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The liberal limits to transformation in the Green Climate Fund

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ABSTRACT

International climate finance institutions increasingly articulate their goals as catalyzing transformation, but can these institutions bring about deep structural change when they reflect the same liberal logics that arguably created the challenges they are designed to address? In this analysis, we use a virtual ethnography of Green Climate Fund (GCF) board meetings. We ask: how does the GCF navigate the tensions between different conceptualizations of transformation? Our sample included deliberations on 181 projects, and over 42 h of board meetings. Discussions were thematically coded to reveal concerns raised by board members and observers, followed by a structured content analysis. We found that while the transformational potential of proposals featured prominently in deliberations, there was no unified vision or clear definition of transformation. However, approaches that emphasized economic efficiency, technology and infrastructure, and market mechanisms and the private sector aligned with the liberal logic of the fund, while proposals that framed transformation in other ways faced more scrutiny. Board members and observers also raised concerns that proposals had the potential to increase vulnerability or cause harm. Despite this, almost all projects in our sample were approved, suggesting that more work is needed to expand beyond liberal understandings of transformation.

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> I don't expect each and every proposal and at every board meeting to be paradigm shifting. If we can get to that point someday … it's champagne for all and it's on me.
>
> –Board member from the United States

International climate finance institutions increasingly articulate their goals as catalyzing transformation (Bertilsson & Thörn, 2021; Bird et al., 2019; Kasdan et al., 2021), but can these institutions bring about deep structural change when they reflect the same liberal logics that arguably have created the challenges they are designed to address? Depending on how it is conceptualized, transformation has the potential to address differential structural inequalities for those most vulnerable to climate change (Eriksen et al., 2015; O'Brien, 2012), but liberal conceptions of transformation may not necessarily align with this objective. In this analysis we use a virtual ethnography of Green Climate Fund (GCF) board meetings to analyze the deliberative process behind funding decisions to understand the limits to transformational possibilities of climate finance. We ask: how does the GCF navigate the tensions between different conceptualizations of transformation when funding proposals? We argue that the GCF's approach to financing reflects liberal environmental logics that are fundamentally in tension with transformations that address structural change.

This analysis is motivated by our recognition of the importance of these decision processes for the most vulnerable. At a 2021 meeting, a board member from Liberia expressed frustration with the limitations of the GCF decision-making process, stating: "*you are not putting money into … [the] GCF to deprive vulnerable countries, for people to die because they don't have [the data] … That's not what we are here for!*" in response to the failure of several projects to pass the technical review and be brought before the board. As he clearly articulated, despite the technical nature of debates about the alignment of projects with funding criteria, the outcomes have critical material implications for the lives and livelihoods of people on the ground.

There has been significant research on ways politics shape the quantity and distribution of climate finance, including the insufficient size and unequal distribution of financial flows (Bracking & Leffel, 2021; Doshi & Garschagen, 2020; Mostafa et al., 2016; Remling & Persson, 2015; Weiler et al., 2018), alignment between climate and development finance (Sherman et al., 2016; Stadelmann et al., 2011), and the quality of finance, such as the high proportion of climate finance provided as loans (Carty et al., 2020). However, there has been less attention to how the politics of climate finance influence the design of climate investments.

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One of the sources of climate finance that has garnered the most attention in recent years, particularly in terms of politics, is the GCF (Derby, 2017; Farand, 2021; Huq, 2019). The GCF is a primary mechanism for channelling dedicated climate finance to developing countries, with $12 billion USD committed to approved projects and $3.4 billion USD disbursed. The GCF has promised a 50/50 allocation between mitigation and adaptation, which it appears poised to achieve shortly (in grant equivalence the balance is currently 51/49 mitigation/adaptation, although total finance for adaptation is still only 40%) (GCF, 2023). It is also a critical case study because of the relatively high degree of transparency offered by the fund, which enables the kind of analysis done in this paper.

As the largest fund under the UNFCCC and a key mechanism of the Paris Agreement, the GCF is not immune to the broader North–South politics that have plagued the UN climate negotiations and climate finance discussions more broadly (Bertilsson, 2022; Bracking, 2015; Ciplet et al., 2022; Klein & Möhner, 2011), and we are attentive to these politics in our analysis. Similar to concerns raised by Winkler and Dubash (2016) early in the GCF's history, we find that often deliberations of funding proposals are framed in technical language, ostensibly focused on ensuring that proposals meet funding mandates and quality standards, but technical deliberations reflect broader political processes, privilege certain approaches to mitigation and adaptation while blocking progress on others and ultimately, reflect the liberal foundations of climate finance institutions like the GCF.

2. Theoretical framework

2.1. Liberal environmentalism and climate finance institutions

Liberalism is the dominant ideology of contemporary Western society, and espouses ideals of individual freedom and rights, private property and free trade, and democratic governance. This ideology infuses international institutions, including environment and development institutions like the GCF. Liberal environmentalism predicates "international environmental protection on the promotion and maintenance of a liberal economic order" and has been the normative approach to international environmental governance since at least the 1992 Earth Summit (Maboloc, 2020; Bernstein, 2002, p. 1). Liberal environmentalism is grounded in the idea that free markets can solve environmental issues while also maintaining "modern ways of living" (Maboloc, 2020). Dempsey (2017) has dubbed this a green growth approach "that leaves, for the most part, the foundations of our society intact: capitalist, nation-state centered and economic growth-oriented." Through the creation of green values, liberal environmentalism integrates environmental and sustainability issues into the current economic system and prioritizes the greening of the production and consumption of good and services without questioning consumerism as a key driver of environmental degradation (Balsiger, 2022).

