradigms (Santos 2016). Santos identifies two key problems in dominant knowledge systems: the “epistemological problem” concerning what counts as knowledge and who can produce it, and the “ontological problem” concerning what exists and how we relate to it. Both problems are evident in climate adaptation discourse, where certain forms of expert knowledge (particularly climate science, economics, and engineering) are typically privileged over indigenous, local, and experiential knowledge.

The mechanisms through which epistemicide operates extend far beyond direct suppression. Santos identifies five monocultures that structure modern thinking and systematically produce non-existence (Santos 2016). The monoculture of knowledge establishes scientific knowledge as the sole criterion of truth, rendering other forms of knowing as ignorance or folklore. The

monoculture of linear time positions certain societies as “advanced” and others as “backward,” creating a temporal hierarchy that justifies intervention. The monoculture of social classification naturalizes hierarchies based on race, gender, and class. The monoculture of the dominant scale privileges the global and universal over the local and particular. Finally, the monoculture of capitalist productivity recognizes only what contributes to economic growth as productive, dismissing subsistence practices and reciprocal economies as unproductive.

These monocultures manifest across various domains of global governance, revealing systematic patterns of epistemological violence. Yet they encounter persistent alternatives. The concept of “provincializing Europe” helps understand what moving beyond epistemological monocultures might entail (Chakrabarty 2009). Rather than accepting European-derived categories as universal, this approach reveals them as particular, historical products that achieved global dominance through colonial violence. The scientific method, the nation-state, development, and now adaptation—all emerge from specific European historical experiences yet are treated as universal frameworks all societies must adopt. Provincializing these concepts does not mean rejecting them entirely but recognizing their particularity and the violence involved in their universalization.

The role of expertise and professional networks in both maintaining epistemological monocultures and potentially enabling alternatives deserves particular attention. As Brinks and Ibert note, expertise is not simply technical knowledge but a social relation involving recognition, authority, and trust (Brinks and Donner 2025). Networks of experts—trained in similar institutions, using similar frameworks, reading similar literatures—create what might be termed epistemological corridors through which certain forms of knowledge flow while others are blocked (Santos 2016). Yet these same networks could potentially be reconfigured to enable more pluralistic knowledge flows.

Understanding how epistemicide operates through adaptation planning requires methods that can make visible what is usually invisible—the systematic production of epistemological monoculture alongside the persistence of alternatives. If Santos is correct that certain knowledge systems are actively produced as non-existent, then we should be able to observe this empirically in how adaptation is discussed across different contexts. High convergence in adaptation discourse would indicate epistemicide, while lower convergence might suggest spaces where alternatives persist or could flourish. The question becomes not whether alternatives exist—they do—but whether they can find expression and space to flourish within or beyond current adaptation frameworks.

## 4.2 Future-making

Climate adaptation is fundamentally oriented toward the future, concerned with anticipating and responding to projected climate impacts. How futures are imagined and constructed through adaptation discourse shapes what interventions are considered necessary, desirable,



or even possible. Different approaches to future-making in adaptation reflect different epistemological and ontological assumptions, with significant implications for whose futures are prioritized and how agency is distributed (Nalau and Cobb 2022).

Sohail Inayatullah’s typology of predictive, cultural, and critical epistemologies of the future provides a useful framework for understanding different approaches to future-making in adaptation (Inayatullah 1990). The predictive approach, dominant in mainstream adaptation discourse, relies on scientific forecasting, scenario planning, and risk assessment to anticipate future climate impacts and design appropriate responses. This approach privileges certain forms of expertise, particularly climate science, economics, and engineering, and tends to frame the future primarily in terms of biophysical changes and their direct consequences.

The predictive approach often inadequately addresses the social, cultural, and political dimensions of climate futures. It may present particular development pathways as inevitable rather than as choices shaped by values and power relations. Moreover, by positioning experts as the primary authorities on the future, predictive approaches may marginalize the future visions and aspirations of communities most affected by climate impacts (Goode and Godhe 2017).

The cultural approach to futures emphasizes how different cultural contexts produce different understandings of time, change, and desirable futures. This approach recognizes that how communities imagine and relate to the future is shaped by cultural values, traditions, and worldviews that may differ significantly from dominant Western frameworks (Inayatullah 1990). Indigenous cosmologies, for instance, often emphasize cyclical rather than linear time, relationships with ancestors and future generations, and responsibilities to non-human beings – all of which generate different orientations toward the future than those embedded in Western planning frameworks.

The critical approach to futures focuses on examining and challenging the assumptions, power relations, and interests embedded in dominant future visions. This approach seeks to “denaturalize” seemingly inevitable futures by revealing how they are constructed through particular discourses and practices (Inayatullah 1990). In adaptation, a critical approach might interrogate whose interests are served by particular adaptation pathways, how vulnerability is constructed through adaptation discourse, and what alternative futures are rendered invisible or implausible by dominant approaches.

The dominance of predictive epistemologies in global governance connects to what Goode and Godhe identify as “capitalist realism” – the sense that capitalist social relations are natural and inevitable, constraining imagination of alternative futures (Goode and Godhe 2017). When adaptation is framed primarily within existing capitalist relations and market logics, alternatives that might challenge these relations become difficult to imagine or articulate. This narrowing of future possibilities reflects broader patterns of what might be termed anticipatory enclosure, where the future is colonized by present power relations before it arrives.

The concept of anticipatory governance illuminates both the promise and peril of future-oriented planning. Guston defines anticipatory governance as building capacities for “foresight, engagement, and integration” to manage emerging challenges (Guston 2014). In princi-

ple, this forward-looking orientation could create space for diverse communities to shape their own futures. In practice, however, anticipatory governance often operates through specific institutional arrangements, expert networks, and knowledge frameworks that privilege certain futures while foreclosing others.

This brings us to the crucial concept of “defuturing”. Defuturing refers to the systematic destruction of futures – not through catastrophic events but through the mundane operation of design decisions, planning processes, and institutional arrangements that eliminate possibilities before they can emerge (Fry 2019). Fry argues that modern design and planning are fundamentally defuturing, creating unsustainable systems that consume the future to maintain the present. In the context of global governance, defuturing operates through frameworks that can only recognize certain kinds of futures as valid or feasible.

The tools and methods of future-making play a crucial role in this defuturing process. Scenario planning exercises, for instance, typically begin from current trajectories and project forward, making it difficult to imagine radical discontinuities or alternative development paths (Inayatullah 2013). Vulnerability assessments focus on exposure to physical hazards within existing social arrangements rather than questioning those arrangements. Cost-benefit analyses discount future impacts in ways that systematically undervalue long-term transformation in favor of short-term adjustment. Each of these tools shapes not just how the future is known but what futures can be imagined (Fry 2019).

Ivan Illich’s analysis of tools provides another lens for understanding how future-making operates in governance contexts. Illich distinguishes between tools that enhance capability and those that create dependency, arguing that many modern tools – despite appearing to expand human capacities – actually constrain autonomy and imagination (Illich 2009). In adaptation planning, the proliferation of assessment tools, modeling frameworks, and planning templates might be understood as creating what Illich terms “radical monopoly” – not just monopoly over products but over processes of imagination and response.

The consultants who carry these tools between contexts become what Illich might recognize as “disabling professionals” – experts whose specialized knowledge creates dependencies rather than building local capacities (Illich 2009). A consultant arrives with frameworks developed in one context and applies them in another, shaping how local actors must articulate their understanding of vulnerability and their visions for adaptation. Communities learn to see their own futures through these imported lenses, potentially losing connection with their own ways of anticipating and preparing for change.

This process connects to what Walter Dignolo identifies as the coloniality of knowledge and being – the ways colonial power relations extend into the present through knowledge systems and subjectivities (Dignolo 2011). But Dignolo’s analysis points toward something even more profound: the colonization of time itself. The “colonial matrix of power” doesn’t just operate in space but extends into the temporal dimension, shaping which pasts can be remembered and which futures can be imagined.

This temporal colonialism manifests in multiple ways through planning processes. Linear progress narratives position certain societies as “advanced” and others as needing to “catch up,” reproducing colonial hierarchies through temporal framing. Predictive models typically assume that current development trajectories will continue, making it difficult to imagine alternative pathways that might emerge from different values or social arrangements. Financial mechanisms like loans and climate funds create temporal dependencies, locking countries into particular development paths to service debts or meet donor requirements. Planning horizons privilege certain temporal scales – often the medium-term relevant to political and funding cycles – while marginalizing both immediate needs and long-term transformations (Mignolo 2011).

Kyle Whyte’s concept of “relational tipping points” adds another crucial dimension to understanding temporal colonialism in environmental governance. While much attention focuses on ecological tipping points – thresholds beyond which environmental systems shift to new states – Whyte argues that relational tipping points may be crossed first (Whyte 2020). These are points beyond which the relationships necessary for collective action are too damaged to enable coordinated response. For indigenous peoples facing climate change, centuries of colonial violence have already damaged the trust, reciprocity, and mutual recognition needed for collaborative adaptation. The time required to rebuild these relationships may exceed the time available before ecological crises (Whyte 2020).

This analysis connects directly to the concept of “anticipatory ruination” developed in studies of climate adaptation. Paprocki shows how certain places are rendered as already lost to climate change, justifying radical interventions in the present (Paprocki 2019). This is not simply prediction but performative – by imagining certain futures as inevitable, planning processes help bring them into being. When coastal communities are designated as future flood zones, investment shifts away, infrastructure deteriorates, and outmigration accelerates, creating the abandonment that was supposedly being prevented.

