



# The Green Climate Fund in the post-Paris Agreement era: an analysis of multiple decision centres from a polycentric-governance perspective

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## Abstract

The Green Climate Fund (GCF) emerged as a central mechanism for delivering climate finance in the post-Paris Agreement era. The GCF operates as a polycentric institution characterised by multiple overlapping centres of authority and decision-making. This study examines the GCF's governance structure, focusing on its polycentric nature and the interplay among its multiple centres of authority, using an actor focus. This research aims to assess the extent to which the GCF embodies the characteristics of polycentric governance's actor focus across multiple decision centres. Previous studies have not analysed models with multiple centres of authority in detail. This study clarifies the number and diversity of actors and authorities, linkages between actors and authorities, and differing levels of authority within a governance system. The findings demonstrate that the GCF has involved multiple actors from multiple authority and decision-making centres. This study contributes to the scholarly understanding of polycentric governance systems in climate-finance institutions.

**Key Words:** global climate governance, governance, Green Climate Fund, multiple decision centres, polycentric governance

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## INTRODUCTION

The Paris Agreement provides a system for countries to formulate and implement their national contributions to global climate change efforts (Cole, 2015). Unlike previous commitments to mitigate greenhouse gas emissions, enforced only in developed countries, the Paris Agreement established voluntary mitigation pledges from developing countries. This begs the question, how do countries commit to carrying out voluntary programmes? The United Nations Framework Convention on Climate Change's (UNFCCC) 2015 Conference of Parties (COP) 21, held in Paris, confirmed that the operating entity of the financial mechanism supports voluntary commitments through the Green Climate Fund (GCF) (UNFCCC, 2015). This study examines the governance implications of the GCF's response to this mandate. Thus, this study aims to enhance scholarly understanding regarding the responses that fit within conceptual frameworks of governance and how they may be shaped to ensure more effective governance.

This study analyses the GCF as its subject of study because of its importance in addressing climate change, particularly vis-à-vis active engagement and the formation of strategic partnerships among diverse national, regional and international stakeholders. The GCF is a ground breaking project in climate finance governance (Bracking, 2015); it encompasses a wide range of actors, including governments, international organisations, businesses and civil society. Moreover, the GCF is crucial for facilitating climate finance, especially for developing countries that aim to meet their nationally determined contributions through innovative mechanisms, such as the internationally transferred mitigation outcomes and non-delivery agreements (Bracking, 2019).

In the case of the GCF, its actor focus is a critical factor in its flexibility and adaptability, which are essential for addressing the complexities of climate change. The pre-2015 literature on the GCF focused on institutional design processes to attract enormous contributions to combat climate change (Abbott and Gartner, 2012; Bracking, 2015). Abbott and Gartner (2012) explained that the GCF's actor-focused design could attract broader participation than a state-centric model. Bracking (2015) empirically found that the GCF's institutional design process could lead to paradigm-shifting, country-owned and impactful scaling-up in global climate finance. Furthermore, the GCF has been notable for drawing significant public attention and fostering changes in the private sector (Bracking, 2015; Bracking and Leffel, 2021).

The GCF plays a crucial role in the post-Paris Agreement landscape by facilitating climate financing through a polycentric governance framework. Following the Paris

Agreement, studies on the GCF have mostly focused on how the shift in global climate governance, from a monocentric to a polycentric model, has been characterised by market actors, governance and product practice within the realm of climate finance (Abbott, 2017; Bracking and Leffel, 2021; Kalinowski, 2020). Consequently, the shifting focus on global climate governance within the context of climate finance is counterintuitive vis-à-vis the shift in the concentration of decision-making power among market actors (Bracking and Leffel, 2021). Abbott (2017) studied polycentric governance for climate change, in which climate investment funds, including the GCF, provide concessional financing that allows for the implementation of innovative policies and new approaches, attracts cofinancing, and enables new funding flows. Furthermore, Kalinowski (2020) described the GCF as characterised by innovation in new polycentric realities.

