



Does orchestration in the Global Climate Action Agenda effectively prioritize and mobilize transnational climate adaptation action?

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Abstract

Climate change adaptation is increasingly seen as a question that involves globally connected vulnerabilities and impacts which necessitate transboundary action by non-state and subnational (transnational) actors. Traditional actors such as governments and international organizations leave deficits in norm development, enforcement, capacity building, and financing. Orchestration has been suggested under the functionalist assumption that transnational actors can make up for these deficits, through optimizing complementarity between the realms of international and transnational governance and through eliciting more action toward the achievement of globally agreed climate goals. In the context of the United Nations Framework Convention on Climate Change (UNFCCC), orchestration has taken the form of an evolving Global Climate Action Agenda (GCAA). Few studies have examined the role of orchestration in bolstering transnational adaptation. This article therefore asks: Has the GCAA effectively mobilized and prioritized transnational adaptation action? Further, has it effectively addressed functional, participatory, and geographic deficits? Analyzing a unique dataset of a hundred cooperative climate actions, this study finds that current patterns are incongruent with some functionalist expectations. GCAA orchestration has featured a political prioritization of both adaptation and mitigation and a focus on building a positive narrative of climate action. This combination of priorities has led to neglect of underperforming actions—many of them adaptation actions in developing countries. Subsequent iterations of the GCAA failed to recognize these actions and did not identify support needed for them. This has strengthened the bias toward mitigation aspects of climate change and exacerbated imbalances in the geography of transnational action under the GCAA.

Keywords Orchestration · Governance · Climate change adaptation · UNFCCC · Non-state actors

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Abbreviations

ADP	Ad Hoc Working Group of the Durban Platform for Enhanced Action
COP	Conference of the Parties
EOSG	Executive Office of the Secretary-General
FOF	Function–Output Fit
GAFCA	Global Aggregator for Climate Actions
GCAA	Global Climate Action Agenda
GEF	Global Environment Facility
ICIs	International Cooperative Initiatives
LPAA	Lima-Paris Action Agenda
MPGCA	Marrakesh Partnership for Global Climate Action
NAZCA	Non-State Actor Zone for Climate Action
NDC	Nationally determined contribution
PSI	Private Sector Initiative
SDG	Sustainable Development Goals
SIDA	Swedish International Development Cooperation Agency
TEP	Technical expert process
UNCS	United Nations Climate Summit
UNDESA	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development

1 Introduction

1.1 Theoretical background

Adaptation to climate change impacts is increasingly seen as a question that transcends specific local spaces. Vulnerabilities addressed through adaptation are linked through economic, biophysical, and resource flows (Adger et al. 2009; Benzie and Persson 2019). Subsequently, adaptation actions are not restricted to the local and local actions may have implications elsewhere (see Persson and Dzebo 2019; Roggero et al. 2019). Effective adaptation therefore requires engagement by a multiplicity of actors that operate across scales (Dzebo and Stripple 2015). Such transnationalization seems to be the next iteration of a historical development, from an initial marginalization of adaptation in both international politics and research, to a growing recognition and institutionalization of adaptation within the context of the United Nations Framework Convention on Climate Change (UNFCCC) (Ayers et al. 2010; Huq and Toulmin 2006). For instance, the establishment of climate funds (including Least Developed Countries Fund, Adaptation Fund, Green Climate Fund) demonstrates the growing multilateral dimension of adaptation. International organizations also increasingly seek engagement by other actors. The World Bank, the United Nations Department of Economic and Social Affairs (UNDESA), and the UNFCCC are only a few of many international organizations that have adopted partnership strategies and set up platforms to elicit contributions by non-state and subnational (or transnational) actors such as businesses, civil society organizations, cities and regions, and networks between them (e.g., Kramarz 2013; Pattberg et al. 2012; Pauw and Chan 2018).

Governance beyond national governments and across scales has been called for from a functionalist perspective of governance deficits (e.g., Haas 2004; Pattberg 2010; Domrowski 2010). The international political system has insufficiently adapted to the geopolitical reality of growing complexity and a proliferation of non- or sub-governmental agency. Traditional national and international institutions need to deal with intertwined issues that were previously seen as relatively discrete and spatially confined. Moreover, they need to take into account dispersed authority resulting from a proliferation of transnational actors. Although the role of the state does not dissipate (Compagnon et al. 2012; Hickmann 2017), governments leave a functional demand for other actors to assume more prominent roles (Biermann and Dingwerth 2004). Specific governance deficits include norm development, enforcement, capacity building, and financing, all of them unevenly distributed in global environmental governance (Haas 2004). The functionalist assumption is not only based on empirical observations of growing number of transnational initiatives (e.g., Bulkeley et al. 2014), but also on the idea that new actors should fill gaps left by states and international organizations. The functionalism underlying the argument for transnational engagement is therefore both an empirical and a normative question. Empirically, the scale and influence of transnational engagement remains largely unknown. Normatively, one could ask whether transnational engagement should be expected to address deficits in adaptation governance.