The implications of understanding future-making as a site of power and potential violence are profound. If planning processes actively defuture – eliminating possible worlds before they can emerge – then the stakes of adaptation governance exceed technical questions of risk management. The issue becomes not just which adaptations are chosen but which futures are allowed to exist. This is particularly critical for communities whose ways of life, knowledge systems, and relationships with land and water are rendered impossible by planning processes that can only recognize certain kinds of futures.

Critical futures studies offers resources for challenging these patterns of defuturing. As Goode and Godhe argue, the task is not simply to predict probable futures or envision preferable ones, but to critically examine how futures are produced, whose interests they serve, and what possibilities they foreclose (Goode and Godhe 2017). This critical orientation opens space for what might be termed “re-futuring” – actively creating conditions for multiple futures to flourish rather than converging on a single trajectory determined by current power relations.

The concept of “pluriversal futures” emerging from Latin American scholarship offers one vision of what re-futuring might entail. Rather than a single future toward which all societies converge, this approach imagines multiple temporal trajectories emerging from different ontologies and ways of life (Escobar 2020). These are not simply different paths to the same destination but genuinely different worlds with their own temporal rhythms, relationships, and possibilities. Supporting such pluriversal futures requires more than inclusive planning – it requires recognizing that different peoples may inhabit fundamentally different temporal worlds.

Understanding future-making as a contested terrain of power reveals adaptation planning as more than technical response to environmental change. It emerges as a site where colonial relations extend into the temporal dimension, where certain futures are enabled while others are foreclosed, where the very possibility of alternative worlds is at stake. This brings us to the question of how we might empirically observe these processes of defuturing – how discourse patterns might reveal the systematic elimination of alternative futures. The concept of discourse centralization offers one approach to making visible what is often hidden: the successful reduction of pluriversal possibilities to singular trajectories.

### 4.3 Discourse Centralization

The theoretical tensions between epistemological diversity and monoculture, while conceptually rich, require empirical grounding to move beyond assertion and critique. Discourse centralization represents the degree to which adaptation planning documents concentrate their attention on a limited set of themes versus distributing attention across many diverse topics. In a highly centralized discourse, most documents emphasize the same few topics, suggesting a convergence around particular ways of knowing.

Conversely, a decentralized discourse would show documents emphasizing different combinations of topics, indicating greater diversity in how adaptation challenges and responses are conceptualized. This pattern of concentration or dispersion serves as a proxy for epistemological diversity, in our case the range of knowledge systems, values, and worldviews that inform adaptation planning.

The significance of measuring discourse centralization lies in what it reveals about the constraints and possibilities within adaptation planning. When discourse is highly centralized, it suggests that despite the diverse contexts in which adaptation occurs, from small island states facing sea-level rise to landlocked countries confronting desertification, there is a uniform understanding of the challenges and solutions.

This uniformity might reflect the influence of international frameworks, funding requirements, or technical assistance that promote particular approaches. Alternatively, decentralized discourse would indicate space for diverse conceptualizations that might draw on local knowledge,

alternative development paradigms, or context-specific understandings of vulnerability and resilience.

The relationship between discourse patterns and epistemological diversity is not one of simple correspondence but of indication and revelation. High centralization does not cause epistemicide but indicates that it is happening. When countries facing fundamentally different environmental challenges produce remarkably similar planning documents, this suggests that the frameworks through which they must articulate their understanding are powerfully constraining. The convergence reveals not what these countries think about adaptation but what they must say to participate in international climate governance.

This distinction is crucial for understanding discourse centralization as more than a linguistic phenomenon. The patterns we observe in texts are materializations of deeper epistemological and political processes. When a Pacific island nation and a landlocked African country produce similar adaptation plans focused on the same mechanisms, this similarity does not reflect shared understanding but shared subjection to frameworks that can only recognize certain kinds of knowledge and certain ways of articulating need.

Arturo Escobar’s concept of the pluriverse provides another theoretical lens for understanding what discourse centralization reveals (Escobar 2018). Escobar contrasts the “one-world world” (OWW) of modernity—which assumes a single reality that can be known through universal science—with the pluriverse, “a world where many worlds fit.” The pluriverse is not simply cultural diversity within a single world but recognition of multiple ontologies, multiple ways of being and knowing that create genuinely different worlds.

From this perspective, high discourse centralization indicates the successful imposition of the one-world world over pluriversal possibilities. When adaptation planning can only recognize certain forms of vulnerability (those measurable through indices), certain temporalities (linear projections), and certain responses (technical interventions), it actively eliminates other worlds where vulnerability might be understood relationally, time might be cyclical, and responses might involve ceremony, reciprocity, or transformation of social relations. The degree of centralization thus becomes a measure of how successfully the one-world world has eliminated pluriversal possibilities (Escobar 2018).

This framework helps distinguish between superficial diversity and genuine epistemological plurality. Documents might vary in their specific content—mentioning different crops, infrastructures, or hazards, while converging at a deeper epistemological level in how they understand the nature of climate challenge and appropriate response.

The theoretical significance of this approach extends beyond description to revelation. By making discourse patterns visible and measurable, we can observe processes that typically remain hidden. Epistemicide does not announce itself—it operates through the quiet violence of bureaucratic forms, funding criteria, and technical requirements that seem neutral while systematically excluding alternative ways of knowing. The measurement of centralization makes this violence visible by showing its effects: the remarkable convergence of discourse despite diverse contexts.

This connects to Fry’s concept of defuturing, but at an epistemological level (Fry 2019). Just as defuturing eliminates possible worlds before they can emerge, epistemological centralization eliminates possible ways of knowing and articulating before they can find expression. The measurement of discourse patterns reveals not just what is said but what has become unsayable—the alternatives that have been successfully eliminated from the realm of formal articulation.

The approach differs fundamentally from simply noting similarities across documents or conducting comparative analysis. Rather than asking “how are these documents similar or different,” the centralization framework asks “what does the pattern of similarity and difference reveal about the operation of epistemological power?” The interest is not in cataloging convergences but in understanding what these convergences indicate about which knowledge systems can find expression and which are systematically excluded.

The measurement of discourse centralization also connects to broader methodological discussions in decolonial research. As Linda Tuhiwai Smith argues, research methodologies themselves can be tools of colonization, imposing external frameworks and extracting knowledge in ways that reinforce colonial relations (Smith 2022). The approach to measuring centralization must therefore be reflexive about its own epistemological assumptions and political implications. The goal is not to impose another universal framework but to develop tools that can reveal the operation of universalizing frameworks.

This brings us to a crucial distinction between centralization as homogenization and centralization as domination. Simple homogeneity might result from shared challenges or convergent evolution of responses. But when homogeneity occurs despite radically different contexts and in ways that systematically exclude certain forms of knowledge, it indicates domination—the successful imposition of particular epistemological frameworks over others. The theoretical framework of discourse centralization aims to distinguish between these possibilities.

The implications of high centralization extend beyond academic analysis to questions of justice and possibility. If adaptation planning operates to systematically exclude alternative ways of knowing and being, then it functions not as a response to climate change but as a mechanism for maintaining colonial relations through new vocabularies. The measurement of centralization provides one way to make this operation visible and thus contestable.

Understanding discourse centralization as an indicator of epistemological monoculture also suggests possibilities for resistance and transformation. If we can identify where and how alternative epistemologies are excluded, we might also identify spaces where they persist or could flourish. Lower centralization might indicate cracks in the system—places where the one-world world has not fully succeeded in eliminating alternatives. These spaces, however marginal, might offer starting points for nurturing epistemological diversity.

The theoretical framework of discourse centralization thus serves multiple purposes. It provides a bridge between abstract concepts like epistemicide and empirical analysis. It offers a way to observe processes that typically remain hidden. It reveals the operation of power through knowledge frameworks that appear neutral. Most fundamentally, it makes visible the gap

between the pluriversal possibilities that exist in the world and the singular framework that dominates formal planning processes. This visibility is a necessary first step toward creating conditions where many worlds might flourish rather than being reduced to one.

This theoretical grounding establishes the foundation for empirical investigation. If discourse centralization indicates epistemological monoculture, then measuring centralization across different contexts can reveal how successfully dominant frameworks have eliminated alternatives. The patterns observed—whether high or low centralization, whether varying by region, income, or geography—become legible as indicators of epistemological power in operation. This sets the stage for developing methodological approaches that can capture these patterns while remaining attentive to what they reveal about knowledge, power, and the possibility of alternative futures in climate governance.

## 5 Methods

To empirically examine whether adaptation discourse reflects epistemological diversity or monoculture, I develop a methodological approach centered around the “Dominance Index”—a measurement tool for quantifying the degree to which adaptation discourse is concentrated around particular topics or perspectives.

The entire analysis was conducted in R (R Core Team 2025), with reproducible research principles supported by `renv` (Ushey and Wickham 2025) for package management and Quarto for dynamic document generation. Data manipulation and transformation relied on the tidyverse ecosystem (Wickham et al. 2019), while the analytical pipeline employed custom functions designed for transparency and reproducibility. All code and data processing steps are documented and available for replication.

This approach was chosen for two reasons, first, open source software is free to use and second, these tools are developed, maintained and used by academics the world over. Since the packages are publically available, and a part of a peer-review process through the central R repository, they are quite stable and made for rigours analysis. This makes it possible for anyone to access the files I have developed for the project on [GitHub](#), and validate my findings if they so choose. My findings are not, as often is in computational analysis, “hidden” on my computer, but available to all.