The demands of liberal environmentalism undergird the decisions of national governments, global governing bodies, and international treaties (Bernstein, 2002; Ciplet & Roberts, 2017; Maboloc, 2020). As a result, the dominant responses to environmental issues are those consistent with the logic of this liberal policy environment (e.g. privatization and market mechanisms) (Bernstein, 2002; Creutzig, 2020). Core tenets include an emphasis on efficiency and rational economic policy-making, often including the use of tools such as cost–benefit analysis, deregulation to unleash the power of markets, and a shift from public finance to alternative funding mechanisms such as public-private partnerships (Fremstad & Paul, 2022). The result is environmental commodification through market-based mechanisms (e.g. cap and trade, REDD+, and for-profit conservation) (Dell'Angelo et al., 2017). It can also be seen in the voluntary nature of the Paris Agreement and abandonment of binding targets in favour of market-based mechanisms (Ciplet & Roberts, 2017). These ideals inform the funding logic of the GCF, including an emphasis on efficiency, private sector engagement, and market-based mechanisms. Metrics such as scalability and replicability, used by the GCF to measure transformation, also align with liberal ideals of universalism (Kuhl & Shinn, 2022).

Many scholars raise concerns that climate finance is being folded into neoliberal development pathways (Eriksen et al., 2015; Mikulewicz & Taylor, 2020; Webber, 2016) that have caused harm for vulnerable populations (e.g. the failure of structural adjustment programmes during the 1980s) (Maboloc, 2020; Paprocki, 2021). The irony is that the environmental externalities created by privatization and the free market have been disastrous for vulnerable people across the world (e.g. pollution, land grabs, and the ever-increasing impacts of climate change) (Bakker, 2007; Balsiger, 2022; Larson et al., 2013; Michelson et al., 2012). Despite recognition that these approaches are inadequate to address the challenges of climate change (Goldman et al., 2018; Hatzisavvidou, 2020), "climate change adaptation increasingly appears to be development reloaded" (Barnett, 2020). The same could be argued for mitigation (Stoddard et al., 2021). It is thus worth questioning if institutions built on liberal environmental logic can adequately respond to the needs of vulnerable populations living in rapidly changing environments (Sultana, 2022).

How vulnerability is understood has material consequences for those deemed to be vulnerable (for a longer discussion, see Goldman et al. (2018)). Barnett (2020) reminds us that vulnerability itself is not an innocent or apolitical term and that labelling populations most at risk for climate change as "vulnerable" may render them without agency. Presenting the vulnerable as powerless to solve their own problems positions powerful institutions and actors as necessary to create solutions (Barnett, 2020; Paprocki, 2021; von Meding & Chmutina, 2023; Webber, 2013; Westoby et al., 2020). This focus on vulnerability therefore reproduces a neoliberal development agenda created by powerful western economies. By privileging individual freedom and responsibility, neoliberalism effectively asserts that individuals or communities are responsible for their own well-being and any dysfunctionalities or vulnerabilities are regarded as a lack of informational resources for decision-making (Chandler & Reid, 2016). The focus of neoliberal policies, therefore, is to address this vulnerability and empower individuals or communities, transforming them into self-reliant and resilient entities capable of surpassing their limitations (Gog, 2019). Consequently, the

neoliberal development agenda emphasizes the need for vulnerable subjects to constantly improve themselves, while disregarding the underlying drivers of vulnerability that originally necessitated resilience-building (Ciccone, 2020). Neoliberalism has also re-defined the role of government to respond to the needs of those who are most vulnerable through the deregulation and defunding of agencies, and programmes, effectively thwarting climate action (Fremstad & Paul, 2022).

The result can be a continuation of business-as-usual development focused "too much on short-term, technocratic approaches and economic growth as a means to reduce vulnerability" rather than reducing the drivers of vulnerability directly (Nagoda, 2015). Indeed, it has been found that some of the most frequently used adaptation policy tools worldwide are economic instruments (Ulibarri et al., 2022), even though "technocratic interventions to reduce vulnerability are prone to repeat development mistakes of the past" (Goldman et al., 2018, p. 5). Barnett (2020) suggests that in this way adaptation becomes a fix to "sustain the liberal-capitalist institutional complex that causes climate change and the unequal distribution of its attendant risks."

2.2. The GCF, transformation and the limits of liberalism

Transformation is defined by the IPCC as "a change in the fundamental attributes of natural and human systems" and attention to the concept is rising as the need for adequate solutions to a changing climate become more urgent (IPCC, 2022). Following this trend, transformational change is increasingly articulated as a goal of climate finance (Bertilsson & Thörn, 2021; Bird et al., 2019; Kasdan et al., 2021), including of the GCF, but as a contested, highly political concept, its usage can be vague and ambiguous (Blythe et al., 2018; Eriksen et al., 2015; Feola, 2015; Few et al., 2017; O'Brien, 2012; Patterson et al., 2017). Transformational change is often characterized based on three dimensions: (i) the intensity or quality of the change (depth of change); (ii) the distribution of change (breadth of change); and (iii) the timeframe through which a change occurs (speed of change) (Fazey et al., 2018). The GCF has been found to prioritize the characteristics of breadth and speed over depth, with implications for what kinds of projects are ultimately funded (Kuhl & Shinn, 2022).

In the GCF, transformation is accounted for through the investment criterion of "paradigm shift potential," which is defined as the "degree to which the proposed activity can catalyse impact beyond a one-off project or programme investment" (GCF, 2015, pg 3). However, scholars have raised several critiques of transformation in the GCF (Bertilsson & Thörn, 2021; Bracking, 2015; Kuhl & Shinn, 2022). Bracking (2015) argued that the concepts of "paradigm shift" and "transformational change" are used in GCF guidance as "discursive resources" to "legitimize top-down financialization of recipient countries, while still describing it as country ownership." Bertilsson and Thörn (2021) suggest that narratives of transformation are encouraging developing countries to design adaptation programmes that match international priorities rather than local needs. In this way, powerful actors can use the ambiguity of transformational narratives to promote their own visions of change, often through large-scale techno-managerial approaches, with the potential to reinforce existing power structures rather than addressing issues of inequity.