These questions are important to explore because a singularly functionalist understanding of transnational engagement presents a number of risks. For instance, by emphasizing goal orientation and problem solving, functionalist strategies risk overlooking ulterior motives. Corporate entities have been suspected of presenting themselves as clean and green, while continuing business-as-usual. Similarly, private sector mobilization by governments has been criticized as a form of ‘window-dressing’ that detracts from their own inaction (Mert and Chan 2012). From the perspective of international priorities, such as the 2030 Agenda for Sustainable Development, including the Sustainable Development Goals (SDGs) and the goals of the Paris climate agreement, the instrumental role of transnational actors cannot be simply assumed (Chan et al. 2019). Transnational actors make strategic considerations which may not be aligned to international priorities. Moreover, the voluntariness of transnational action is likely to lead to unequal patterns of engagement, exacerbating rather than addressing governance deficits. For instance, transnational engagement could lead to more influence for the already powerful (e.g., big brand corporations); investments in areas that already see much investment; or simply failing to achieve desired outcomes (see Dzebo 2019). Rather than ‘completing’ governance in a functionalist manner, a multiplicity of largely uncoordinated actions could lead to a fragmented landscape (Van Asselt 2014). Growing fragmentation and complexity could raise transaction costs between actors and occasionally give rise to conflicts in which benefits from one action may be canceled out by others.

To not completely rely on voluntarism, and to optimize complementarity and functionality between the realms of international and transnational governance, scholars have called for the coordination and alignment of transnational actors by international organizations (e.g., Abbott and Snidal 2010; Hale and Roger 2014; Chan and Pauw 2014; Betsill et al. 2015; Chan et al. 2015b). Particularly, ‘orchestration’ is seen as a suitable governance approach to elicit transnational action in the light of globally agreed priorities in climate governance (e.g., Bäckstrand and Kuyper 2017; Widerberg 2017; Gordon and Johnson 2017). Orchestration implies a catalytic change mechanism whereby public actors, such as international organizations and governments, convince intermediary actors, such as transnational city networks, to align their goals and targets, and subsequently leverage actions by third (target) actors (orchestrator → intermediary → target) (Abbott and Snidal

2009; Abbott et al. 2015). Many suggestions to align transnational actions primarily concern mitigation. The interest in orchestrating mitigation action has partly been spurred by a growing number of studies that assess the mitigation potential of transnational actions (e.g., Blok et al. 2012; UNEP 2015, 2016a; Hsu et al. 2015, 2016; America's Pledge 2017; Hsu et al. 2018; Roelfsema et al. 2018; Hsu et al. 2019). These studies imply a functionalist mechanism, namely that the global mitigation gap left by insufficiently ambitious governments could be narrowed through emissions reductions by transnational actors. The lack of consideration of adaptation leaves a knowledge gap concerning the role of orchestration in bolstering transnational adaptation. Such lack of attention may be surprising for two reasons. First, transnational actors could play an equally important role in adaptation governance, for instance by addressing gaps in finance, capacity building, the provision of technical solutions, or review processes (Van Asselt 2016; Chan et al. 2018b). Second, plenty of transnational adaptation initiatives already exist. For instance, the Global Resilience Partnership—an initiative by the Rockefeller Foundation, the US Agency for International Development (USAID), and the Swedish International Development Cooperation Agency (SIDA)—emphasizes the role of the private sector and innovative financing mechanisms in leveraging resources to build resilience of people in the Sahel, Horn of Africa, and Asia. The R4 Rural Resilience Initiative launched by the World Food Programme and Oxfam America in 2011 also seeks to build resilience in rural communities in remote areas by enabling access to crop insurance, microcredits, seeds, and irrigation. These are but two examples of transnational actions that could improve global adaptation governance (see Papin 2019, and Dzebo 2019, for more examples).

1.2 Empirical focus

This article asks: Has the Global Climate Action Agenda (GCAA), as the most prominent transnational engagement process, effectively mobilized and prioritized transnational adaptation action? Further, has it effectively addressed functional, participatory, and geographic deficits in the context of the UNFCCC? By doing so, this paper contributes to this special feature by connecting adaptation action to theory on transnational governance and orchestration, and empirically analyzing the effectiveness of current transnational adaptation governance.

The GCAA could be seen as a series of linked, successive, orchestration efforts: the 2014 New York UN Climate Summit (UNCS) (Widerberg 2017; Chan et al. 2018a), the Lima-Paris Action Agenda (LPAA), and the 'Marrakesh Partnership for Global Climate Action' (MPGCA). The focus on this evolving orchestration process sets this study apart from previous large-n studies of transnational climate actions. For instance, Bulkeley et al. (2014) analyze a set of 60 climate actions (only two of which focusing on adaptation) that are not related to a particular orchestration process. Although Pauw et al.'s (2016b) investigation of the Private Sector Initiative (PSI) concerns a political process,¹ the political effort was limited; the UNFCCC merely opened a platform where private actors could self-register and self-report. Otherwise, the UNFCCC and governments hardly played an active role. By contrast, successive efforts of the GCAA involved considerable efforts by the Secretariat of the UNFCCC, different parts of the UN, and several countries' governments

¹ The PSI is part of the Nairobi work program on impacts, vulnerability, and adaptation to climate change (NWP).