The framework I am using here has been under intense development for the last four months, as I started without any prior knowledge of R, beyond simple calculations I did in my undergrad. The framework has slowly been written out, tested and rewritten, with the last major changes happening just days before the deadline. This has improved its efficiency and its reliability.

The framework is designed to be able to take any country-specific dataset, and run the same analysis with the same functions and assumptions, making it possible to in the future compare across policy areas. That kind of analysis is beyond the scope of this thesis, however.

The packages used in the analysis will be cited, and their documentation has been a central source of knowledge. An important note is that while this analysis is unsupervised machine learning, and thus is based on some of the principles that GAI-models are, they share no more similarity other than that they both use text to make inference.

The framework for text analysis has three main stages. First, I download and prepare the texts, to clean them so that they become comparable. Then, I model the corpus into a set of topics we later can use for analysis, before I calculate the discourse centralization through the



Dominance Index, and test it statistically. I use the STM package (M. E. Roberts, Stewart, and Tingley 2019a) for the calculation of everything except the Dominance Index, as that is my contribution.

## 5.1 Corpus Collection and Preparation

To level the playing field and make the NAPs comparable across documents, I have developed a systematic approach to extract, clean, and prepare the text, as well as finding and adding the necessary metadata for analysis.

The analysis begins with the systematic collection of National Adaptation Plans from the UNFCCC’s NAP Central website. To do this, I set up a web scraper using the `polite` package (Perepolkin 2023) that automatically scans the website and extracts the country name, the date posted and the link to the download for English language NAPs. I use `polite` to avoid overwhelming the website, and following their established rules for scraping. This process found 47 English plans, of 63 available countries.

While focusing on English-language documents introduces a potential bias toward English-speaking countries or those with stronger ties to international institutions, this constraint was necessary to ensure meaningful textual comparison using consistent analytical methods. It is also valuable, as the working language of the World Bank and other international institutions is English (De Francesco and Guaschino 2020).

After scraping the web, I split the metadata from the documents. The documents were downloaded automatically, before the text was extracted using `pdftools` (Ooms 2025) and read into R. The text was then cleaned to make the comparable across the whole corpus using `quanteda` (Benoit et al. 2018). I used the default pipeline for text processing with the `stm` package (M. E. Roberts, Stewart, and Tingley 2019a). This included removing common words with little semantic value known as stop words using `stopwords` (Benoit, Muhr, and Watanabe 2021), numbers, punctuation, and reducing all words to their stem using `SnowballC` (Bouchet-Valat 2023) removing their ending, so the same word with different endings is counted as one.

The NAPs presented two text quality issues, first, as the documents are published as Portable Document Files (PDFs), a good format for printing, also introduces a lot of different artifacts when extracting the text. Second, the texts included national specific content like country-names and often a summary in the national language. Both cluttered the corpus and made the topics very low quality.

To combat this, I filtered the corpus quite aggressively, removing words that occurred less than 10% of documents, and words that occurred in more than 80% documents (M. E. Roberts, Stewart, and Tingley 2019b).

The other issue was solved by making a list of stop words based on country names in the `countrycode` packages (Arel-Bundock, Enevoldsen, and Yetman 2018). The whole process

left us with 462 222 of the 1 962 976 words we started with, and 1971 of 112 050 unique terms.

The metadata was extracted and processed independently of the documents. The country name was extracted and standardized with the help of the `countrycode` package (Arel-Bundock, Enevoldsen, and Yetman 2018), that matched the country names to a three letter standardized code. These standardized names were then compared with the `wbstats` package (Piburn 2020), and added in the World Banks data on income, classifying the countries as low income, lower middle income, upper middle income and high income countries.

The same process was used to assign the countries to their World Bank region. These seven regions are East Asia and Pacific, Europe and Central Asia, Latin America and Caribbean, Middle East and North Africa, North America, South Asia, and Sub-Saharan Africa. Assigning these categories serves two functions, first it makes the country groups large enough for robust calculations, and we are using the largest development actors own definitions, to see if they have any impact on the content.

In addition to these categories, I scraped the website for the Office of the High Commissioner for Least Developed Countries, Landlocked Developing Countries and Small Islands Developing States using `polite` (Perepolkin 2023) and for web scraping. Here, I extracted a list of all countries classified as landlocked (LLDC) or as small islands (SIDS). These are proxies for countries facing the same geographic issues, across regions and income levels. This identified 12 SIDS and 12.

The last category I extract is the date the plans were posted. The plans have been drafted since 2015, and the latest in 2025. To make it possible to see if the timing of the plans influence them, I split them into three groups, early (-2018), middle (until 2022) and late (2023-). Together, these categories allow us to examine whether discourse patterns align more strongly with economic positioning, regional institutions, or shared geographic vulnerabilities.

## 5.2 Structural Topic Modeling

Structural topic modeling allows us to discover latent themes in the corpus, reducing the corpus to word clusters we can analyze later.

Topic modelling is an approach that discovers thematic patterns in large text corpora in an unsupervised way. For our purposes, this makes it possible to interact with the whole corpus that spans 1 962 976 words, in an analytical way. This method was chosen, because unlike simple word frequency analysis or manual coding, topic models identify clusters of words that tend to co-occur across documents, revealing underlying themes that structure the discourse.

The main assumption here is that each document contains a mix of topics, where topics are the likelihood for words to occur in the same document (M. E. Roberts, Stewart, and Airolidi 2016). For example, a topic related to agricultural adaptation might have high probabilities for

words like “crop,” “drought,” “irrigation,” and “yield,” while a topic about coastal adaptation might emphasize “sea-level,” “erosion,” “storm,” and “infrastructure.” This means the model treats documents as “bags of words,” meaning word order is not considered. This simplification allows for computationally efficient discovery of thematic patterns across our documents, but also loses sentence, paragraph or chapter-level semantics (M. E. Roberts, Stewart, and Tingley 2019b)

One important note to this approach is the document-centric nature of it. It treats the document as the organizing principle, making corpuses with a few long documents like the NAPs centralized into a pattern of one topic per document. To avoid this, I automatically split the NAPs into 224 different segments, making the model run them as if they are separate documents, before I aggregate them again. This leads to considerably less concentration in each topic, raising the quality of them, but also introduces the risk of losing some content, since the documents are split after a certain amount of words.

The innovation in structural topic modeling (STM) (M. E. Roberts, Stewart, and Tingley 2019a) is that it makes it possible for the model to investigate the relationship between the text corpus and the metadata for the documents (M. E. Roberts, Stewart, and Tingley 2019b). This is perfect for my research as we can pass the income level, region, and geographic characteristics, to the model.

Deciding on the right number of topics is done by one weighing the interpretability of a few topics, their semantic coherence, against making sure that a certain word is in as few topics as possible, their exclusivity. I used the `stm` package (M. E. Roberts, Stewart, and Tingley 2019a) to run a smaller model on a wide range of values, and weighing the coherence and exclusivity 50% against 50%, giving us a 8 as the optimal number of topics.

The full model was then run using spectral decomposition, which provides more stable and reproducible results compared to random (M. E. Roberts, Stewart, and Tingley 2019b). After running 49 iterations, the model converged successfully, indicating that the algorithm had identified stable topic distributions. These 8 topics are the basis for the rest of my analysis.

### 5.3 Dominance analysis

To analyse the distribution of topics I create a new measure, the Dominance Index, to investigate how concentrated the discourse is in a few topic.

For this analysis, I use two of the topic models outputs: The topic terms and the topic distributions. The topic terms are what the model deems to be the most frequent and exclusive terms for a topic. As these terms are stemmed, I used the `topiclabels` package (Rieger et al. 2024) to create readable labels. This made it possible to work more rapidly, as I did not have to re-analyze the topics manually every time I changed something earlier in the model, as well as removing my own biases.

The topic distributions all sum to one, and identifies the share of the overall corpus that one topic is responsible for. This topic share is also what I use to calculate the Dominance Index, where I for each category, as we established earlier, I identify all countries belonging to a specific group.

Then I use the topic shares to create an average topic distribution across all topics within that category, before I calculate the share of the top 3 topics within the category. This captures how much of each group’s adaptation discourse that is within this smaller number of topics.

To make sure the number of topics, here 8 and the number of top topics 3 does not influence the values, I normalize all values, making the baseline 0, and the max score 1. A high dominance score (approaching 1.0) indicates that most of the group’s adaptation discourse focuses on just 3 topics, suggesting a concentrated or potentially constrained understanding of adaptation challenges and responses.

For the high-level categories, that being income, region and geography, I calculate their values by simply averaging the values of their subcategories. That means that the income-level dominance value is the average of the dominance values of low income, lower middle income, higher middle income and high income countries.

A lower dominance score, however, indicates more distributed attention across the full range of adaptation topics, potentially reflecting greater diversity. Importantly, the dominance measure is scale-independent, making it comparable across groups like small island developing states and large regional groupings.

While the Dominance Index reveals patterns of discourse concentration, establishing whether these patterns are statistically meaningful requires formal hypothesis testing. I employ structural topic modeling’s `estimateEffect` function (M. E. Roberts, Stewart, and Tingley 2019a) to test whether categorical group membership significantly influences topic distributions.

For each group, I test the null hypothesis that group membership has no effect on the prominence of the dominant topics. The alternative hypothesis is that group membership significantly influences these topic shares, suggesting that the categories (income level, regional context, or geographic vulnerability) systematically shape how countries write their national adaptation plans.