In an analysis of how adaptation proposals craft their proposal narratives to align with the GCF investment criteria, Kuhl and Shinn (2022) find an emphasis on scalability and replication as key metrics of transformation. While these metrics are explicit GCF indicators for "paradigm shift potential," their analysis highlights that novel innovations are the most challenging to scale up but adaptation strategies that address power dynamics and politics are necessarily highly contextual and thus difficult to replicate. As a result, they find that even proposals designed to be grounded in local context end up emphasizing technical and market-based approaches when describing transformation (Kuhl & Shinn, 2022). Such approaches may be crowding out alternative approaches that focus on power and politics (Eriksen et al., 2015; Eriksen et al., 2021; Nightingale et al., 2020; Patterson et al., 2017). For example, investments in climate information and early warning technologies may align neatly with demands for a strong climate rationale, and thus do not raise concerns during board meetings, but do not necessarily address underlying social or political drivers of vulnerability (Kuhl, 2021). As Bracking (2015) argues, there is a risk of climate finance becoming a new version of old ways of doing development, in which politics are concealed by an institutional context that treats climate finance in positivist, technical terms at the cost of more radical goals for climate justice.

Techno-managerial approaches, particularly those that emphasize economic efficiency and market mechanisms, are more likely to be attractive to the private sector, which is increasingly a priority for climate finance (Bracking & Leffel, 2021). Projects and programmes that can be delivered at scale are more likely to be considered "bankable." Cholibois (2020, p. 359) suggested that the "GCF, originally mandated to provide financing to those countries without the means to obtain it elsewhere, is increasingly employing a 'banker's logic', … providing funding exclusively to the least risky projects that can offer secure and predictable returns." This focus on bankability, compounded with the urgency to act on climate change, results in increased emphasis on engaging with the private sector, an emphasis scholars argue is more widespread in the GCF even than traditional metrics such as co-financing would suggest (Stoll et al., 2021). Cholibois (2020) argued such tendencies could lead to "ultraliberalization" whereby financing strategies using public finance are employed to catalyze private investment. The analysis presented below of funding decisions in the GCF reveals the tensions between transformation and the liberal logic in which climate finance institutions are embedded.

3. Methods

We conducted a virtual ethnography (Hine, 2020) of GCF board meetings to analyze the deliberations on funding proposals. Virtual ethnography follows in the long tradition of ethnographic research, but rather than relying on being physically present for observation, virtual ethnography relies on observation and analysis of recordings. The advantage of

this approach is that it allows us to conduct a retrospective historical ethnography and enables us to observe meetings that we would not have had access to in person. There are, however, challenges associated with this approach. While body language and other non-verbal cues can be observed in the videos, informal discussions that took place outside of the formally-recording deliberations are not captured in our analysis. Particularly when deliberations were contentious, the board sometimes called for a break, and deliberations would continue informally. We note, however, that these informal deliberations would not have been observable in person either, as they would take place behind closed doors. As a result of these limitations, we acknowledge that our analysis presents only a partial picture of the deliberations on these projects.

At each meeting, the board spends several hours discussing submitted proposals. The GCF has the mandate to have a board of 12 developed country members, 12 developing country members, and 4 observers including 2 accredited civil society representatives and 2 accredited private sector representatives (with one from a developed country and one from a developing country for each category). Board members are selected for a three-year term and the selection process takes place in the frame of constituency and regional groups whose chairs and coordinators select representative members for the board and their alternative members. So far, there have been four terms for board members: 2013–15, 2016–18, 2019–21 and 2022–24.

Thanks to efforts by civil society, GCF board meetings are recorded and available to the public on the GCF website. These video recordings provide a rich data source for analyzing the narratives of transformation supported and opposed by the board. Because of the political nature of climate finance under the UNFCCC, proposals rarely are outright rejected (although there are a few instances where this has happened). Instead, proposals remain in the pipeline and are revised until they are deemed ready for approval. Although not required, many projects first submit a concept note, and receive both formal and informal feedback from the Secretariat throughout the proposal development process. In addition, the Independent Technical Review Panel (ITAP) provides a technical assessment and feedback on each proposal before it is presented to the board. By the time projects are presented to the board, they have been through a rigorous review process. Approval by the board is the final step in this review process.

During each board meeting, project proposals were presented to the board for deliberation and approval. Our sample included deliberations on 181 projects, and over 42 h of board meeting discussions. We transcribed all video recordings included in the "consideration of funding proposals section" of the GCF website. Our sample included board meetings 13 through 30 which took place from 2016 through 2021, with the exception of board meeting 14 (all projects presented were considered as one large package, limiting our ability to connect the comments to specific projects) and board meetings 17 and 20 (during which proposal approvals were not covered) (15 meetings included total). Recordings were not available for meetings 1–12, but only 8 project proposals were discussed prior to board meeting 13 (all of which were eventually approved), so our sample included 91% of proposals that were approved by the GCF through 2021.

We thematically coded concerns raised by both board members and civil society observers present at the meetings. The coding was done in an iterative process. The team initially reviewed a sub-sample of projects to identify concerns raised during deliberations. This process allowed the team to generate an initial list of thematic codes that included an explanation of each theme/sub-theme. As part of the iterative coding process, two members of the team independently generated additional thematic codes as needed, which the full team then reviewed to develop a consensus codebook (see Appendix). While conducting the coding process, these two members of the team also checked on each other's work and reported back to the full team on a regular basis to ensure the themes remained relevant to the research question. These two coders reviewed all coded text to identify any inconsistencies. Once all projects were coded, coding was reviewed by the entire team.