(that presided UNFCCC negotiations). Together, they undertook a range of activities to align transnational actions with the international climate process, by brokering of new initiatives, engaging intermediaries (e.g., investor networks and city networks), facilitating technical examination processes, and organizing high-level events (Chan et al. 2016). It is important, therefore, to note that the GCAA comprises of more governance approaches than orchestration (working through intermediaries); orchestrators also brokered new collaborations, and occasionally featured as (lead) partners in transnational initiatives (Chan et al. 2018a).

The focus on the GCAA is by no means representative of the whole universe of adaptation actions. However, this process is particularly relevant due to its closeness to the inter-governmental UNFCCC process (Chan et al. 2016). Patterns of transnational engagement in the GCAA are especially informative in questions about complementarity and functionality vis-à-vis multilateral and global politics of adaptation. This study primarily focuses on two iterations of the GCAA: the UNCS and LPAA. Although the UNCS and LPAA are distinct and involve different lead orchestrators, respectively, the Executive Office of the UN Secretary-General (EOSG) and the governments of Peru and France—presidents of, respectively, the 20th and 21st Conference of the Parties (COP) of the UNFCCC—they can still be considered as a programmatic continuation of an evolving orchestration process (Widerberg 2017; Chan et al. 2016). Even when featuring different lead orchestrators, they collaborated among themselves and built on each other's efforts, for instance through recognizing each other's initiatives. By examining the complete set of UNCS and LPAA actions, the presence and performance of adaptation actions, and to some degree their scaling over time, can be systematically analyzed. We are particularly interested in whether the GCAA has effectively addressed concerns over performance, and participatory and geographic imbalances, which have been noted as urgent in transnational adaptation governance (e.g., Pasgaard et al. 2015; Chan et al. 2015a, 2018b).

1.3 Methodology

For this study, we collected data on adaptation and mitigation actions under the GCAA in the Global Aggregator for Climate Actions (GAFCA). GAFCA was originally developed between March 2014 and June 2015 by the German Development Institute/Deutsches Institut für Entwicklungspolitik (DIE) together with the London School of Economics and Political Science (LSE). Initially comprising data on 50 climate actions launched at the UNCS, for this study the database was expanded to include all 70 actions under the LPAA. The inclusion of these two samples allows for a comparative analysis over a period of 3 years. Data on organizational characteristics and the geography of implementation were gathered from publicly accessible platforms (e.g., UNFCCC's NAZCA platform and UNEP/DTU's Climate Initiatives Platform), as well as from websites, social media accounts, and official documents. The main dependent variable of GAFCA is the Function–Output Fit (FOF), previously used for the assessment of 'Partnerships for Sustainable Development Goals' (Pattberg et al. 2012) and climate actions (Chan et al. 2015a, 2018b). A full FOF indicates that an individual action's outputs are consistent with its function(s). For instance, an initiative that focuses on training should be expected to produce training manuals, curriculums, and/or seminars. A full FOF increases the likelihood of desired environmental and behavioral impacts, although such impacts are not guaranteed. By contrast, an action that does not produce relevant outputs will definitely fail to generate desired impacts. In terms of geographic data, GAFCA collects data from self-commitments and

declarations on where implementation is planned, as well as tracks where outputs are produced, rendering a better view of geographic patterns and the extent to which actions have scaled across countries.

This article proceeds with an outline of the GCAA and how it evolved since 2014. Subsequent analytical sections will (1) look at how adaptation has featured over time in the GCAA; (2) investigate geographic implementation patterns; and (3) analyze functional patterns of transnational adaptation actions. The final section discusses whether and how governance deficits have been addressed, and how continued orchestration efforts could better support transnational adaptation actions.

2 Mobilizing climate action in the context of the UNFCCC

After the Copenhagen Accord (2010), it became increasingly clear that a new climate regime would follow a different logic than primarily establishing mandatory emission reductions. It would instead provide a framework for national pledges, shifting the focus from international distributional questions to what could be achieved domestically (Falkner 2016). In the context of such a nationally driven architecture, transnational actors could contribute to the implementation of national climate policies, for instance, by leveraging additional means, or demonstrating solutions to help governments set and implement more ambitious targets. Subsequently, transnational actors have increasingly gained recognition in the context of the UNFCCC, as well as in mobilization efforts outside the UNFCCC.

Within the context of UNFCCC negotiations, transnational actions have increasingly been seen as a complement to efforts by national governments. For instance, a separate work stream of the negotiations toward a new climate agreement (Ad Hoc Working Group of the Durban Platform for Enhanced Action [ADP]) emphasized the role of non-state and subnational actors in achieving higher (mitigation) ambition before 2020. The work stream featured a technical expert process (TEP) which examines scalable and replicable technologies, practices, and policies by state and non-state actors. The TEP also featured International Cooperative Initiatives (ICIs), partnerships that include both state and non-state actors in climate actions. The UNFCCC Secretariat presented a list of 60 ICIs—mostly addressing mitigation—on their website in November 2013 (see Widerberg and Pattberg 2015). However, the most dynamic outreach to transnational actors initially happened outside the context of UNFCCC negotiations.