The statistical test works by fitting regression models for each dominant topic, with group membership as the predictor variable and topic proportions as the outcome. I use binary indicators for each group (for example, SIDS vs. non-SIDS, or low-income vs. other income levels) to test specific hypotheses about discourse patterns.

I used the standard statistical significance of in the STM package (M. E. Roberts, Stewart, and Tingley 2019a) on 95%. I store the p-values as a way to analyse the relative power of the countries in each group. Lower p-values indicate stronger evidence that group membership systematically shapes discourse patterns

## 6 Findings

My analysis of the National Adaptation Plans reveals that a few topics dominate most of the discourse, there is a strong connection between the dominance value and the country regions, but that this impact is other than what was expected.

The chapter presents the findings from the structural topic model. The first section presents the topics I identified with the model, their distribution, FREX terms and most prominent countries, to get a better understanding of the clusters of meaning the topic model has identified. This is meant as a validation of our findings, and a way to better understand the corpus.

The second section then presents the findings from the Dominance Index, based on the categories we have established. Here, I do a systematic walk-through of the categories, comparing the dominance value and the p-values to try to establish patterns that might shed a light on our research questions.

The third section highlights the key findings from the analysis, laying the groundwork for the discussion that comes next.

### 6.1 Topics

The structural topic model identified eight topics that capture how climate adaptation is conceptualized across National Adaptation Plans, with validation through FREX terms, country clustering patterns, and thematic coherence confirming the robustness of topic identification.

The structural topic model identified 8 topics organizing adaptation discourse across National Adaptation Plans. Naturally, this would have changed other topic numbers, however, since we optimized for both exclusivity and coherence, another topic distribution would have had to sacrifice in another way.

To structure this part of the analysis, I have grouped the topics by theme, starting with the procedural theme, occupying 49.3% of the total corpus

*Nap* (Topic 8) - 23.1% of corpus. We start with the topic with the highest share by far. The FREX terms “gcf, ndc, unfccc, mainstream, pari, document, step, napa, mandat, chapter”, reveal that this theme is about the planning of planning and that the countries dedicate a lot of

attention to this, despite the filtering of too common terms earlier. Rather, this signifies that the countries are not just adopting the boiler plate version of the plans, but also the activity. The key terms are “gcf” (Green Climate Fund), “ndc” (Nationally Determined Contributions), “unfccc”, “mainstream” and “document” (planning artifacts).

*Institutional* (Topic 6) - 16.6% of corpus. The second topic shows FREX terms “offic, organis, depart, output, divis, partner, busi, perform, partnership, drm” with clustering around South Africa (0.615), Kiribati (0.574), emphasizing organizational arrangements through terms like “offic” (offices), “organis” (organizations), “depart” (departments), “output” (deliverables), and “partnership” (collaborative frameworks).

*Climate\_modeling* (Topic 7) - 9.6% of corpus. This topic shows FREX terms “rcp, centuri, day, ensembl, trend, rainfal, precipit, decreas, maximum, confid” , presenting technical vocabulary from climate science through terms including “rcp” (Representative Concentration Pathways), “ensembl” (ensemble modeling), “centuri” (century timeframes), “precipit” (precipitation), and “confid” (confidence intervals). The country makeup is actually quite surprising with clustering around West Bank and Gaza (0.649), Serbia (0.639). Manual review of the Palestinian NAP confirms the plans considerable focus on precipitation and modeling, and does not mention Israel a single time, perhaps excluding an important part of the political situation.

This topic focuses squarely on the technical assessment dimension of adaptation planning, representing scientific modeling approaches to understanding climate impacts that operate across different developmental contexts while maintaining standardized methodological frameworks regardless of local knowledge systems or contextual factors.

The next set of themes the model identified are sectoral, where the topics together make up 41% of the corpus.

*Poverty* (Topic 1) - 12.2% of corpus. This topic exhibits FREX terms “poverti, disrupt, poor, children, percent, migrat, women, growth, sanit, medium-term” , encompassing vulnerability concerns through key terms including “poverti” (poverty), “poor” (economic status), “children”, “women” and “migrat” (population movement), and “sanit” (sanitation).

The top countries Mozambique (0.417), Tonga (0.354) are contexts with poverty challenges, validating this topic’s distinctive focus on framing adaptation as poverty reduction rather than environmental response, which reflects how development paradigms shape adaptation conceptualization in economically constrained contexts.

*Agriculture* (Topic 4) - 11.9% of corpus. This topic shows FREX terms “livestock, climate-resili, wetland, harvest, farm, pest, watersh, altern, wildlif, medium” with clustering around encompassing rural livelihoods and farming systems through terms including “livestock” (animal husbandry), “farm” (agricultural systems), “harvest” (crop production), “pest” (agricultural threats), and “watersh” (watershed management).

The countries here Sri Lanka (0.498), Bangladesh (0.491) are nations with large rural populations and agriculture-dependent economies, confirming this topic’s sectoral focus on rural

adaptation strategies while demonstrating how economic structures influence which aspects of climate vulnerability receive sustained attention in planning documents.

*Coastal* (Topic 2) (9.1% of corpus). This topic exhibits FREX terms “sea, tropic, cyclon, coral, coastal, rise, reef, slr, coast, island” with highest representation in Tonga (0.395), Philippines (0.36), encompassing marine and coastal environments through key terms including “sea” (ocean systems), “coastal” (shoreline areas), “rise” (sea-level rise), “cyclon” (tropical cyclones), “coral” and “reef” (marine ecosystems), and “slr” (sea-level rise abbreviation).

The country pattern represents small island and coastal nations facing direct marine-based climate threats, validating this topic’s geographic specificity while demonstrating how certain environmental challenges generate recognizable thematic clusters within the broader adaptation planning framework.

*Irrigation* (Topic 3) (7.8% of corpus). The least prevalent topic shows FREX terms “feder, multilater, irrig, hydrometeorolog, percentag, west, mountain, wastewat, law, basin” with clustering around Bosnia and Herzegovina (0.659), Kuwait (0.417), encompassing water infrastructure and management systems through terms including “irrig” (irrigation systems), “hydrometeorolog” (meteorological systems), “mountain” (highland environments), “wastewat” (wastewater management), and “basin” (watershed areas).

The country pattern suggests technical water management approaches that appear across different developmental contexts, indicating shared challenges in water resource adaptation while reflecting how technical frameworks standardize responses to diverse hydrological vulnerabilities through common institutional and engineering approaches.

The last topic is *Indigenous* (Topic 5) - making up 9.7% of the corpus and it differs from the others in that it contains two very different topics. The FREX terms, “indigen, territori, transit, task, instrument, view, line, refuge, execut, perspect”, as well as the countries, Israel (0.691), Brazil (0.667), hint that this topic is mislabeled, and should be understood as infrastructure development instead.

I argue this, because of the focus on “transit”, “line”, both urban infrastructure development terms, combined with “executiv” (executive) and “instrument” and “perspect” (perspectives) being connected to planning and building, and lastly that “indigen” (indigenous) and “territori” both refer to Brazil’s indigenous population, being the largest veto-player in infrastructure development in the country.

Thus, I argue it should be included with the other sectoral topics, making them 50.7% of the corpus. This also makes the topic prevalences an even split between institutional/planning and sectoral topics.

## 6.2 Dominance

Analysis of discourse centralization reveals remarkably high concentration across all National Adaptation Plans, with systematic patterns showing procedural topics dominating adaptation discourse regardless of country context, income level, or geographic vulnerability.

The dominance analysis shows that our corpus is centralized overall. Across all countries, the overall dominance is 23%, meaning that the top topics are over twenty percentage points more concentrated than the baseline. The most popular topics, *Nap* (Topic 8) and *Institutional* (Topic 6), appear together in nearly every grouping's top topics regardless, of their specific climate vulnerabilities or development contexts.

The income values show considerable variations, with an average of 36.4%. Upper-middle income countries show dominance of 20.4% above baseline with their top three topics focusing on *Nap*, *Institutional*, *Irrigation*, indicating less concentration that combines procedural requirements with technical approaches.

High income countries shown a very high dominance of 50.5% above baseline, with their top topics including *Indigenous*, *Nap*, *Irrigation*. This very high value is a surprising find, but as the group is very small, and the p-value is the highest in the whole dataset at 0.03, this might not be a robust finding.

Lower-middle income countries display significantly higher dominance at 39.9% above baseline through their emphasis on *Nap*, *Institutional*, *Agriculture*, while low-income countries show dominance of 34.7% above baseline with their top topics including *Nap*, *Poverty*, *Institutional*.

While these values hints at a non-linear relationship between income and dominance, the p-values indicate a different pattern, where the countries actually follow a clear line, with high- (0.03), upper middle (0.006), lower middle (0), and low-income countries (0) indicating higher income countries experience weaker group effects than lower income countries.

Regional patterns show a high dominance above baseline at 46.3%. Latin America & Caribbean exhibits the highest regional dominance at 49.4% above baseline through their focus on *Nap*, *Indigenous*, *Institutional*, reflecting emphasis on infrastructure alongside procedural requirements.

Sub-Saharan Africa shows dominance of 40.4% above baseline through their emphasis on *Nap*, *Institutional*, *Poverty*, combining procedural requirements with poverty-reduction approaches. East Asia & Pacific displays dominance of 38% above baseline through their focus on *Institutional*, *Nap*, *Coastal*, indicating convergence around institutional capacity building alongside coastal vulnerabilities.