Global climate governance has emerged as countries have adopted the global target temperature limit under international climate negotiations through the UNFCCC (Dorsch and Flachsland, 2017). Global climate governance comprises a complex set of rules, institutions and processes aimed at steering social systems towards preventing, mitigating or adapting to the risks posed by climate change (Dorsch and Flachsland, 2017). Governance involves all actors with decision-making powers and has a broad influence on the management of resources and assets (Bracking and Leffel, 2021). Meanwhile, polycentric governance is a system in which multiple overlapping authorities share the responsibility for decision-making (Dorsch and Flachsland, 2017; Jordan, Huitema, Van Asselt, et al., 2018). This study focuses on the GCF's multiple decision centres, adopting an actor focus.

While previous research has recognised the GCF as a polycentric institution, a deeper understanding of the specific mechanisms and dynamics that characterise its polycentric governance is needed. This study aims to fill this gap by clarifying that the GCF's governance is polycentric, based on an actor-focus analysis. Thus, this study applies an analytical framework to assess polycentric governance and its characteristics. Therefore, this study addresses the following question: "To what extent is the GCF's governance polycentric, as determined by multiple-centre analysis?"

The remainder of this paper is organised as follows. Section 2 describes this study's methods, research scope, analysis and analytical frameworks. Meanwhile, Section 3 presents the results. Section 4 discusses the findings. Lastly, Section 5 presents this study's concluding remarks.

## METHOD

This study relied on a descriptive analysis of the field-relevant literature. Data on the GCF were collected from various sources, including official reports, peer-reviewed journals and book chapters written by GCF researchers.

### ***Analytical framework***

#### *Polycentric governance*

Solving a collective action problem is a costly and time-consuming process (Ostrom in Aligica, 2003). However, such costs may be reduced if many participants take action (Ostrom, 2010). Globally, actors at multiple levels must support numerous efforts to achieve fair and efficient mechanisms in order to solve collective action problems (Ostrom, 2010). The polycentric approach leads to better, fairer and more sustainable results across multiple scales (Ostrom, 2010).

Ostrom's (2010) concept of the polycentric approach to governance describes a mode of governance in which multiple actors at various levels collaborate to establish fair and efficient mechanisms to solve collective action problems (Ostrom, 2010). Thus, this concept comprises an analytical lens for studying governance systems involving multiple centres of authority and decision-making (Thiel, 2023). It focuses on the interplay among various actors, both public and private, operating at different scales and levels of autonomy (Thiel, 2023). This concept describes how these actors interact and coordinate to provide collective goods and address policy problems (Thiel, 2023). Thus, a polycentric system is a self-organising governance structure with multiple actors, decision-making venues, and policy issues interacting to address complex socio-ecological challenges (Morrison et al., 2023). One advantage of polycentric systems is that they promote experimentation, innovation, adaptation, trust and cooperation among participants (Ostrom, 2010). This system also encourages freedom of choice, as well as learning across social organisation levels (Ostrom, 2010). Further, it allows for the development of methods to assess the costs and benefits of a particular strategy in one situation, establishing a comparison with other scenarios.

Thus, a polycentric system involves multiple centres of authority and decision-making that operate autonomously but interdependently (Dorsch and Flachsland, 2017). This requires the establishment of global cooperation principles that involve multiple actors and enhance innovation (Dorsch and Flachsland, 2017; McCord et al., 2017; Ostrom, 2010). Therefore, this framework has high descriptive value when

analysing the design of horizontal and vertical global climate governance (Dorsch and Flachslan, 2017).

Recent studies by Cole (2015) and Lofthouse and Herzberg (2023) have shed light on the advantages of polycentric governance within the context of climate-change policy. Cole (2015) argued that polycentric governance provides many opportunities for experimentation and learning. Furthermore, it fosters communication and interaction in formal, informal, bilateral and multilateral schema, thereby contributing to the development of trust among stakeholders. Therefore, in sum, the polycentric approach to governance provides ample opportunities for experimentation and learning, increases communication and interactions and builds mutual trust among actors to resolve social problems (Cole, 2015).

### *Polycentric governance's characteristics and features*

Ostrom (2010) outlined three elements that comprise a polycentric approach to climate governance: actor focus, problem perception and governance vision (Dorsch and Flachslan, 2017), as shown in Table 1. In turn, Dorsch and Flachslan (2017) defined four critical features for identifying the mechanisms of Ostrom's (2010). First, self-organisation refers to non-dominated individuals or groups that allow local actors to set their own rules. Second, site-specific conditions consider heterogeneous conditions, characteristics, situations and specific actor preferences for cooperative actions. Third, experimentation and learning refer to a mutual and interconnected process, emphasising innovation and considering knowledge and norms as socially relevant. Fourth, trust is a mechanism for building better relationships through monitoring and sanctioning.