The GCAA is an ongoing effort to engage transnational actors, either individually or in cooperation with others. Although the GCAA comprises successive efforts, it could be seen as a programmatic continuation of one evolving orchestration effort. The GCAA as a high-level process began with the 2014 UN Climate Summit, when the UN Secretary-General and the summit's organizing team sought to mobilize new and enhanced initiatives across eight action areas. Initially, these areas were modeled after the same categorizations used for ICIs, based on sectors with high mitigation potential such as transport, energy, and forests. However, the summit organizers were aware of the (political) urgency to better accommodate development needs and to focus on adaptation and resilience, particularly in developing countries. As a result, 'resilience' was added as a separate action area (Chan

et al. 2015a). The UNCS saw the launch of 29 large climate commitments² that contained 52 identifiable individual climate actions (Chan et al. 2018b). The UNCS set an important precedent, combining high-level championing, transnational engagement, and significant attention for non-mitigation contributions.

Following the UNCS, the Peruvian and French governments (respectively, presiding over COP 20 and 21) together with the EOSG and the UNFCCC Secretariat, continued the GCAA by forming the Lima-Paris Action Agenda (LPAA), with the intention to ‘catalyze action on climate change, to contribute to the objective of the UN Framework Convention on Climate Change, to further increase ambition before 2020 and support the 2015 agreement’ (LPAA 2014). At the 2015 Paris Climate Conference, the LPAA presented 70 climate actions. Moreover, the 2014 Lima Climate Conference saw the launch of the ‘Non-State Actor Zone for Climate Action’ (NAZCA) to showcase, track, and gauge actions by companies, cities, subnational regions, investors, and civil society organizations. While far from a comprehensive database (Chan and Pauw 2014; Hale and Roger 2014), NAZCA has become the central UNFCCC platform to showcase climate action, providing an overview of over 12,000 individual and cooperative commitments. At the Paris Climate Conference governments reaffirmed NAZCA as the platform to register transnational contributions.

The post-Paris GCAA took shape in the ‘Marrakesh Partnership for Global Climate Action’ (MPGCA) and was significantly aided by the Paris COP decision to install high-level climate action champions to lead the GCAA and to organize high-level climate action events in the context of enhancing pre-2020 ambition. The French and Moroccan high-level climate action champions, Laurence Tubiana and Hakima El Haité presented a roadmap in June 2016 in which they declared: ‘in line with the long-term goals of the Paris Agreement, we bring in more initiatives and proposals focusing on adaptation and climate resilience, as well as on the reorientation of financial flows’ (UNFCCC 2016).

By demonstrating solutions and broad societal support, the GCAA had been instrumental toward the Paris Climate Conference, arguably pressuring governments into an ambitious agreement. However, it is confronted with considerable challenges in the post-Paris climate process. The bottom-up architecture of post-Paris climate governance has not yet mustered sufficient government pledges to set the world on course of a 2 °C, let alone a 1.5 °C, development pathway. Before the first NDC cycle starts in 2020, transnational actors are pivotal in demonstrating plausible and short-term solutions, and in encouraging enhanced national pledges under the Paris Agreement (the so-called nationally determined contributions or NDCs). Subsequently, the pressure is on non-state and subnational actors and their actions to resonate better with national levels of governance, in terms of implementation but also in helping to overachieve current NDCs (Hermwille 2018). As a large majority of NDCs prioritize adaptation, the GCAA also needs to effectively address adaptation. Since the 2014 UNCS, adaptation efforts by non-state actors have gained greater recognition. Moreover, the Paris COP decision strengthened the link between the climate regime and transnational adaptation action by extending the TEP to include dialogues on adaptation (Chan et al. 2016). However, according to UN Environment’s Climate Adaptation Gap Report (UNEP 2016b), adaptation costs currently exceed available public finance by at least two to three times, and this financial gap is expected to further widen to six to thirteen times. Transnational adaptation action, in this perspective, could contribute to the

² ‘Commitment’ and ‘action’ are used interchangeably by most scholars. In our understanding, however, commitments are fundamentally promises that *become* actions once commitments are acted upon.

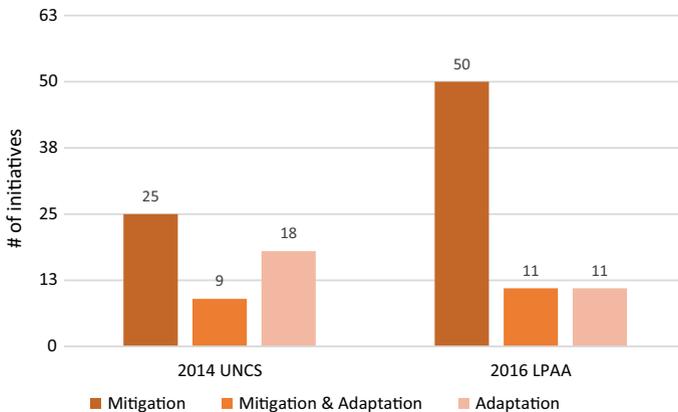


Fig. 1 Adaptation/mitigation foci of climate actions

closure of gaps, both in terms of financing, implementation, capacity (building), and in terms of the realization of emissions reductions and physical infrastructure.