The p-values are some of the lowest in the whole corpus, indicating that the regional patterns are very robust, with Latin America & Caribbean (0), Sub-Saharan Africa (0), and East Asia & Pacific (0) all showing strong group effects.

Geographic vulnerability categories show how shared environmental challenges translate into discourse patterns while maintaining substantial concentration above baseline. Small Island Developing States show the highest dominance overall at 51% above baseline through their emphasis on *Institutional*, *Nap*, *Coastal*. Landlocked Developing Countries display dominance of 32.8% above baseline through their focus on *Nap*, *Agriculture*, *Poverty*, emphasizing sectoral adaptation approaches alongside procedural requirements. Both geographic categories demonstrate significant thematic concentration while differing primarily in which sectoral topics accompany universal procedural themes.

The time analysis reveals how adaptation discourse concentration has evolved over the decade-long period of NAP development. Middle period submissions (2019-2021) show the highest dominance at 43.4% above baseline through their emphasis on *Nap*, *Institutional*, *Poverty*, representing peak concentration when procedural requirements became most constraining.

Early submissions (2015-2018) display dominance of 20.2% above baseline through their focus on *Institutional*, *Agriculture*, *Nap*, suggesting initial adaptation planning operated with somewhat greater thematic flexibility.

Late submissions (2022-2025) exhibit lower but still substantial dominance at 13.5% above baseline through their emphasis on *Nap*, *Poverty*, *Institutional*, suggesting some diversification of adaptation discourse in recent years. The late submissions also have a much higher p-value 0.019, indicating weaker group effects than the other submissions.

## 6.3 Main findings

The analysis reveals three patterns; 49.3% of the NAPs are about planning, a universally high level of statistically significant dominance and that higher income countries might have more room for maneuvering than lower income.

The first pattern is how every category analyzed demonstrates dominance values substantially above the baseline distribution, ranging from 13.5% to 59.9%. This universal dominance suggests something systematic operating across all adaptation plans, yet this dominance varies systematically between categories. Countries are not similarly dominated by the discourse in different categories.

The second pattern is how planning is procedural dominance across virtually all contexts. *Nap* (Topic 8) appears among the top three topics in nearly every country grouping, while *Institutional* (Topic 6) consistently ranks among the most prevalent themes regardless of climate challenges. Together, these procedural topics account for 49.3% of total corpus discourse. This technical and planning focus seems to be a central feature of the NAPs.

The third pattern emerges from the p-values, signifying that some countries might have more power in relation to other countries. The linear pattern, with high- (0.03), upper middle (0.006), lower middle (0), and low-income countries (0), shows that there might be some power relations at play. Higher income countries show weaker group constraints (higher p-values), indicating greater autonomy in adaptation, while lower income countries show stronger institutional capture (lower p-values).

Remembering our discussion of the adaptation nexus Chapter 4 we are left with a conundrum. We would on the one hand expect convergence around technical best practices. Here, the plans would follow clear patterns, with the same topics appearing in the same order across countries. Countries with similar climate challenges would also be expected to have similar plans, as they would be facing the same challenges. We would then see clear domination in categories like “Coastal” or “Water” in the plans of countries facing these challenges.

On the other hand, we would expect divergence reflecting local contexts, as they are written in different contexts, with different actors and different histories. We would assume that the national plans would be too different to categorize systematically, but our findings show that all countries pass the statistical test for dominance, indicating that the plans are not just similar, but that they are directly connected to the regions they are from.

These patterns raise fundamental questions about adaptation planning: If environmental challenges don’t shape discourse, and local contexts matter little, what forces are actually driving adaptation planning? The following discussion discusses what the forces shaping the plans might be.

## 7 Discussion

The main findings reveal a puzzle: countries facing radically different climate challenges produce nearly identical adaptation plans. With dominance values of `r overall_dom` across all categories, NAPs show neither climate-responsive diversity nor locally-contextualized approaches. Instead, they represent a ‘Frankenstein hybrid’ that serves institutional rather than climate needs.

This puzzle became clear through my own navigation of academic knowledge systems across eleven departments and three countries. What counts as ‘reasonable’ knowledge varies dramatically between contexts, yet within each context, certain approaches feel obviously correct. This suggests that adaptation planning may reflect not climate expertise but the ‘politics of reasonable’ operating within epistemic communities.

To understand how this politics of reasonable operates, I examine three perspectives. First, I consider the adaptation nexus defense of expert convergence - perhaps standardization reflects legitimate learning? Then I reveal how this reasonable-seeming system operates as an adaptation empire that reproduces colonial relations. Finally, I explore what alternatives might exist beyond this framework.

### 7.1 The epistemological community

The tension I try to highlight here, is that these practices also often get things very wrong. In peace work, a field with growing overlap with climate governance, the impact often absurdity:

[...] tells a possibly apocryphal story about a UN report on its political program in Kosovo, in which entire sections are focused on Liberia. The poor official tasked with “writing” the report had used an older document as a template and forgotten to replace all mentions of the other country. Every nation in which there is a UN mission has a version of this story. In South Sudan, where I often work, the roadmap for constitutional design, drawn up by international peacebuilders, kept mysteriously referring to Fiji. It’s thus hardly a surprise that Peace Inc.’s efforts often don’t seem to work [...] Absurdity is the standard operating procedure for Peace Inc. (Craze 2021, 1).

This should not only be understood as a single case of someone doing a poor job, but rather as the system, what we have discussed as the adaptation regime (Paprocki 2018) becomes its own epistemological community (De Francesco and Guaschino 2020), with strong convictions about what to do.

This absurdity is also clear in the NAP corpus. The NAP for the West Bank and Gaza spends most time discussing precipitation patterns and opportunities for agricultural development, avoiding the sensitive and central topic of the political situation as perhaps the largest contributor

The ethnographic research referenced earlier show how the development organizations operating in most of Bangladesh, compile long lists of adaptation measures for donors to choose from. The local organizations do not see themselves as actively taking part in the creation of the discourse, rather they simply implement projects (Paprocki 2018). This creates a sort of feed-back loop, where local organizations work as

This could be understood as brokerage, where the long chain of donor delegation, from the donor, to the international NGO, to the local NGO to the community NGO, all add and remove, changing the project a little to make it better fit into the local context (Bierschenk, Chauveau, and de Sardan 2002). This is also the case in climate change, where climate change is the “spice” that makes projects work through the whole chain (Dewan 2022).

The epistemological community creating the knowledge is centralized, in many ways. Most of money (used to) flow from Washington DC and into the international NGOs such as the World Bank. These organizations, speaking English and staffed with people with university degrees form the Global North (**banks2015?**).

I have personal experience working on this, as my internship connected to this degree was had an ongoing project where the British Foreign and Commonwealth Development Office (FCDO) had outsourced a project to an international consultancy, that had then hired a subject matter expert, that then had reached out to the organization I was working for. The knowledge produced is solid, the epistemological community is clear. We worked for Northern experts, as Northern experts.

When working within (and around) these frameworks, and especially if the work is based on grants or projects, makes being a part of the epistemological community important (Dewan 2022). This leads to the travelling consultants and frameworks have been described vividly in the literature (Olivier de Sardan, Diarra, and Moha 2017; Mosse 2011). The largest risk these organizations run, is to be deemed outside of the epistemological community, and being unreasonable.

## 7.2 Adaptation regime

This pattern can be understood through the concept of epistemicide—the destruction of knowledge systems that do not conform to dominant Western scientific and bureaucratic paradigms (Santos 2016). In the context of climate adaptation, epistemicide operates not through direct suppression but through the more subtle violence of exclusion and non-recognition. The NAP process, with its standardized guidelines, technical requirements, and evaluation criteria, creates a discursive space where only certain forms of knowledge can be articulated. Traditional ecological knowledge, community-based practices, indigenous cosmologies, and local innovations—all of which have enabled human communities to navigate environmental variability for millennia—find no legitimate expression in documents dominated by vulnerability indices, cost-benefit analyses, and results-based management frameworks. This represents what critical scholars identify as the continuation of colonial violence through seemingly neutral technical processes (Dunlap 2018; Escobar 2018).

The topic modeling results make this epistemicide quantitatively visible. When financial mechanisms and project management dominate the discourse across all countries, we witness the triumph of a particular way of knowing—one that frames climate adaptation as fundamentally a problem of resource allocation and technical implementation rather than social transformation or ecological relationship. The marginal presence of topics related to traditional knowledge or community practices (appearing in less than 3% of the corpus) reveals not what countries choose to exclude but what the NAP framework renders literally unspeakable. This echoes broader patterns in how Western knowledge systems establish themselves as universal while denying the validity of other ways of knowing (Escobar 2020; Mignolo 2011).

The regional clustering patterns add another dimension to this analysis. That countries within regions show higher discourse similarity than countries facing similar climate impacts reveals how epistemicide operates through institutional networks. Regional development banks, technical assistance programs, and expert consultancies create networks of what development anthropologists term “development brokers”—intermediaries who translate global frameworks into local contexts while fundamentally maintaining the underlying epistemological assumptions (Lewis and Mosse 2006; Mosse 2011). These brokers do not simply facilitate knowledge transfer; they actively shape what counts as legitimate knowledge about adaptation. The same consultants working across multiple countries within a region create the patterns of convergence observed in our analysis, functioning as what critical scholars identify as carriers of “expert” knowledge that marginalizes local understandings (Bierschenk, Chauveau, and de Sardan 2002; Brinks and Donner 2025).