Table 1. Characteristics of the Polycentric Approach to Climate Governance

Characteristics	Definition
Actor focus	Considering diverse actors to enhance the design of climate-governance designs
Problem perception	Self-organisation and continuous coordinated adaptation of various actors
Vision	Specific goals, creating an adaptive system, interacting with each other, and leveraging site-specific capabilities to achieve the set goals

Source: Dorsch and Flachslan (2017)

Polycentric systems are characterised by the presence of multiple overlapping centres of authority, numerous actors and a broad system of governance (Jordan, Huitema, Van Asselt, et al., 2018; Ostrom, 2010). Such multiple decision centres comprise diverse venues or units in which actors coordinate to address specialised policy issues, thus impacting governance performance and dynamics (Carlisle and Gruby, 2019; Jordan, Huitema, Schoenefeld, et al., 2018; Morrison et al., 2023). Decision centres' overlap links them to a broad system across geographical scales (Dorsch and Flachslund, 2017; Jordan et al., 2018). Their overlapping authority comprises a system in which multiple semi-autonomous decision centres share responsibilities and operate under a common set of rules (Morrison et al., 2023).

Heikkila and Weible (2018) outlined four objectives for capturing the constraints of inconsistent conceptual measurement data of the polycentric governance concept, as shown in Table 2. Heikkila and Weible (2018) used this framework to analyse and compare polycentricity in 11 oil and gas regulations in Colorado, USA. They analysed institutions, network relations, rules and regulations to describe a polycentric structure.

Table 2. Analysis Structure of Polycentric Governance

Objectives	Details
Objective 1	To explore the frequency and variance of actors and authorities in a governance system. The objective is to analyse who are the actors, how many of them there are and investigate the authority within the system.
Objective 2	To illustrate the linkages between actors and authorities within a governance system. The objective is to identify the link between actors and rules and obligations, as well as the linkage among these actors.
Objective 3	To identify the number and diversity of actors that represent the core and periphery within a governance system. The objective is to understand actor diversity within the system.
Objective 4	To identify the different levels of authority within a governance system. The objective is to identify the different authorities within the system.

Source: Heikkila and Weible (2018)

Previous studies have used Heikkila and Weible's (2018) framework to analyse data related to polycentric governance. Blanken (2022) studied several regional and local climate projects of the Organization of Eastern Caribbean States-member states using the Heikkila and Weible's (2018) analytical framework and the

characteristics of climate governance arrangements proposed by Heinen et al. (2022).

### *Analytical methods*

Heikkila and Weible's (2018) analytical framework is robust and has been implemented in various fields. The present study implements qualitative analytical methods to understand GCF governance. Therefore, to answer the research question, this study adopts an actor focus, which is an important characteristic of polycentric governance, by using the analytical framework of Heikkila and Weible (2018) to analyse the GCF's multiple decision centres. Specifically, this study identifies the actors involved in the GCF's governance and reveals this institution's complexity and potential polycentric governance.

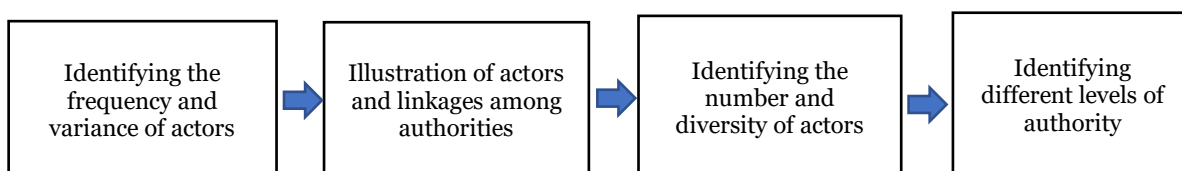


Figure 1. Analytical Methodology

Source: Heikkila and Weible (2018)

This study's analytical methodology followed the research of Heikkila and Weible (2018). Furthermore, the polycentric approach's actor focus aims to develop a governance design that incorporates different government levels, as well as non-government and private actors. Private actors include greenhouse gas emitters, non-governmental organisations (NGOs), small groups, families and individuals who take essential steps to minimise greenhouse gas emissions (Cole, 2015; Dorsch and Flachsland, 2017; Ostrom, 2010). Therefore, the present study's analytical framework divides actors into two groups according to their level of governance and type of organisation. Additionally, four levels of interaction are defined: international, multinational or bilateral; national; subnational; and voluntary or private. Second, organisation type was categorised as follows: international, governmental and private.