3 Analysis

We conducted a comparative analysis, utilizing two sample sets: 52 UNCS and 70 LPAA actions. A number of actions featured both in the UNCS and in the LPAA, making for a total of 100 climate actions. The large majority are led by international organizations (74%), with national governments leading 11% and research organizations leading 8% of adaptation actions. Adaptation actions are mostly found in the agriculture (42%), disaster management (24%), and trade and investment (15%) sectors. In our analyses, we compared UNCS and LPAA samples, allowing a better understanding of how adaptation actions have featured in the GCAA, their performance, geographic, and functional patterns.

3.1 Presence and performance of transnational adaptation in the GCAA

Although adaptation has gradually gained importance in multilateral climate governance, international attention for transnational adaptation was very limited. For instance, the 60 ICIs listed by the UNFCCC Secretariat in 2013 focused primarily on mitigation. The GCAA raised the profile of adaptation. The UNCS, as the first high-level mobilization effort, decidedly broke with the mitigation-oriented ICIs—with conference organizers making considerable efforts to highlight resilience and adaptation actions. However, the proportion of actions that primarily address adaptation in the LPAA declined significantly (Fig. 1). The combined shares of actions in the UNCS sample that primarily address adaptation (35%) and actions that equally address both mitigation and adaptation (17%) were equal to that of mitigation actions (48%), a significant improvement compared to ICIs. However, almost 70% of LPAA initiatives focused on mitigation, while only 30% either focused on adaptation, or on both adaptation and mitigation.

Despite a growing political emphasis on adaptation in the GCAA, for instance in the post-Paris roadmap, the share of featured adaptation actions declined between 2014 and

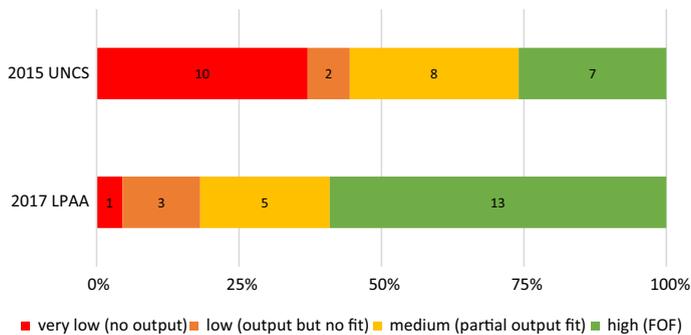


Fig. 2 Performance of adaptation actions under UNCS and LPAA

2017. We offer two possible explanations. First, the UNCS was mainly orchestrated by the EOSG, based at the UN headquarters in New York. At the general level of UN administration, the EOSG takes a broader view of climate action in the context of sustainable development. Subsequently, their understanding of climate action involves a closer integration of climate and sustainability concerns. The EOSG and UNFCCC Secretariat were also partnering in the subsequent LPAA. However, the LPAA was led by the Peruvian and French governments. These COP presidencies were particularly concerned with building a ‘positive agenda’ to pressure governments toward a new agreement (Widerberg 2017). The emphasis was thus less on supporting underperforming initiatives but on showcasing more established (often mitigation focused) initiatives.

A second reason for the relative decline of adaptation in the GCAA between 2015 and 2017 may be that adaptation and resilience actions underperformed—making for less attractive showcases (cf. Dzebo 2019). Out of the 52 UNCS actions, 24 continued to be featured in the LPAA. The majority of UNCS resilience and adaptation actions underperformed in terms of output effectiveness, with many not having produced any output at all 1 year since their launch (Chan et al. 2015a). 19 out of 24 initiatives that are featured in both the LPAA and the UN Climate Summit primarily address mitigation, while only five focused equally or primarily on adaptation. Notably, 20 performed well, producing outputs that fit at least some of their functions. This suggests that LPAA partners had a good understanding of which initiatives could deliver on the short term. The LPAA subsequently focused on showcasing established ‘good practices’ (many of them in mitigation) instead of actions that may have needed more support.

The stronger focus on best practices under the LPAA seems to be corroborated by a comparison of output performance of adaptation action under the UNCS and the LPAA. Although there were fewer adaptation actions under the LPAA, they performed much better (Fig. 2). Using the FOF measure, we find that twelve initiatives (44%) of the 27 initiatives focusing primarily or partly on adaptation produced no attributable output in the first year after their launch at the UNCS; by contrast, 18 adaptation initiatives (82%) under LPAA have delivered outputs consistent with some or all of their functions.