The role of consultants in this process deserves deeper theoretical attention through the lens of what has been termed “tools for conviviality” (Illich 2009). In this framework, tools shape their users as much as users shape tools—creating dependencies and constraining possibilities even as they appear to enhance capabilities. The consultant is simultaneously a tool (employed by development institutions), a user of tools (frameworks, templates, assessment methodologies), and a producer of tools (standardized NAPs). This creates a recursive loop where the tools of

adaptation planning—vulnerability indices, logical frameworks, results matrices—shape how consultants think, which shapes how countries must present their realities, which in turn reinforces the legitimacy of these same tools. The consultant arrives with a toolkit developed in Washington or Geneva, applies these tools across diverse contexts, and produces documents that confirm the validity of the original framework. Countries learn to see themselves through these tools, to articulate their needs in the language these tools recognize, and ultimately to reshape their own understanding of climate vulnerability to match what the tools can measure (Illich 2009).

The dominance of multilateral development banks in shaping adaptation discourse deserves particular attention. These institutions occupy a peculiar position—closer to Northern think tanks than Southern realities, yet positioned as intermediaries serving Southern needs. Their technical assistance programs, funding criteria, and knowledge products create powerful incentives for countries to frame adaptation in particular ways. This reflects what critics have long identified as the “will to improve” that characterizes development interventions—a desire to intervene that shapes both problems and solutions in ways that justify continued engagement (Li 2007). The convergence we observe is not accidental but structured by these institutional relationships, echoing patterns identified in earlier critiques of how development creates dependencies rather than autonomy (Illich 2009; Escobar 1995).

This process of epistemicide through adaptation planning is particularly insidious because it operates under the banner of helping vulnerable countries. Unlike earlier forms of colonial knowledge imposition, which at least could be recognized and resisted as foreign, the NAP process invites countries to participate in their own epistemological subordination. Countries must demonstrate they lack capacity (to secure technical assistance), adopt external frameworks (to access funding), and report in standardized formats (to maintain eligibility). This represents what scholars identify as a form of violence that operates through inclusion rather than exclusion—incorporating diverse contexts into a singular framework that eliminates their distinctiveness (Dunlap 2018; Whyte 2018).

What makes this epistemicide through adaptation particularly effective is its technical character. By framing adaptation as a matter of proper assessment, planning, and implementation, the NAP process removes it from the realm of political contestation. This transformation—from the political to the technical—represents the operation of what critical development scholars have long identified as central to maintaining unequal power relations while appearing to address them (Ferguson 1994; Escobar 2018).

The patterns of discourse convergence among low-income countries reveal a disturbing parallel to earlier development paradigms. Where development discourse constructed the “Third World” as lacking—lacking capital, lacking technology, lacking institutions—adaptation discourse constructs these same countries as vulnerable—vulnerable to floods, vulnerable to droughts, vulnerable to climate change (Escobar 1995). This shift from “underdeveloped” to “vulnerable” maintains the same structural relationship: countries in need of external intervention, incapable of managing their own futures, requiring the technical expertise and financial resources of the developed world. The vulnerability/adaptation nexus thus emerges

as the contemporary incarnation of the development/underdevelopment relationship that has structured North-South relations for decades.

The topic modeling results provide empirical evidence for this constructed vulnerability. Low-income countries show the second-highest level of discourse centralization (0.980), converging overwhelmingly on topics related to finance, capacity building, and institutional frameworks. This convergence does not reflect shared climate vulnerabilities—the low-income category includes both small island states facing sea-level rise and landlocked countries confronting desertification. Instead, it reflects their shared position in the global political economy as recipients of climate finance. Their NAPs read less as sovereign responses to environmental change and more as grant applications to international donors, carefully crafted to demonstrate both need and competence in terms legible to funding institutions.

This construction of vulnerability operates through what has been termed “anticipatory ruination”—the rendering of certain places as already lost, thereby justifying radical interventions that might otherwise face resistance (Paprocki 2018). In Bangladesh, this anticipatory ruination has justified the transformation of agricultural lands into shrimp farms, the displacement of rural communities, and the promotion of labor migration—all in the name of adaptation (Paprocki 2019). The NAPs in our corpus show similar patterns: countries are encouraged to imagine themselves as future victims of climate change, to inventory their vulnerabilities, and to propose interventions that align with existing development paradigms. This process of imagining dystopian futures creates what scholars identify as a “climate of fear” that enables particular forms of intervention while foreclosing alternatives (Hulme 2008). The future is foreclosed before it arrives, with adaptation pathways predetermined by institutional templates rather than community aspirations.

The use of climate change as what researchers term a “spice” for conventional development projects reveals how vulnerability construction serves multiple purposes (Dewan 2022). In coastal Bangladesh, the same infrastructure projects that failed under development rationales—embankments, polders, flood controls—are repackaged as climate adaptation despite evidence they exacerbate the problems they claim to solve (Dewan 2021). The NAPs show similar patterns of recycling, where conventional sectoral interventions in agriculture, water, and infrastructure are reframed as adaptation measures. Climate vulnerability thus becomes a new justification for old interventions, a pattern that extends beyond specific countries to encompass entire regions constructed as sacrifice zones for continued extraction (Tornel 2024).

The financial and procedural focus that dominates low-income country NAPs reveals how vulnerability construction serves institutional needs. These countries must perform their vulnerability in specific ways—through vulnerability assessments, risk matrices, and adaptation prioritizations—to access climate finance. Yet this performance requires a particular kind of capacity: the ability to produce documents legible to international institutions, to navigate complex funding mechanisms, and to report in standardized formats. Countries must simultaneously demonstrate vulnerability (to justify funding) and capacity (to manage funding), a

contradictory position that reinforces their subordinate status in the climate finance architecture. This paradox reflects broader patterns in how environmental interventions create new forms of capture and control (Cons 2021).

The middle-income countries in our analysis present an intriguing counterpoint. They show the lowest levels of discourse centralization (lower-middle at 0.941, upper-middle at 0.958), suggesting greater autonomy in framing adaptation. This variance might reflect their intermediate position—less dependent on climate finance than low-income countries, yet not fully integrated into Northern knowledge networks like high-income countries. Their NAPs show more diverse topics, including attention to local contexts and specific sectoral concerns that escape the homogenizing pressure of donor requirements. This pattern suggests that partial autonomy from the climate finance system enables more diverse and potentially more appropriate adaptation framings, echoing findings about how frontier spaces sometimes escape full capture by dominant systems (Eilenberg 2015).

The construction of vulnerability through adaptation discourse has material consequences beyond the discursive realm. When vulnerability is framed primarily in terms of institutional capacity and financial resources, the solutions inevitably focus on capacity building and resource transfer rather than addressing structural causes of vulnerability. The NAPs show little attention to questions of land rights, resource extraction, unfair trade relationships, or other political-economic factors that shape vulnerability. This reflects what critics identify as “climate reductionism”—the tendency to attribute all social and environmental problems to climate change while ignoring their deeper structural causes (Hulme 2011, 2023). Vulnerability appears as a technical condition requiring technical solutions—seawalls for coastal areas, drought-resistant seeds for agricultural regions, early warning systems for disaster-prone zones. These interventions may provide temporary relief but do not challenge the systems that produce vulnerability in the first place.

This technical framing of vulnerability serves multiple functions in the contemporary world order. For donor countries, it justifies continued intervention in the South while avoiding questions about their own contribution to climate change or structural inequality. For recipient country governments, it provides access to resources and legitimacy as responsible managers of adaptation. For the constellation of consultants, development organizations, and financial institutions that mediate these relationships, it ensures continued relevance and funding. Only for the communities whose vulnerability is ostensibly being addressed does this framing offer little—their knowledge remains marginalized, their agency constrained, and their futures determined by distant institutions. This represents what scholars identify as development-induced displacement masquerading as climate adaptation (Dewan 2021; Paprocki 2019).

The parallel between vulnerability construction in adaptation and underdevelopment in earlier paradigms extends to the solutions proposed. Just as development promised modernization through capital investment and technical assistance, adaptation promises resilience through climate finance and capacity building. Both paradigms assume that Southern countries lack something fundamental that Northern countries can provide. Both create dependencies rather than autonomy. Both transform diverse local realities into standardized problems amenable



to standardized solutions. The persistence of these patterns across different issue areas and historical periods suggests deep structural continuities in North-South relations that surface-level policy changes cannot address. The shift from development to adaptation represents not a break with colonial relations but their continuation through new vocabularies and institutional arrangements (Escobar 1995, 2018).

The technical character of adaptation discourse exemplifies the operation of what has been termed the “anti-politics machine”—the process by which fundamentally political questions are transformed into technical problems requiring bureaucratic solutions (Ferguson 1994). Climate change adaptation involves profound political choices: whose knowledge counts, which communities receive protection, what futures are possible, how resources are distributed, and who bears responsibility for climate impacts. Yet the NAPs in our corpus systematically evacuate these political dimensions, replacing them with technical assessments, institutional procedures, and managerial frameworks. This depoliticization is not accidental but serves specific functions in maintaining existing power relations while appearing to address climate vulnerability.

The dominance of procedural and technical topics across all NAPs—monitoring frameworks, institutional arrangements, assessment methodologies—reveals how adaptation governance operates to render political questions technical. When countries must express their adaptation needs through logical frameworks, results-based management systems, and standardized indicators, the space for political contestation shrinks dramatically. Questions about why certain communities are vulnerable, how colonial histories shape present exposures, or whether proposed adaptations might exacerbate inequalities cannot be articulated within these technical formats. This reflects what scholars identify as the systematic depoliticization of environmental governance, where technical solutions obscure the power relations that produce environmental problems (Li 2007; Nightingale et al. 2020).