### **Research scope**

This study limited its scope to the GCF's governance within the context of the post-Paris Agreement era, including the GCF's role in the project activity cycle and how different actors interact within this framework.

### ***Data Collection***

The present research relied on a case study and qualitative content analysis. To achieve the main objective, qualitative methods were identified in sources such as GCF official document reports, books related to the object of the research, reports and journals, as well as several online sources related to the object of this study.

## **RESULT**

### ***Case study***

The GCF was established in 2010 under the Cancun Agreement and became the financial mechanism of the UNFCCC following the Paris Agreement in 2015. The first announcement of the GCF was made at the Copenhagen Conference in 2009, which began allocating selected projects in 2015, as shown in Figure 2. The GCF is a single entity of the Paris Agreement's climate-finance mechanism, which aims to accelerate the creation of a green market, unlock financial flows towards a low-emission transition and create climate-resilient development pathways (GCF, 2019). Additionally, the GCF has a mandate to support low-emission, climate-resilient development and contribute to maintaining the average global temperature (GCF, 2011, 2019, 2023). The GCF's core value is its commitment to climate action and innovation (GCF, 2023).

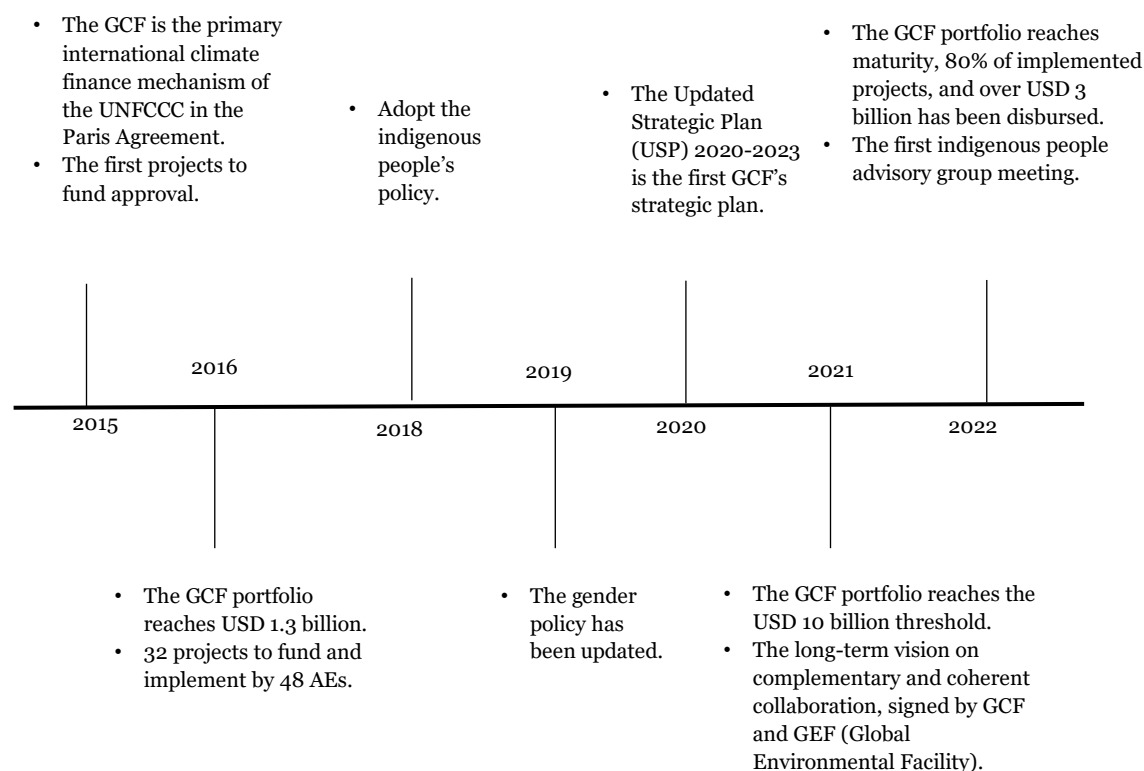


Figure 2. Key Moments of the GCF Following the Paris Agreement

The GCF's budget for projects, as of December 31, 2022, was about USD 11.3–11.4 billion across 128 countries (GCF, 2023), as shown in Table 3. The geographic distribution of these projects encompasses Africa, the Asia-Pacific region, Eastern Europe, Central Asia, Latin America, and the Caribbean.

So far, the total anticipated amount of CO<sub>2</sub> emissions avoided by the GCF's mitigation projects is 2.4 billion tons, while the anticipated number of people with increased resilience resulting from adaptation projects is 666 million (GCF, 2023). Moreover, the significant outcomes of the GCF include an increase in direct access to funding and work with broader entity actors (GCF, 2023).

Table 3. The GCF's Progress as of December 31, 2022

GCF-funded activities	Total	Amount
Readiness—non-national adaption plans	556	USD 203.01 million
Project preparation facility	57	USD 265.04 million
Readiness—national adaption plans	93	USD 37.6 million
Approved project portfolio	240	USD 11.3 billion

Source: GCF (2023)