All text was coded with the project type and speaker. We analyzed the frequency of themes, and identified which concerns were raised for which types of projects (mitigation, adaptation, and cross-cutting projects, which include both mitigation and adaptation components). We also analyzed who was raising the concerns (developed country board member, developing country board member, observers) to identify differences in the types of concerns raised by different actors for different projects.

In addition to looking at patterns across our dataset in the concerns raised regarding projects, we also qualitatively analyzed the data through a structured content analysis of the key themes. This structured content analysis aligned the codes around the ideas of liberalism and conceptions of transformation, in recognition that these concepts cut across the individual concerns raised during deliberations, as catalyzing transformational change is an overarching goal for the GCF and liberal ideals inform the way proposals were scrutinized. We analyzed the recordings with attention not only to the specific concerns regarding transformation raised by board members and observers (identified through use of language including transformation and paradigm shift as well as the GCF sub-criteria for paradigm shift scalability and replicability) but also to broader patterns regarding which proposals received scrutiny and which did not (based on concerns raised by the board or observers during the approval process). This allowed us to understand the dynamics through which the investment criteria get interpreted to privilege some forms of transformational change and create barriers to others. Quotes for inclusion were selected to be representative of the key themes that emerged, with attention to diversity in terms of speakers and projects being discussed.

4. Results and discussion

4.1. Overview of concerns raised

Board members and observers raised a wide range of concerns about proposals. In addition to using this analysis to better understand how liberal environmentalism informs understandings of transformational change and the contestations within the board and among observers of these understandings, we also considered how consistently these concerns were raised across projects and who raised the concerns,

Table 1. Themes of key concerns raised in GCF Board meeting deliberations.

Key Theme	Explanation
Climate rationale	• Weak link to climate, weak explanation of how project builds resilience • More development than climate
Gender	• Higher ambitions are needed
Implementation & entity capacity	• Project management capability and the capacity of the entities/institutions to handle the complexity limited • Need to ensure safeguards/oversight/ monitoring • Too complex or high risk • Wrong institution to manage the project
Optimal use of funds	• Weak explanation of building resilience • Issues with co-financing and questions about grant mechanisms • Duplication concerns
Process & policy failures	• Role of conditions • Lack of transparency for determining support or opposition
Project design	• Lack of clarity and cohesion of the project • Lack of data/assessments informing project design • Lack-limited-poor assessments and poor methodologies
Recognition & inclusion	• Limited engagement and consultation
Risks & harms	• Loans create long-term burdens • Techno-fixes do not address underlying problems • Reinforce existing risks and vulnerability • Continued use of fossil fuels • Additionality and leakage • Potential unknown and undesired effects
Sustainability	• Environmental sustainability • Financial sustainability • Permanence
Transformation	• Not innovative • Does not achieve scale/is not replicable • Not as transformational as other options • Imposing conditions limits transformational potential

revealing the political dynamics embedded in the deliberation process.

Of the 181 proposals in our sample, sixty-two projects were approved with very little or no deliberation among board members and observers. These projects were approved less than five minutes after being introduced, which was usually enough time for the project to be described. These projects included a mix of mitigation, adaptation, and cross-cutting projects. The remaining 119 projects, however, were discussed at greater length, and board members and observers raised concerns. It is important to note that despite the concerns raised during deliberations, almost every project was ultimately approved through the review process described above (with exceptions described below). In some cases, the concerns raised during deliberations led to conditions being placed on the proposal before approval, while in others, speakers felt that it was important to voice their concerns, either for the record, or to inform future projects, but addressing the concerns was not a condition for approval. In several cases, the board was not ready to move forward with approving a project. The board formally rejected 3 projects, approval of 8 projects "lapsed," and the accredited entities withdrew 4 projects for consideration. These lapsed and withdrawn projects can also be understood as rejected projects, although for political purposes, both the board and applicants may have desired to avoid a formal rejection. For an additional 8 projects, the projects were not initially approved and deliberations continued over more than one board meeting, but the projects were eventually approved. Of the 74 adaptation projects in our sample, board members and observers raised concerns for 42 of them (57%). Stakeholders raised concerns for 28 of the 46 (61%) cross-cutting projects, and 49 of the 61 (80%) of mitigation projects.

Table 1 shows the key themes that emerged from our analysis. The most common concern raised across projects was that the project may be creating risks or harms (35% of projects) (Figure 1). Other concerns that were widely raised were about sustainability (32%), the project design (31%), and recognition and inclusion (29%). Even concerns that were less frequently raised (for example regarding the climate rationale, which was raised in 10% of proposals) were very important. In the cases where these concerns were raised, they often generated a significant conversation and were highly controversial, with questions being raised about whether proposals qualified as climate projects or if they were better characterized as development projects.

Board members and observers raised different concerns, which highlights the politics involved in these deliberations. The most common concerns raised by developed country board members were about the optimal use of funds (followed by questions of sustainability). For developing country board members, the most common concerns were about the project design (followed by risks and harms), and for observers, the most common concerns were about risks and harms (followed by recognition and inclusion). Notably, developing country board members overall raised significantly fewer concerns (14% of concerns, compared to 40% raised by developed country board members, and 45% raised by observers), pointing to the persistent power dynamics at play in these deliberations.

While explicit discussion of transformation was clearly present in this thematic analysis, many of the concerns raised in other categories also had implications for the types of transformation that are supported or not. For example, many of the deliberations on the risks and harms, optimal use of funds, and sustainability reflected the ways that liberal environmentalism shaped the understanding of transformation and what was acceptable or unacceptable, as discussed in the following section.