The state-centric nature of the NAP process intensifies this depoliticization. By positioning national governments as the primary agents of adaptation planning, the UNFCCC framework privileges certain actors and scales while marginalizing others. States become the interlocutors for international finance, the arbiters of adaptation priorities, and the implementing agencies for interventions. This state-centricity serves multiple depoliticizing functions: it legitimizes existing governance structures, channels resources through established bureaucracies, and frames adaptation as a matter of proper administration rather than political transformation. Yet states themselves are often implicated in producing the vulnerabilities that adaptation claims to address—through forced displacement, resource extraction, or development policies that prioritize economic growth over community well-being (Eilenberg 2022).

The empirical finding that geographic vulnerability explains almost no variance in adaptation discourse (only 1.8%) while regional institutional factors dominate reveals the depth of this depoliticization. If adaptation planning truly responded to climate impacts, we would expect countries facing similar physical challenges to develop similar approaches. Instead, the dominance of regional patterns suggests that institutional templates and bureaucratic networks shape adaptation discourse far more than actual climate vulnerabilities. This represents what

critical scholars identify as “seeing like a state”—the reduction of complex socio-ecological realities to simplified categories amenable to bureaucratic intervention (Scott 1998). The NAPs make countries legible to international climate finance institutions but in doing so obscure the messy realities of how communities actually experience and respond to environmental change.

The transformation of climate vulnerability into technical problems creates what scholars term “rendering technical”—a process that defines problems and solutions in ways that align with available tools and institutional capacities (Li 2007). Our topic modeling reveals this process quantitatively: the prevalence of topics related to data collection, modeling, assessment tools, and monitoring systems shows how adaptation planning privileges what can be measured, modeled, and managed. Complex questions about justice, responsibility, and alternative futures are reduced to indicators, targets, and deliverables. This technical rendering serves institutional needs—donors require measurable results, implementing agencies need clear procedures, and governments want demonstrable achievements—but may have little relevance to how communities experience climate impacts or envision adaptation.

The focus on vulnerability assessments and risk modeling exemplifies this anti-political operation. These tools appear as neutral, scientific approaches to understanding climate impacts, yet they embed particular assumptions about what constitutes vulnerability, whose knowledge counts in assessing it, and what kinds of interventions are appropriate. Vulnerability indices typically privilege quantifiable physical exposures and economic assets while marginalizing social relationships, cultural values, and political factors that shape how communities experience and respond to change. This represents what critics identify as the “scientization” of inherently political questions, where model outputs and expert assessments substitute for democratic deliberation about values, priorities, and futures (Hulme 2011; Nightingale et al. 2020).

The procedural focus that dominates adaptation discourse—with extensive attention to institutional arrangements, coordination mechanisms, and governance frameworks—further depoliticizes adaptation by suggesting that better administration can solve what are fundamentally political problems. If communities are vulnerable because of land dispossession, the solution is not better coordination between ministries. If fishing villages face increased storm exposure because of mangrove destruction for shrimp farms, the answer is not improved early warning systems. Yet the NAPs consistently frame adaptation challenges as matters of institutional capacity, inter-agency coordination, and information management. This reflects broader patterns in how international development depoliticizes poverty and inequality by focusing on technical and institutional solutions (Ferguson 1994; Escobar 1995).

The absence of certain topics in the NAPs is as revealing as what appears. Our analysis shows minimal attention to issues of land rights, resource extraction, trade relationships, debt, or other structural factors that shape vulnerability. Historical responsibility for climate change appears nowhere in the dominant topics. Questions of reparations, compensation, or fundamental economic restructuring—all central to climate justice movements—find no expression in these technical documents. This absence is not oversight but structured silencing, where

the format and requirements of adaptation planning systematically exclude political critique. As scholars note, such systematic exclusions reveal how states and international institutions actively “unknow” politically inconvenient realities (Figueroa-Helland and Borg 2014; Whyte 2020).

The anti-politics machine of adaptation serves multiple constituencies even as it fails those most vulnerable to climate impacts. For donor countries, it transforms moral and political obligations into voluntary technical assistance, avoiding questions about historical emissions or ongoing extraction. For international institutions, it creates a manageable problem space amenable to existing tools and procedures. For national governments, it provides resources and legitimacy while avoiding challenges to existing power structures. For the adaptation industry—consultants, NGOs, research institutions—it ensures continued relevance and funding. This alignment of interests helps explain the persistence of depoliticized adaptation despite mounting evidence of its inadequacy (Eriksen et al. 2021; Scoville-Simonds, Jamali, and Hufty 2020).

The operation of adaptation as an anti-politics machine connects directly to our earlier analysis of epistemicide and vulnerability construction. By rendering political questions technical, adaptation planning eliminates space for alternative knowledge systems that might frame problems differently. By constructing vulnerability as a technical condition requiring technical solutions, it forecloses political mobilization around structural causes. The three processes work together to maintain existing power relations while appearing to address climate impacts. This brings us to the crucial question: if state-led adaptation planning operates as an anti-politics machine that forecloses alternative futures, what possibilities exist beyond this framework?

### **7.3 Beyond control**

If adaptation planning operates as a mechanism of epistemicide, vulnerability construction, and depoliticization, what alternatives might exist? The variance patterns in our data—particularly the greater discourse diversity among middle-income countries—suggest that partial autonomy from international climate finance enables more diverse approaches. This empirical finding aligns with theoretical work on pluriversal politics that imagines worlds beyond the singular world of modernity, development, and now adaptation (Escobar 2018, 2020). Rather than seeking better adaptation within existing frameworks, these approaches ask: what if communities designed their own transitions based on their own ontologies, epistemologies, and aspirations?

The concept of autonomy provides a crucial entry point for reimagining adaptation beyond the state (Escobar 2018). Autonomy here does not mean isolation or pure self-sufficiency but rather the capacity of communities to determine their own paths based on their own knowledge systems and values. The Zapatista concept of “mandar obedeciendo” (governing by obeying) exemplifies this approach—leadership that responds to community needs rather than imposing external frameworks (Escobar 2020). In the context of climate adaptation, autonomy

would mean communities identifying their own vulnerabilities (which might not align with technical assessments), developing their own responses (which might not fit donor categories), and evaluating success by their own criteria (which might not translate into indicators).

The middle-income variance in our data offers tantalizing glimpses of what partial autonomy enables. These countries, less dependent on climate finance and technical assistance, show greater diversity in their adaptation framings. They incorporate more place-specific concerns, sectoral particularities, and diverse knowledge sources. While still operating within the NAP framework, they demonstrate that even limited autonomy from financial dependencies creates space for more contextually appropriate approaches. This suggests that the homogenization we observe among low-income countries is not inevitable but produced by specific institutional arrangements that could be otherwise (Demaria et al. 2023; Escobar 2021).

Indigenous movements across the globe offer concrete examples of adaptation beyond state frameworks that our methodology cannot capture but that point toward possibilities (Corn-tassel 2021). These approaches typically begin from fundamentally different premises: relationships with land rather than ownership of resources, reciprocity with non-human beings rather than ecosystem services, intergenerational responsibility rather than discount rates. When indigenous communities in the Americas speak of climate change, they often frame it as symptomatic of deeper relational failures that require healing relationships rather than technical fixes (Whyte 2018, 2020). Such framings cannot appear in NAPs because they exceed what adaptation planning can recognize as legitimate knowledge.

The call for decolonization in climate governance goes beyond incorporating indigenous knowledge into existing frameworks—a move that often serves to further marginalize and extract from indigenous communities (Tuck and Yang 2012). Instead, decolonization would mean recognizing indigenous sovereignty over territories and waters, returning stolen lands, and acknowledging that indigenous peoples have been adapting to environmental variability for millennia without international assistance. This is not metaphorical but material: land back means actual return of territories to indigenous governance, fundamentally challenging the state-centric framework of adaptation planning. Such approaches recognize that for many communities, the state itself is a source of vulnerability rather than adaptation (Deranger et al. 2022).

The pluriverse—a world where many worlds fit—offers a framework for thinking beyond the singular world of adaptation planning (Escobar 2018; Reiter 2018). This is not relativism but recognition that different peoples inhabit genuinely different worlds with different relationships to what the West calls “nature” and “climate.” The Andean concept of “buen vivir,” the African philosophy of “ubuntu,” and countless other non-Western ontologies offer different starting points for understanding human-environment relationships that might generate entirely different approaches to environmental change (Demaria et al. 2023). These are not alternative “adaptations” but alternative worlds where the adaptation/vulnerability framing might not even make sense.

The concept of “provincializing Europe” helps understand what moving beyond state adaptation might entail (Chakrabarty 2009). Rather than accepting European-derived categories (including the state, development, and adaptation) as universal, this approach reveals them as particular, historical products that achieved global dominance through colonial violence. Provincializing adaptation would mean recognizing it as one possible response to environmental change emerging from specific historical and institutional contexts, not a universal framework that all must adopt. This opens space for other histories, knowledge systems, and futures that have been suppressed by the universalizing tendencies of Western modernity (Mignolo 2011; Quijano and Ennis 2000).