### ***Actors within the GCF's Multiple Decision Centres***

The GCF's governance structure encompasses multiple decision centres. This is evidenced by the involvement of the GCF board, national designated authorities (NDAs), accredited entities (AEs), civil society organisations and private sector actors—all of which have varying degrees of autonomy in shaping the fund's policies and project implementation. The GCF's polycentric structure is evident in its project cycle, in which decision-making is shared among the secretariat, NDAs, AEs and project beneficiaries, thus fostering a bottom-up approach to climate action. The GCF's emphasis on partnerships and knowledge-sharing creates a complex network of decision-making centres, thereby enabling adaptive and context-specific responses to climate challenges.

#### ***Identifying the frequency and variance of actors***

In general, the GCF's architecture consists of three main actors: AEs, NDAs, and the GCF. First, the AEs and NDAs are the main actors that grant access to GCF funding (GCF, 2011). Second, the GCF works with the AEs to distribute funding for implementing projects or programmes (GCF, 2011). Third, NDAs comprise national focal points between countries and the GCF (GCF, 2011). The three main actors in the GCF architecture coordinate with other actors in the project-activity cycle. Learning about this architecture is essential to understanding how recipient countries can access GCF funds.

The specific actors in each project activity can be found in the GCF's project-activity cycle. The project-activity cycle consists of four processes, 10 stages and multiple actors in each stage, as shown in Figure 3. The four processes are strategy, origination, and structuring; technical review and appraisal; approval and legal arrangements; and implementation (GCF, 2020b). The actors include NDAs, AEs, the GCF, the GCF secretariat, the independent technical advisory panel (ITAP), and

the board. The entire process functions within a framework of knowledge transference and learning.

The project-activity cycle comprises the submission of proposals for funding projects and programmes that meet the GCF criteria. As part of this cycle, the GCF provides a programming manual to help other actors with proposal submission, approval and implementation (GCF, 2011). Recipient countries can receive GCF funds directly and indirectly through national, subnational, regional and multilateral entities. Furthermore, the GCF provides direct and indirect access to private sector activities. Non-entities accredited by the GCF can also access funding through AEs.

Moreover, during this process, funding proposals should provide arrangements for the implementation of the proposed projects and programmes (GCF, 2020a). The elements of funding proposals include a feasibility study, project appraisal, proposed budget, environmental and social safeguards categories, gender assessment, action plans, term sheet draft, evaluation report, no-object letter, commitment to co-financing and financial analysis (GCF, 2020a).

Interactions among actors in the GCF project-activity cycle occur continuously throughout the process, as shown in Figure 3.