The stark improvement in output performance of adaptation actions under the GCAA is not only due to the progress made by preexisting initiatives. One of the reasons why resilience and adaptation actions underperformed in the UNCS was their relative novelty; they needed more support, capacity, and time (see Chan et al. 2015a, 2018b). With the LPAA, however, the GCAA did not evolve to include these supportive functions. Rather,

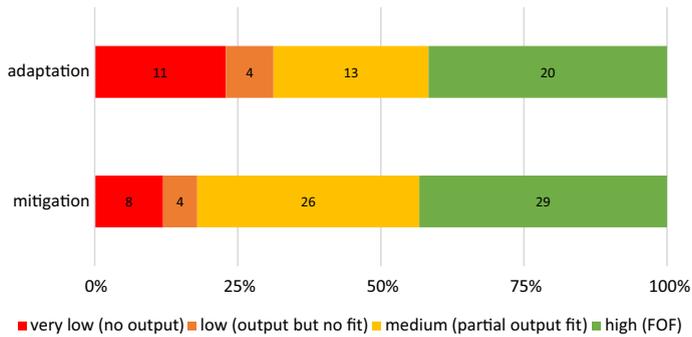


Fig. 3 Output performance, adaptation, and mitigation compared

the LPAA left underperforming adaptation actions out of the GCAA. Such selective recognition places limits on the tracking of progress of climate actions, particularly of previously underperforming actions.

The strong performance of LPAA adaptation actions is thus partly due to a selection bias toward ‘good practices’ (for a detailed study of choices made in the ‘black box’ of the LPAA orchestration process, see Widerberg 2017). However, a better performing set of GCAA actions could also be indicative of the general growth of transnational efforts, enlarging the pool of successful actions to choose from. We compared the set of LPAA and UNCS actions that primarily address adaptation with actions that primarily address mitigation (Fig. 3). Despite the LPAA capturing a better performing set of adaptation actions, mitigation actions still perform better. Almost half (43%) of all mitigation actions achieved high output performance (producing fitting outputs for all functions), while 31% of adaptation actions perform poorly (producing no or few relevant outputs).

Structural reasons for the relative underperformance of adaptation actions may relate to the fact that actions are implemented in local developing country contexts, whereas many mitigation actions are implemented in high-income countries, where there is more capacity, finance, and experience with transnational governance arrangements (see Koehn and Rosenau 2002). Such patterns of relative underperformance may present problems when adaptation and mitigation actions are part of the same orchestration process; orchestrators who primarily focus on demonstrating success may be inclined to feature more established mitigation actions in developed countries.

3.2 Geographic patterns of transnational adaptation actions in the GCAA

In as far as the GCAA represents more than showcasing, one might expect the expansion of featured actions. For instance, scalable solutions may attract investment into their wider deployment, or heighten interest among targeted groups to replicate or join an initiative. In the following we focus on a limited set of 24 climate actions that were initially launched at the 2014 UNCS and subsequently recognized by the LPAA, five of which are either primarily addressing adaptation, or, focus equally on both adaptation and mitigation. Their inclusion in both processes allows limited tracking of their implementation over time.

Since their launch at the UNCS in 2014, this set of actions has significantly increased implementation across both developed and developing countries; we counted 222 implementation locations in 2015 and 309 in 2017 (Fig. 4). The increase is most substantial

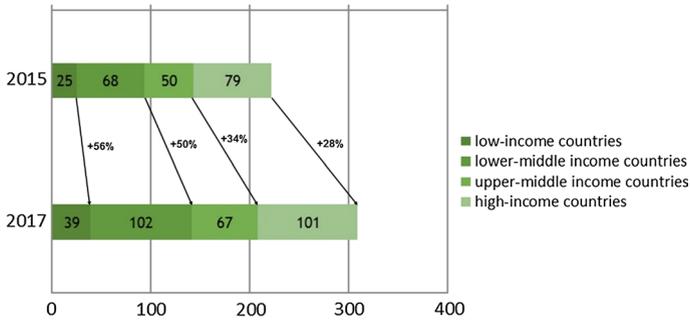


Fig. 4 Number of locations of implementation, scaling of adaptation actions over a period of 3 years

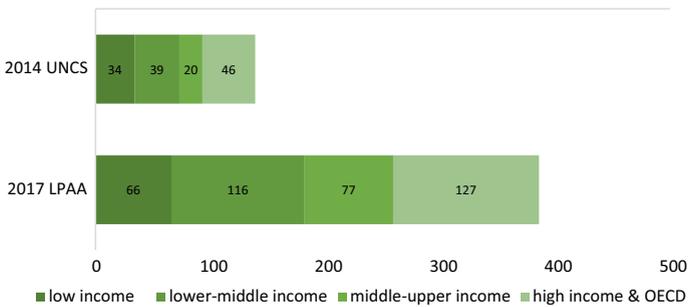


Fig. 5 Implementation across high-income, upper-middle-income, lower-middle-income, and low-income countries

in low-income countries (+56%), and lower-middle-income countries (+50%). At this rate of expansion, it may seem a question of time before the largest proportion of activities will be in low- and lower-middle-income countries, many of which are severely impacted by climate change. This development may be cause for optimism; a lower number of adaptation actions do not necessarily mean fewer activities. Successful adaptation (and mitigation) actions tend to scale over time and expand at a higher rate in developing countries.