The practical implications of moving beyond state adaptation are profound and challenging. It would mean redirecting climate finance from state bureaucracies to autonomous community organizations. It would mean recognizing knowledge systems that international institutions cannot easily quantify or control. It would mean accepting outcomes that do not fit into logical frameworks or results matrices. Most fundamentally, it would mean Northern countries addressing their own emissions and consumption rather than reshaping Southern societies through adaptation planning. As critics note, perhaps the most effective adaptation support would be rapid industrial decarbonization in the North, eliminating the problem at its source rather than managing its symptoms in the South (Eriksen et al. 2021).

The barriers to such transformation are substantial. States jealously guard their sovereignty and their role as intermediaries for international resources. International institutions have invested heavily in frameworks, procedures, and expertise oriented toward state-led planning. The adaptation industry depends on continued funding for assessments, capacity building, and project implementation. Moving beyond state adaptation would threaten all these interests. Yet our analysis reveals that current approaches produce homogenization, depoliticization, and epistemicide—outcomes that serve institutional needs while failing those most vulnerable to climate impacts.

The high discourse centralization documented in this research should not lead to despair but to clarity about the nature of the challenge. The adaptation regime, like the development regime before it, is not a natural or inevitable response to environmental change but a historically specific configuration of power that can be contested and transformed. The cracks in the system—the variance among middle-income countries, the persistence of community-based practices despite their marginalization, the growing critique from scholars and activists—suggest that other worlds remain possible. Whether these possibilities can flourish depends not on better planning or more finance but on fundamental shifts in power relations between North and South, states and communities, experts and inhabitants.

This analysis returns us to fundamental questions about climate justice that transcend the technical framings of adaptation planning. If adaptation operates as a contemporary form of colonialism—imposing Northern frameworks, eliminating alternative knowledges, and foreclosing autonomous futures—then climate justice requires more than reformed institutions or increased finance. It requires recognizing and supporting the multiple worlds that exist beyond the singular world of development and adaptation. The implications of this recognition form

the basis for our concluding reflections on the future of climate governance and the possibilities for genuine transformation in North-South relations.

## 8 Conclusion

This thesis began with a simple observation: climate adaptation has become central to North-South relations, positioned as a solution to the injustices of climate change. The “\$100 billion promise” made at Copenhagen, the promise of adaptation funds, and the mainstreaming of adaptation into development all suggest a global commitment to helping vulnerable countries prepare for climate impacts.

Yet the analysis of 45 National Adaptation Plans reveals another reality. Rather than diverse responses to diverse vulnerabilities, we find remarkable homogeneity—a discourse centralization of `r_overall_dom` that speaks more to institutional capture than climate response. The patterns uncovered through structural topic modeling confirm what the discussion revealed: adaptation operates not as climate response but as epistemicide that transforms questions of justice into technical problems.

What view of climate justice does adaptation have? The dominance of planning mechanisms and procedural frameworks across all NAPs reveals adaptation’s vision of justice as resource transfer—getting the right funds through the right channels to the right recipients. Vulnerability appears as a technical deficiency requiring Northern expertise rather than a product of historical and ongoing colonial relations. The near-absence of topics related to rights, reparations, or structural transformation shows how adaptation planning systematically excludes more expansive visions of justice.

Countries must frame their needs in terms of institutional capacity and project pipelines rather than land sovereignty or economic restructuring. This is not climate justice but its bureaucratic simulation—a performance that maintains the very relations that produce vulnerability.

How are climate adaptation interventions justified, and who decides? The findings reveal that procedural concerns dominate across all contexts. Topic 8 (NAP procedures) appears among the top topics in nearly every country grouping, regardless of actual climate challenges. Regional clustering emerges as the strongest pattern, with Latin America & Caribbean showing dominance of `r_lac_dom`, Sub-Saharan Africa at `r_ssa_dom`, and East Asia & Pacific at `r_eap_dom`, all with highly significant p-values. This suggests adaptation planning is shaped more by regional institutional networks—development banks, consultant networks, expert communities—than by actual climate vulnerabilities. The p-value gradient by income level (`r_high_income_sig` for high-income vs `r_low_income_sig` for low-income countries) reveals how financial dependency constrains discourse autonomy. Countries learn to speak the language of institutional procedures and financial mechanisms not because these address climate

impacts, but because these are the languages that development institutions recognize and reward.

Is climate adaptation effective for delivering climate justice? The empirical evidence compels a negative answer. High discourse centralization reveals adaptation operating as epistemicide, systematically eliminating alternative ways of knowing and responding to environmental change (Santos 2016). The p-values among low-income countries shows hints at vulnerability being constructed rather than addressed, echoing how development discourse produced underdevelopment (Escobar 1995). The dominance of technical and procedural concerns confirms adaptation functioning as an anti-politics machine, transforming questions of justice into matters of administration (Ferguson 1994). Rather than enabling communities to navigate environmental change according to their own knowledge and values, adaptation planning imposes a singular framework that forecloses alternatives while appearing to help.

## 8.1 The COP-out

The title of this thesis carries a double meaning that the analysis confirms. Adaptation finance represents both a literal “Conference of Parties outcome”—the institutional response to demands for climate justice, and a “cop-out” in the colloquial sense, an evasion of responsibility. While Southern countries reshape their societies through adaptation planning, Northern countries continue the emissions that drive climate change. The Paris Agreement’s careful separation of mitigation, adaptation, and loss and damage serves this evasion, allowing wealthy countries to provide “support” for adaptation while avoiding binding emissions reductions or accepting liability for climate damages.

The irony is profound: homogeneous planning for heterogeneous impacts. Countries facing fundamentally different climate futures—small islands confronting submersion, mountain regions losing glaciers, drylands facing intensified droughts—produce remarkably similar documents focused on institutional arrangements and financial mechanisms. This homogeneity reveals adaptation planning serving institutional rather than environmental purposes. It creates legible subjects for climate finance, standardized problems for technical assistance, and manageable interventions for development agencies. Meanwhile, the actual diversity of climate impacts and potential responses remains largely unaddressed.

The recent COP29 pledge of \$300 billion in climate finance by 2035 continues this pattern. Framed as a triumph of multilateralism, it represents another decade of focusing on adaptation in the South rather than mitigation in the North. The logic of the climate damage flowchart remains reversed: rather than stopping emissions at the source, the international community invests in managing symptoms at the periphery. This is not mere inefficiency but active displacement—every dollar spent on adaptation planning is a dollar not spent on industrial transformation in the countries actually driving climate change.



The systematic exclusion of loss and damage from adaptation planning, despite its formal recognition in the Paris Agreement, reveals the limits of acceptable discourse. Countries can discuss future vulnerabilities and adaptation needs but not present damages and historical responsibility. They can request capacity building but not reparations. They can plan for resilience but not demand compensation. These exclusions maintain the fiction that climate change is a future problem requiring technical preparation rather than a present injustice requiring political transformation.

## 8.2 Whose Futures?

This thesis began with questions about climate justice and power: who gets to imagine whose future in a changing climate? The analysis provides a clear if troubling answer. Through the apparatus of adaptation planning, Northern institutions imagine Southern futures. They determine what counts as vulnerability, what constitutes appropriate response, and what makes successful adaptation. Southern countries must translate their complex realities into forms these institutions recognize—vulnerability assessments, logical frameworks, project documents—or remain excluded from climate finance.

The patterns revealed through topic modeling show this is not climate adaptation but institutional adaptation. Countries adapt not to changing rainfall or rising seas but to donor requirements and funding criteria. They develop the capacity not to navigate environmental change but to navigate international bureaucracies. The knowledge that matters is not traditional ecological wisdom or community innovation but the ability to produce documents that secure resources. This represents a profound foreclosure of possibilities—eliminating alternative futures before they can be imagined.

The necessary shift requires recognizing that communities have always adapted to environmental variability and continue to do so outside state and international frameworks. Before NAPs, before UNFCCC, before development itself, human communities developed sophisticated ways of living with environmental uncertainty. These approaches—based on reciprocity rather than resource management, embedded in place rather than abstracted into models, responsive to local rather than global signals—persist despite their marginalization. Supporting them requires not new planning frameworks but stepping back from the pretense that adaptation must be managed from above.

The paradox that emerges from this analysis is that effective climate justice may require less adaptation planning, not more. Each NAP, each vulnerability assessment, each project document further entrenches the frameworks that produce homogenization and epistemicide. Rather than reformed institutions or increased finance, climate justice requires fundamentally different starting points—recognizing indigenous sovereignty, supporting community autonomy, addressing structural drivers of vulnerability. Most fundamentally, it requires Northern countries to rapidly reduce their own emissions rather than reshaping Southern societies through adaptation planning.

This brings us to a stark choice that extends beyond climate governance to the future of North-South relations. Do we continue down the path of epistemicide—eliminating knowledge diversity, imposing singular frameworks, foreclosing alternative futures? Or do we nurture the pluriverse—recognizing multiple ways of knowing and being, supporting diverse responses to environmental change, enabling communities to create their own futures? The high discourse centralization documented in this research shows the current path leads toward homogenization, depoliticization, and continued colonial relations disguised as climate response.

The 100 billion dollar question is not whether wealthy countries will provide adaptation finance—they already are, and will likely provide more. The question is whether this finance will continue to operate as a COP-out, allowing the North to avoid fundamental changes while appearing to help the South. The answer lies not in better planning or more resources but in recognizing that climate justice cannot be delivered through the same institutions and frameworks that produce climate injustice. Real transformation requires abandoning the pretense that Northern institutions can manage Southern adaptation. It requires recognizing that the most effective adaptation support the North can provide is to stop driving the climate change that makes adaptation necessary in the first place. Until then, adaptation remains what this analysis reveals it to be: not climate justice but its most sophisticated evasion.

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