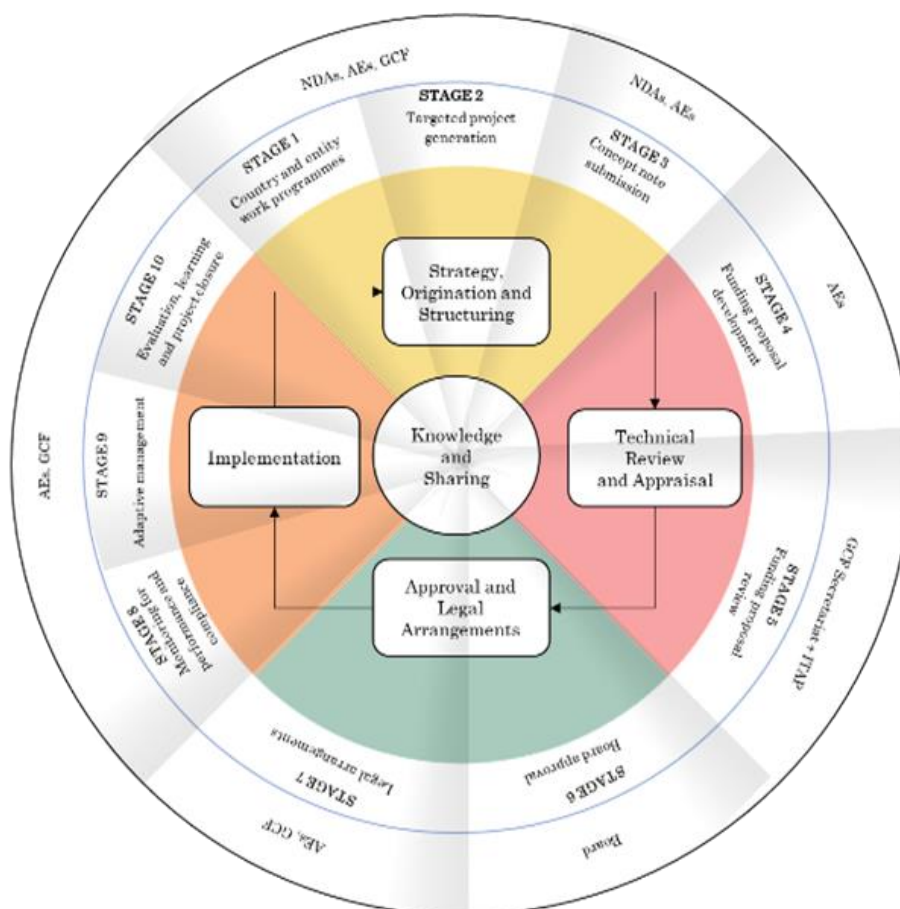


Figure 3. GCF Project Activity Cycle

Source: GCF (2020b)

The project-activity cycle progresses as follows. *Stage 1: Country and entity work programmes* requires country programmes and entity work programmes to be aligned with the GCF's strategic plan and result areas. *Stage 2: Targeted project generation* supports NDAs and AEs in creating projects that meet the criteria of the GCF's investment framework. Therefore, the actors in Stages 1 and 2 include NDAs, AEs, and the GCF. In *Stage 3: Concept note submission*, AEs and NDAs are expected to present a project proposal, programme or summary, which the secretariat can review and provide feedback on. The actors involved in Step 3 include NDAs and AEs. In *Stage 4: Funding proposal development*, information on the funding proposal's development and its submission is provided by the AEs. The sole actors in Stage 4 comprise AEs. *Stage 5: Funding proposal review*

comprises a process conducted by the Office of Risk Management and Compliance. The GCF secretariat and the ITAP are the actors involved in Stage 5.

*Stage 6: Board approval* involves the consideration and decision of proposals that will become projects; the board is the sole actor at this stage. *Stage 7: Legal arrangements by AEs and GCF* aims to define the negotiation and signing process of the funded activity agreement after board approval. AEs and GCF are the actors involved in Stage 7. *Stage 8: Monitoring for performance and compliance* provides the monitoring framework and approach for the GCF secretariat. *Stage 9: Adaptive management* provides details of GCF adaptive management projects or programmes. *Stage 10: Evaluation, learning, and project closure* reviews the lessons learned during the process that can be used for upcoming projects. The actors in Stages 8–10 are the AEs and GCF. The actor involved in the execution of plans is the executing entity, which carries out the proposed project or programme, either fully or partially. It should be noted that AEs can act as executing entities.