Nonetheless, an important implementation deficit persists in developing countries. Although UNCS and LPAA actions promised to implement across both developed and developing countries in a relatively balanced manner (Chan et al. 2018b; Galvanizing the Groundswell of Climate Actions 2015), actual implementation patterns remain unbalanced. Adaptation actions launched at the UNCS disproportionately produced outputs in high-income countries (33%), while low-income countries (24%) remained underrepresented (Fig. 5). Patterns of implementation of LPAA initiatives are markedly different with more implementation taking place in lower-middle- and upper-middle-income countries (respectively, 30% and 20%). The growing focus on middle-income countries between 2014 and 2017 can be considered encouraging; nonetheless, there is much scope for the GCAA to address the continuous low share of implementation in low-income countries.

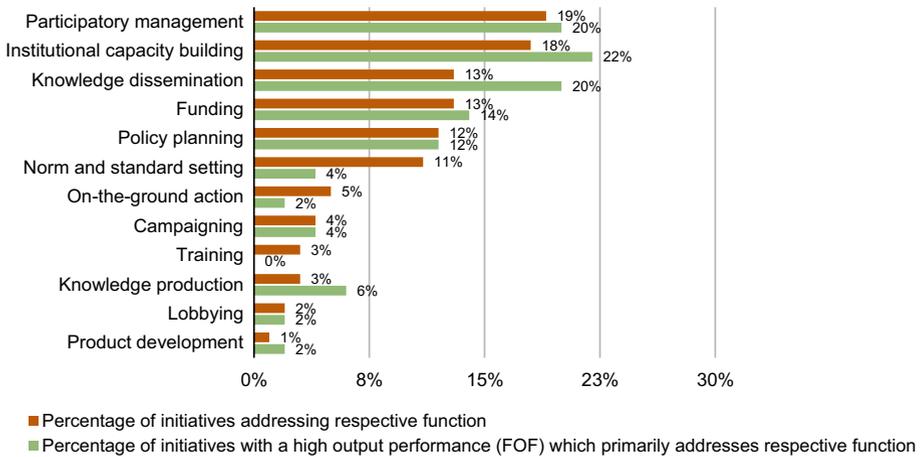


Fig. 6 High-performing governance functions

3.3 Functional patterns of transnational adaptation actions in the GCAA

Under a functionalist assumption, the engagement of non-state and subnational actors could address shortcomings in state-centered governance through addressing complementary functions (Haas 2004). Transnational cooperation in adaptation could, for instance, increase positive sum outcomes through the pooling of resources and knowledge; building confidence between different types of actors, engendering a sense of shared responsibility and solidarity (cf. Drieschova et al. 2009); stimulating collective learning (Peissker 2013); and leveraging additional (financial) resources (Pauw et al. 2016b; UNEP 2016b). The orchestration of adaptation action, however, would still rely on voluntarism of dispersed stakeholders (Chan et al. 2019), making a sufficient address of all governance deficits unlikely. The question therefore arises which functions GCAA actions have effectively addressed.

Functional patterns among GCAA adaptation actions indicate an uneven distribution across different types of inductively defined governance function categories: 18% aim to build new social institutions (with or without legal status) or to expand existing organizations (*institutional capacity building*); other prominent functions include *norm and standard setting* (devising or promoting norms or standards, such as certification schemes) and enhancing the involvement and empowerment of (underrepresented) communities in public policy (*participatory management*) (see Fig. 6). These results are similar to Dzebo's (2019) findings.

This distribution does not necessarily match with output performance. Adaptation actions that perform particularly well often aim at institutional capacity building, and/or knowledge dissemination. Although a substantial number of actions aim at norm and standard setting, performance of this function is relatively low. Similarly, actions that aim at 'on-the-ground implementation,' which includes the application of existing technologies and/or the building of installations and infrastructure, relatively underperform. By contrast, functions such as training and technical/on-the-ground implementation are underrepresented among actions but show a higher output performance.

Functional patterns and output performance on participatory management among adaptation actions indicate that the GCAA has been most effective at orchestration in terms of aligning policy goals with intermediaries and engaging larger groups of target constituencies ('orchestrator–intermediary–targets'; see Abbott and Snidal 2009; Abbott 2017). This does not guarantee effective address of deficits in adaptation governance. Impact- and outcome-oriented functions that could directly result in desired changes in environmental and societal indicators are underrepresented. For instance, the promulgation of new institutions, partnerships, and knowledge disseminated starkly contrasts with the lack of technical and on-the-ground implementation (e.g., applying technological solutions, installing infrastructure). This might raise questions about the influence of the GCAA beyond institutional effectiveness (cf. Mitchell 2006). We note that the GCAA represents a limited, relatively transboundary and networked, set of adaptation actions. The transnational level of adaptation governance, at which GCAA is the most prominent process, seems to be particularly suitable to address some of the global flows through which vulnerabilities around the world are linked (Adger et al. 2009), including information flows, institutional capacity, and, to a lesser extent, finance.³ Ultimately, however, the GCAA cannot address every function at every level; its success and influence will depend on the extent it complements and enables national and local adaptation.