4.2. Evidence of the limits of liberalism in the conceptualization of transformation

4.2.1. Conceptualizing transformation

The board discussed the meaning of transformation at length when deliberating on project proposals. Their discussions suggest that goals were poorly defined and open to political

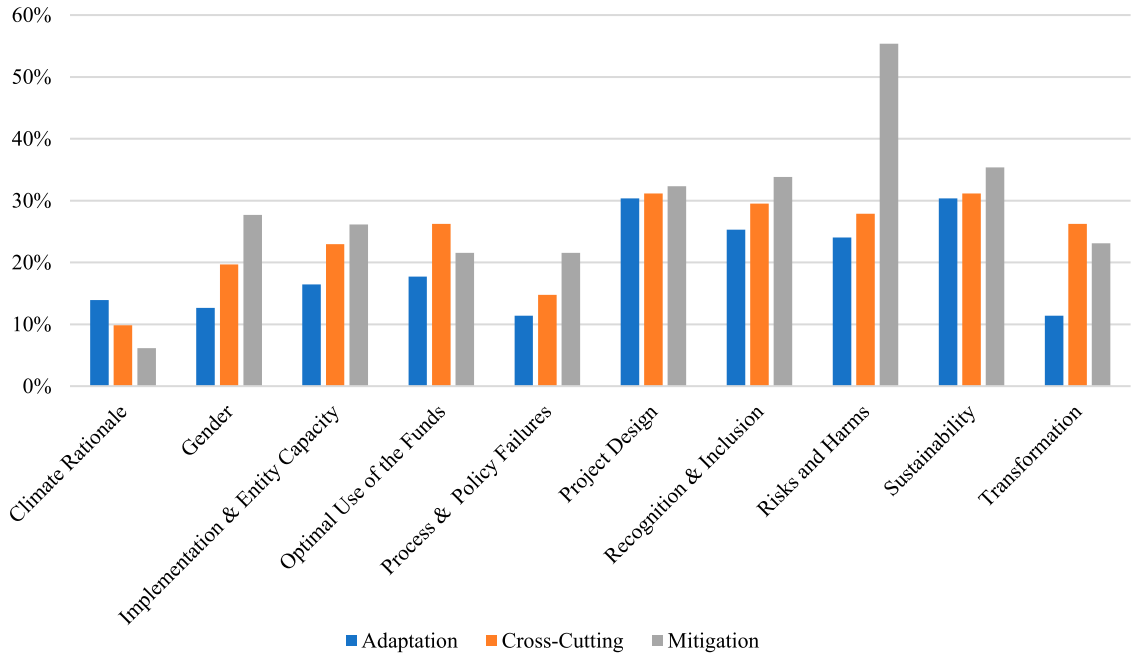

Figure 1. Percentage of projects in each window for which different concerns were raised.

interpretation, but despite this conceptual vagueness, there was an overall sense by board members that the proposals being submitted did not fulfil the GCF's vision of transformation even if the exact vision was not clear. This was particularly apparent in some of the earlier board meetings, when the board began applying the investment criteria to specific project proposals. As one board member from the UK candidly remarked, "*I think we all kind of struggle with defining exactly what we mean by paradigm shift.*" (B13, June 2016). Reflecting on the proposals that had come before the board, a board member from the United States commented, "*I think many of the proposals did not meet the test of paradigm shifting*" (B18, October 2017) and another stated "*I think over time we have to increase our level of ambition. We have to expect more innovation. I think over time, our tolerance for the plain vanilla should decrease, and we should see the curve, if you will, shifting in the direction of greater and greater innovation*" (B13, June 2016). There was an overarching concern that proposals were not innovative or doing something different from business-as-usual. Discussing a mitigation project supporting the development, construction, and operation of a photovoltaic plant in Mongolia ($17.6M USD), a board member stated, "*we see really no evidence of innovation or potential. The transformation seems pretty minimal to us, and it replicates activities underway … It's an extensive list of actions to improve rural development in a very conventional manner*" (B16, April 2017).

Despite the overall lack of satisfaction expressed with the degree of transformation presented in proposals, we can still determine some of the elements that were deemed critical for transformation. Potential for scalability and replication were clearly important, and concerns about the scalability of proposals and opportunities for replication were frequently raised. This quote by a board member from the United States is emblematic of many deliberations:

> *I would appreciate an increased focus on describing how the results in the projects can be used … to advance replicability and scalability. I think each project … has its own merits. But when projects have the potential for replicability and scalability, I think that would be valuable … for our work across the board* (B18, October 2017).

Consistent with liberalism, financial leverage was viewed as critical for transformation, and the private sector was promoted as helping achieve this goal. This leverage was viewed not only as a way of amplifying the impact of the GCF at greater scales, but crucially, in delivering transformative results on the ground, as this board member articulated:

> *It's really critical to us to understand how our GCF funding is having that wider ripple effect, what other benefits it's bringing, what other leverage, financial leverage, is actually being delivered. That's both important for our assessment here when we look at the funding proposals, but also actually how the projects are delivered on the ground* (B15, December 2016).

Finally, large-scale projects were considered more transformative, as this board member from Sweden's complaints about the approval process for the Mongolian project previously discussed in B16 revealed: "*let's be honest, 560 million spent on 13 projects, that leaves each one of them with on average $35 million. This is not large scale and, in many cases, it is not transformative. In the GCF lingo this is small scale*" (B18, October 2017).

Many discussions of transformation emphasized the importance of economic efficiency and maximizing the use of scarce resources, which aligns with key tenets of liberalism. This comment as part of the deliberations of an adaptation project to support vulnerable populations with drinking water supply and small-scale irrigation support in Ethiopia ($50M USD) highlights how this mentality shaped the types of projects that align with the GCF:

> *The way I see it is that we have the responsibility of maximizing what we get for the money we have in terms of benefits, adaptation,*

and mitigation outcomes. So, therefore, I think we have this responsibility towards the beneficiaries, as well as towards the taxpayers who have provided the funds that we're managing (B18, October 2017).