#### *Illustration of actors and authority's linkage*

The actors of the GCF are linked to rules and obligations under the Paris Agreement as an arrangement of the relationship between the Conference of Parties (COP) and the GCF. The details of the GCF's operating mechanism under the UNFCCC are listed in Table 4.

Table 4. The GCF's operating mechanism under the UNFCCC

Details	Sources
The GCF as an operating entity of the financial mechanism of the Convention	Report of the COP on its sixteenth session, held in Cancun from 29 November to 10 December 2010 Addendum Part Two: Action taken by the COP at its sixteenth session (UNFCCC, 2011).
Arrangement of the relationship between the COP and the GCF	Report of the COP on its nineteenth session, held in Warsaw from 11 to 23 November 2013 Addendum Part two: Action taken by the COP at its nineteenth session (UNFCCC, 2014).
The GCF serves the Paris Agreement	Article 9, paragraph 8, of the Paris Agreement (UNFCCC, 2015).
Long-term climate finance with the goal of jointly mobilising USD 100 billion annually by 2020	Report of the COP on its twenty-third session, held in Bonn from 6 to 18 November 2017 Addendum Part two: Action taken by the COP at its twenty-third session (UNFCCC, 2018).

### *Identifying number and diversity of actors*

The GCF partnership promotes low-carbon and climate resilience among diverse partners, including banks, financial institutions, development finance institutions, government and United Nations agencies, conservation organisations and equity funds. The GCF also strengthens decision-making, institutional design and the promotion of social and gender standards through this partnership network. Table 5 shows the GCF partnership network.<sup>1</sup>

Table 5. General Overview of the GCF Partnership Network

<b>NDA</b>	<b>Total</b>
Total parties to the Paris Agreement	197
Non-annex 1 countries	154
Countries that have designated an NDA/focal point	148
AEs	
Approved for accreditation	114
Legal arrangements signed	87
Accreditation process completed	76
Observers	
Civil society organisations	311
Private sector organisations	88
International entities	76

Source: GCF<sup>1</sup>

### *Identifying different levels of authority*

Based on these findings, I categorised the actors in the entire process based on their background (Tables 5 and 6).

Table 6. Type of Actors Based on Their Level of Governance

<b>Level of Governance</b>	<b>Actors</b>
International/multinational/bilateral	GCF, AEs, GCF Secretariat, ITAP, Board
National	NDAs, AEs
Subnational	AEs
Voluntary/private	AEs, Board

Table 7. Type of Actors Based on Their Type of Organisation

Actor Type	Actors
International organisations	GCF, AEs, GCF secretariat, ITAP and board
Governmental organisations	NDAs and AEs
Private organisations	AEs and board

## DISCUSSION

This study examined the GCF's governance structure, focusing on polycentric governance and the interplay among multiple centres of authority, adopting an actor focus. This study's findings are novel within the context of research on polycentric and global climate governance. Moreover, this study refines and clarifies the definition of multiple decision centres in polycentric governance.

First, the GCF's governance deliberates the characteristics of polycentric governance with multiple centres of authority at the international organisations, governmental organisations, and private organisations, multiple actors at the GCF, AEs, NDAs, ITAP, GCF secretariat and board, as well as a broader system of governance at the international, multinational, bilateral, national, sub-national, and voluntary or private level. AEs and the GCF exhibited the highest frequency of involvement in the project-activity cycle. Generally, diverse actors in the GCF project-activity cycle continuously coordinate to achieve climate-change mitigation and adaptation to global climate governance. This finding aligns with previous studies by Jordan, Huitema, Van Asselt, et al. (2018) and Dorsch and Flachsland (2017), which indicate that polycentric governance has multiple centres of authority.

Previous studies have not analysed models with multiple centres of authority in detail. This study clarifies the number and diversity of actors and authorities, linkages between actors and authorities, and differing levels of authority within a governance system. Furthermore, this study clarifies the study by Bracking and Leffel (2021), who found that the GCF's institutional design allows market actors to contribute to product governance and operations. Market actors in the GCF governance structure belong to different governance levels and organisation types.

Second, many scholars have examined the shift in global climate governance reflected in climate finance mechanisms. Therefore, this study adds to the deepening analysis of the GCF's polycentric governance, identifying an actor focus as a characteristic of this polycentric system. I believe that studying global climate finance can strengthen scholarly understanding of polycentric and global climate

governance. This study enhances such understanding by identifying various actors in international climate finance. Further, it offers a refined definition of systems with multiple centres of decision and authority. Having multiple centres of authority implies that actors belong to different organisational levels. Multiple actors and governance are intended by different entities at different levels of organisation, power and administration. The involvement of multiple actors in the GCF's processes exemplifies the strengths of polycentric governance, fostering innovation through local knowledge and building trust among participants. Additionally, scaling up the GCF's impact requires strategic partnerships with local organisations and capacity-building initiatives, empowering local actors to drive climate action.

While the GCF's polycentric approach enhances its adaptability, challenges such as coordination and power imbalances require further attention to ensure its effectiveness and inclusivity. Therefore, the GCF can enhance the establishment of regional hubs or appoint dedicated liaisons to facilitate communication among actors. Further, the GCF can incentivise participation from local communities and civil society, thereby fostering ownership and accountability to fully leverage its polycentric potential. The GCF could also encourage the participation of underrepresented groups by providing capacity-building workshops and financial support for proposals from local NGOs. Future research should investigate the GCF's long-term impact on specific projects and countries to assess the effectiveness of the polycentric approach in achieving sustainable climate solutions.

## CONCLUSION

This study examined the GCF as a key climate-finance entity in the post-Paris Agreement era. The GCF emphasises the inclusion of developing countries, diversified financial instruments and balanced mitigation-adaptation targets. Accordingly, the GCF has emerged as a key institution fostering polycentric governance in which diverse actors at multiple levels collaborate. This study's analysis of the GCF's governance mechanisms revealed its polycentric governance structure. By carefully analysing the GCF's polycentric governance structure, this study contributes to enhancing the scholarly understanding of polycentric governance systems in climate-finance institutions.

This study investigated the extent to which the GCF exhibits polycentric governance, based on a multiple-centre analysis. The findings demonstrate that a qualitative content analysis of polycentric governance's characteristics is useful for analysing the GCF's polycentric governance and global climate governance. This

study's effectiveness lies in its ability to deepen our understanding of polycentric governance in the GCF based on a polycentric analysis.

The Paris Agreement ushered in a polycentric approach in which multiple actors with decision-making power operate autonomously yet interdependently. Accordingly, the GCF has involved multiple actors from multiple authority and decision-making centres. Thus, the GCF initiative is a prime example of a polycentric strategy involving stakeholders from diverse influence spheres.

Furthermore, Dorsch and Flachsland (2017) and Heikkila and Weible (2018) contributed to the scholarly understanding of polycentric governance within the context of global climate finance. This study's analytical framework revealed the frequency and variance of actors and authorities, the linkages between actors and authorities, the number and diversity of actors and the differing levels of authority within a governance system. This study's classification of the actors involved, based on their governance level and organisation type, is consistent with the findings of Bracking and Leffel (2021), who found that the GCF's institutional design allows market actors to play a role in product governance and operations. Moreover, this study refines the definition of multiple decision centres, positing them as actors that come from different organisational levels and are intended from different entities of different levels of organisations, power, and administrations.

This study had some limitations due to its focus on GCF governance. Therefore, further research is required to investigate the challenges and benefits of the interactions among actors, processes, structures and response collaborations over time in the GCF. Further, this study relied heavily on official GCF documents and reports, which may have limited its perspective of the organisation's activities and impacts. Thus, future research should incorporate diverse sources, such as reports from NGOs, community groups and independent evaluations, to provide a more comprehensive understanding. Further research is required to fully understand the long-term impact of the GCF's polycentric structure, highlighting its potential to contribute significantly to global climate change mitigation and adaptation efforts. By fostering collaboration and innovation, GCF paves the way for a more effective and inclusive approach for tackling this critical challenge.

## Notes

<sup>1</sup>Green Climate Fund, Partners, <<https://www.greenclimate.fund/about/partners/nda>>, 06/02/2023 referred

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