Board members were not unaware of the potential trade-offs that this prioritization of economic efficiency may have, as this comment reflecting on an adaptation project to safeguard water supply and farming conditions by improving climate-resilient water infrastructure, sanitation services, and agricultural practices in Tanzania ($188.1M USD) illustrates:

I would like to emphasize that no one should take those concerns as in any way an indication that we do not understand and support the compelling, equally compelling, and important development goals of this country … But I think the question is, does the Green Climate Fund have a comparative advantage in this instance? Clearly, Green Climate Fund money can be helpful if it's used to finance the construction of this water line. Of course, that will be helpful. The question is do we have a comparative advantage in using our limited resources? (B17, April 2017).

Frequently deliberations focused on the scarcity of resources and the need to maximize their efficient use, with an acknowledgement that certain adaptation strategies would not fare well based on these criteria.

4.2.2. Limits to liberalism

In addition to revealing the ways that the board interpreted transformation and how it aligns with liberalism, the deliberations also revealed that the board and observers were not unaware of the tradeoffs between liberalism and certain types of transformation.

4.3. The limits of transformation through economic efficiency

The emphasis on efficiency, particularly on minimizing grant finance, raised many concerns that efficiency is potentially in tension with the goal of reducing vulnerability, eliciting questions about the relationship between vulnerability and transformation. Board members and civil society observers voiced concern that loans were increasing vulnerabilities. When discussing a cross-cutting project in Ghana intended to empower vulnerable women's groups to participate in low-carbon climate-resilient agriculture through small-scale loans ($25.6M USD), multiple board members raised concerns about the financial structure of the project. One board member from Tanzania said:

It is important to understand why women in Africa, in Ghana, are given a loan. [They are] impacted by climate change [more] than anybody else on the continent … And this the project we are giving over 90% of the money in loan. This to me raises a lot of concerns and in fact, the rest of it is just technical assistance. Not even a single cent goes to these women in grant. So, I need to get proper explanation before we approve this project (B23, July 2019).

The logic of efficiency and cost-effective use of funds also underlied one of the most important tensions that emerged for adaptation projects: the importance of the climate rationale, and the need to demonstrate additionality. A clear "climate rationale," or explanation of why the project is climate-related (as opposed to development) and the logic of how climate projections impact vulnerability is a core requirement of the GCF. However, as a board member from Norway reflected during deliberations of an adaptation project focusing on irrigation development and irrigated agriculture in Morocco ($82.9 M USD):

Why is the GCF considering this project? Is this a climate project? And this, of course goes back to the lack of a clear definition of what is a climate project. That is because it's a fundamentally and a genuinely difficult question, but also that we haven't done, we haven't worked hard enough in this board to clearly define what is a climate project (B16, April 2017).

Deliberations for an adaptation project with the goal of strengthening the adaptive capacity of coastal communities in Bangladesh, especially women, by enhancing their livelihood resilience and water security in Bangladesh ($33M USD), demonstrates this issue. This project was not formally rejected but was asked to withdraw and resubmit after addressing concerns around climate rationale and attribution as well as project design. The board connected concerns about the climate rationale to questions of scalability and transformational potential, revealing both acceptable and unacceptable forms of transformation. In this case, a large-scale focus on infrastructure was deemed transformational, but the transformational potential of supporting women's resilience was called into question. The following two quotes from a board member from the United States illustrate this:

We liked that project [a previous project on climate-resilient infrastructure in Bangladesh], at least I did, because … it looked at the big picture and it tried to think of resilience in the large scale. If you remember, that project tried to mainstream climate risk into all the local infrastructure in Bangladesh. That is that is a kind of scale that we want to encourage because we simply don't have enough time to make communities resilient. We are against the clock here. And that type of project that was thinking large scale, influence, resilience across many parts of the country (B15, December 2016).

The question really is, is a development project or a livelihoods project in a vulnerable area automatically a climate project by virtue of it happening in a vulnerable area? … Clearly, those livelihoods may help these women and girls have higher incomes over time. That makes sense. The need is clearly there, but … That is essentially poverty reduction work over time. Will the poverty reduction make them more resilient? Probably. … No question about that. The question is whether this fund should do development as a general matter, poverty reduction as a general matter in vulnerable areas. And my sense is that is pushing too far (B15, December 2016).

4.4. The limits of transformation through technology and infrastructure

Many concerns specifically addressed observations that technological or infrastructural solutions were frequently presented as transformational to the board, without necessarily addressing underlying structural drivers of vulnerability. One observer, commenting on an agricultural adaptation project in Tanzania ($188.1 M USD), stated:

We agree with the concerns around the focus on rice intensification in our water-scarce region. Improving irrigation for a crop that is not well adapted for an arid region with large infrastructure is a techno fix that does not consider saving water and adapting lifestyles and livelihoods (B16, April 2017).

Concerns were raised that technological solutions were being accepted uncritically, and that vague language risked imposing technological solutions on communities, as another observer raised regarding a multi-country adaptation project mobilizing capital to scale up technologies for resilience and adaptation using South-South technology transfer ($400M USD):

> *The open-ended nature of the technology category is also a concern. And should this proposal go forward, GMO technology and fossil fuel-derived fertilizers should be explicitly excluded from the scope of the program. The proposal's limited and highly selective understanding of stakeholder engagement raises concerns that the program will select its support for adaptation technology in a top-down manner, and based on financial investor interest instead of communities' needs* (B30, October 2021).

The emphasis on technologies for climate-smart agriculture, a term intended to denote a triple win for mitigation, adaptation, and food security (Steenwerth et al., 2014), repeatedly raised concerns. A board member from Egypt commented, "*I was extremely alarmed, especially in the some of the private sector proposals, to see a reference to smart agriculture*" (B18, October 2017). In the context of another project, an observer stated, "*As civil society repeatedly pointed out in previous board meetings, we urged the board members not to accredit any program or work or institution that is based on climate smart agriculture*" (B19, February 2018). There were significant concerns that through a narrow focus on climate change, technologies promoted under the guise of climate-smart agriculture could increase vulnerability and reduce adaptive capacity, as this comment on a cross-cutting project focused on reducing greenhouse gas emissions and climate vulnerability in the agricultural value chain in Cambodia ($141M USD) exemplifies:

> *As we have raised in the past, use of chemical fertilizers may result in massive disappearance of plant and seed diversity from farmers' fields, which is necessary so farmers can save and develop crops that adapt effectively to the multiple changes of climate change. The use of chemically-engineered seeds, fertilizers and pesticides in general will never be sustainable and can have long term, if not permanent, damage to Cambodia's agricultural soils. This could ultimately increase the vulnerability of farmers and food systems in the short and long run. The proposal also does not discuss social implications once the crops are introduced as exports in the global market. This can potentially lead to the reduction of Cambodian farmers income and may exacerbate conditions of poverty. GCF should never contribute to the creation of economic vulnerability in order to address climate vulnerability* (B19, February 2018).

The prioritization of large-scale solutions led to many projects that emphasized infrastructure, which raised questions about the transformational potential of infrastructure investments and whether large infrastructure projects addressed structural vulnerabilities. Discussing a multi-country cross-cutting project on green cities ($282M USD), an observer expressed:

> *We are also concerned about the exclusive focus on large infrastructure projects, which fails to reflect broader concepts of sense, sustainability, and local community-centered approaches that need to be integrated into the larger planning processes of city food systems* (B21, October 2021).

Similarly, for a water project aimed at improving agricultural resilience through a water transfer scheme and infrastructure in Morocco ($227.4M USD), a board member from Japan raised the concern that "*the project may end up being a pure infrastructure project without addressing the real climate change needs of the most vulnerable communities of the area of the project*" (B16, April 2017). This quote also illustrates the tensions between adaptation and development that regularly arose during deliberations.

Even more critically, deliberations reflected concerns that the logic leading to investments in large-scale infrastructure risked repeating past harms caused by infrastructure investments. For example, when discussing a hydropower project in the Solomon Islands ($241.9M USD), an observer stated:

> *As civil society organizations have clearly stated, we have significant concerns about GCF financing large hydropower. It has a well-documented track record of environmental and social harmful impacts* (B16, April 2017).

The history of infrastructural violence (Rodgers & O'Neill, 2012) was also raised in deliberations on an adaptation project that aims to improve water management, food security, and agricultural practices using ecosystem-based approaches and grey infrastructure in Thailand ($33.9M USD). An observer expressed:

> *We are very concerned that the Rojo Irrigation Department is the executing entity. It has a long history and track record of supporting traditional greywater infrastructure and the lack of inclusive people's participation and accountability to the communities. This led to local and nationwide oppositions against a number of projects* (B30, October 2021).

4.5. The limits of transformation through market mechanisms and the private sector

Market mechanisms, a hallmark of liberal environmentalism, featured prominently in GCF proposals as a means of achieving the scale required to be considered transformational. Board deliberations, however, revealed insights into the potential tradeoffs with targeting the most vulnerable, land rights, and biodiversity. As deliberations for an ecosystem-based cross-cutting project in Benin ($35.3M USD) illustrate, of particular concern was the focus, raised across multiple projects, of the promotion of plantations as an adaptation (and mitigation) strategy. An observer warned:

> *The establishment of fast-growing, exotic, monoculture tree plantation woodlands undermines an ecosystem-based approach and can very well compromise some of the livelihoods benefits assumed under the output. These plantations have … very negative environmental and social impacts and require large amounts of water and pesticides* (B22, February 2019).

Many of these concerns were raised for cross-cutting projects suggesting that the trade-offs with market mechanisms may be even more pronounced in this portfolio. When discussing a project investing in sustainable plantation forestry in emerging markets across Latin America and the Caribbean and Africa ($200M USD), an observer identified the risks they saw with the proposal:

> *These plantations are likely to foster conflicts over land and encroach on land rights of indigenous people and local communities, as well as threaten their food security, as other similar plantation projects have done in removing high value arable land for community food production* (B24, November 2019).

Forestry projects, were not however, the only projects where these concerns were identified. A board member from Canada raised the following concerns about the water project in Morocco discussed previously:

> *So, the way I understand this we're basically diverting water to supply oasis inhabitants in a growing agribusiness sector in semi-arid areas. Currently, the exploitation of water in these areas is unsustainable. Already is. Climate change is making the situation worse … At the same time, the government is actively promoting a water intensive industry in the semi-arid region … My sense is that the role of the GCF should be focusing on making water use more resilient, then expanding water access to farms in areas that have historical water issues. At the very minimum, the project should be focused on the vulnerable population as opposed to commercial use* (B16, April 2017).

An observer echoed these concerns:

> *We would like to see water for vulnerable people in the Oasis areas clearly prioritized over commercial farm needs and that oasis inhabitants have a say in the management of the water infrastructure under the envisioned public private partnerships* (B16, April 2017).

The GCF is quite explicit in its interest in promoting private sector engagement and private sector finance, but deliberations revealed that board members and observers were uncomfortable with what they viewed as trade-offs between the quality of proposals and concessions to include private sector initiatives. One observer called out this trade-off when discussing a multi-country adaptation project and the first private sector project on the blue economy that created a private equity fund to encourage investment in the blue economy and protect coral reefs ($500M USD): "*We hope the board does not let the desire for more adaptation in its private sector portfolio or the essential need for more financing to protect and restore coral reefs guide it into supporting a program that could harm reefs and damage the GCF reputation in the process*" (B30, October 2021). The same observer called on the proposal to be more specific in identifying what kinds of private sector engagement is desired, recognizing that not all private sector activity is equally desirable:

> *The program should be restricted only to finance, and companies whose activities have a direct and monitored will impact on reef conservation and regeneration. For the same reason we think the program's scope should be narrowed to explicitly exclude hotel resorts, cruises and shrimp farming* (B30, October 2021).

Other proposals raised concerns that the desire to achieve scale would privilege large private sector actors at the expense of small non-governmental organizations (NGOs) and local entrepreneurs, who were arguably the target beneficiaries of the project.

Finally, discussions returned to the question of the role of the GCF, with board members calling into question the need for GCF funding, and pointing to the different standards in terms of additionality projects that involve private sector finance are held to compared to public-financed adaptation projects. Addressing what she saw as a persistent issue, an observer harkened back to a mitigation project supporting a solar park in Chile ($181M USD):

> *proponents did not even try to make the case that it is a paradigm shift and just argued the financial need for this project being done. We should be very wary about this kind of one-off project. And this should not be what the GCF is doing. The GCF should not be subsidizing a large commercial project that could be viable or is likely to become commercially viable very soon without the fund's financial support* (B13, June 2016).

Adding to the words of caution, a board member from the United States urged the board to be vigilant to ensure that engagement with the private sector is not causing harm.

> *We would like to note, though, that when combating the climate crisis, we must continue to be vigilant. Supporters of human rights across the globe and all countries should continue to uphold their human rights obligations, including when taking climate action. And so, as part of this, we do need to ensure that goods procured in GCF projects are produced with ethical labor standards. And we have concerns about forced labor … So we would urge the GCF to err on the side of caution when assessing risk, asking clients to take credible steps to examine their supply chains and introduce mitigating measures in requiring clients and suppliers to map out their supply chains and subsidiaries as far back as possible to generate confidence in any assurances provided* (B30, October 2021).

5. Discussion and conclusion

Our analysis of GCF board meeting deliberations revealed that board members and observers wrestled with tensions between different understandings of transformation and the alignment of these different understandings with the liberal ideals that inform climate finance. The proposal review process required the board to confront their own understandings of transformation and the limitations of the GCF as an institution to support transformation. While the transformational potential of proposals featured prominently in the concerns raised by the board and observers, it was clear that a a unified vision or consistent definition of what constituted transformation was not shared across the board. Despite the lack of clarity on what exactly the GCF was looking for, proposals by-and-large have not lived up to the board's expectations of transformation potential. Additionally, because priorities varied across the board, further analysis of the differences in the concerns raised by developed and developing country board members could reveal how the power dynamics across the board impact the funding process and is a topic that should be pursued in future research.

Through analysis of the deliberations, however, it was possible to determine some characteristics of transformation that are important. Large-scale tecno-managerial approaches that are likely to attract private sector investment were considered more transformational. When transformation was conceptualized as being achieved through economic efficiency, technology, infrastructure, and market mechanisms, it aligned with the liberal logic of the funds and proposals were more smoothly approved. When transformation was conceptualized as targeting individuals or communities or addressing vulnerability, it came into tension with core liberal principles of efficiency, reliance on market mechanisms and techno-managerial solutions, creating a divide between the types of transformation the GCF could justify supporting and those that may be excluded from climate finance support. This poses challenges for the GCF's mandate to provide balanced funding for mitigation and adaptation, as adaptation projects are more

likely to raise these tensions because of their focus on vulnerability. Additional research that investigates the conceptualization of vulnerability and implications for funding in the GCF is warranted. Because vulnerability reduction is so central to the GCF's mission to support adaptation, these tensions extend beyond the conceptualization of transformation and have critical implications for the GCF's contributions to climate justice.

Our analysis also raises questions about the role of private sector finance and the prioritization of using GCF funds to leverage additional finance. While this emphasis within the GCF aligns with some aspects of transformation, concerns raised by the board and observers also point to ways that a climate finance strategy driven by a logic of economic efficiency, bankability, and value-for-money can have negative implications for the design of projects and may limit the possibility of funding some types of transformational climate strategies that do not align with this logic.

Despite the concerns raised by board members and observers about the limitations on the transformation enabled through a focus on economic efficiency, technology and market mechanisms, as well as the potential for these approaches to increase vulnerability or cause harm, almost all the proposals in our sample were approved. Although in some cases the board imposed conditions as an attempt to ameliorate these concerns, these stop-gap measures also drew criticism for potentially constricting the transformational potential of projects. Collectively, this indicates that while board members themselves understood the limitations for transformation, the liberal funding logic of the GCF enabled support only for specific kinds of transformation. Our analysis also points to the importance of observers to hold the GCF accountable, as it was often observers who raised critical questions regarding the potential risks and harms that projects may cause.

While the GCF is intent on distinguishing climate finance from more general development funding, it continues to follow the traditional neoliberal pathways used for decades by development institutions. Despite long-term and growing recognition that these pathways are inadequate to address the increasingly urgent demands of climate change, climate finance appears to be locked into the same liberal logic, with limited ability to attend to structural vulnerabilities. Growing attention to the concept of transformational approaches to climate change, including by the CGF and climate finance more broadly has thus far been insufficient to enable these institutions to adequately envision how to expand beyond liberal understandings of the concept and its potential to disrupt status quo approaches to development. Institutions rooted in liberal environmentalism, like the GCF, may be insufficient to address the scope of climate challenges before us.

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