4 Conclusion and discussion

4.1 Key findings

Orchestration has been called for under the functionalist assumption that transnational actors can make up for governance deficits left by traditional actors such as governments and international organizations. While our findings do not refute such assumptions, we contribute to a better understanding of the functional strengths, limits, and implications of GCAA orchestration, in particular for adaptation governance. Despite a strong emphasis on non-mitigation aspects of climate action at the UNCS, the share of adaptation actions declined under the LPAA. Lower presence of adaptation, however, did not prevent improvements in effectiveness, through higher output performance over time and an expanding scale of implementation. Output performance is still lower than for mitigation actions, though. LPAA orchestrators appear to have had a good understanding of actions that are more likely to deliver, focusing on successful (often mitigation) actions instead of supporting actions that may need more time and support.

In response to our second research question, we also looked at whether the GCAA has successfully addressed geographic imbalances in transnational adaptation. Over a limited set of actions that were both part of the UNCS and the LPAA, we found significant scaling of implementation, especially in lower- and middle-income countries. However, stark imbalances persist and the lack of activities in vulnerable low-income countries remains a concern. Finally, we assessed governance functions performed by adaptation actions. Adaptation actions most successfully address functions such as institutional capacity building, knowledge dissemination, and stakeholder engagement (see also Papin 2019; Dzebo

³ The data and method used for this study do not allow for an estimation of the magnitude of effects, including amounts of adaptation finance.

2019). This finding is congruent with the functionalist change mechanism implied in orchestration theory, namely that orchestrators effectively align transnational networks as intermediaries, who in turn activate their (e.g., sectoral or local) constituents.

4.2 Reflections on adaptation and the GCAA

Since 2014, the GCAA has featured a substantial number of adaptation actions. However, this number has fluctuated. Compared to mitigation, adaptation actions remain underrepresented. The prioritization of actions with high mitigation potential is not necessarily undesirable; large numbers of mitigation actions have helped to build a positive narrative of broad societal support for a low-carbon transition and boosted confidence among governments to agree to ambitious climate goals (Jacobs 2016). However, the context for transnational action has shifted since the Paris Agreement. The objective is no longer to build a positive narrative and societal pressure toward a new agreement. The main rationales of a continued GCAA are to contribute to the implementation of NDCs, to increase ambitions consistent with the Paris Agreement, and to strengthen transnational action.

A shifting focus toward national implementation should also be accompanied by a renewed emphasis on adaptation. Such emphasis becomes more important as effective mitigation is delayed and national pledges are not in line with mid-century decarbonization paths. Moreover, if post-Paris orchestration should benefit NDC implementation, it cannot ignore the vast majority (85%) of NDCs, especially by poorer countries that emphasize the need for adaptation (Pauw et al. 2016a). The current GCAA has only shown partial success in this regard. GCAA orchestration has featured a political prioritization of both adaptation and mitigation, and a focus on building a positive narrative of climate action. However, this combination of features has worked against underperforming actions—many of them operating in developing countries. Instead of identifying the support needed for such actions, subsequent iterations of the GCAA failed to include these actions. Consequently, we see a continued overrepresentation of north-based participants, and implementation in higher-income countries. Theoretically, this raises the question whether orchestration that emphasizes successful transnational action might actually exacerbate existing geographic imbalances. Moreover, the neglect of underperformance is incongruent with adaptation priorities that emerge from the NDCs. Underperforming actions need additional support, for instance by building capacity of local non-state actors in developing countries. It is true that the post-Paris roadmap (UNFCCC 2016) aims to provide support; however, the MPGCA makes few or no means available for improving access to finance or for facilitating learning and experimentation among actions.

The GCAA has demonstrated great potential to narrow the ‘orchestration deficit’ (Abbott and Snidal 2009) in climate adaptation governance. Functions that relate to the engagement of more actors, and the dissemination of information are comparatively well performed. Moreover, implementation in developing countries appears to grow at a higher rate, potentially improving adaptation and resilience in communities that are most vulnerable to the impacts of climate change. Increasing the scope of implementation and engagement, however, does not guarantee effective address of other functional deficits. While adaptation actions effectively address institutional capacities, benefits are unequally distributed, nor do they necessarily have desired impacts and outcomes. In fact, GCAA actions hardly focus on on-the-ground implementation. To some extent, this is understandable; the GCAA as a global process should focus on the value added of transboundary and transnational connections and should not become a conduit of all local adaptation activities. This,

however, raises the question whether the GCAA is sufficiently vertically integrated with regional and national orchestration processes. There is limited evidence that the GCAA has inspired national-level and regional orchestration, albeit not specifically on climate adaptation (cf. Chan et al. 2018a). Going forward, a continued GCAA should aim to build linkages to the regional and national levels of governance, to ensure that knowledge, capacities, and engagement leveraged in global orchestration can benefit NDC implementation and local adaptation. Such could be done, for instance, by recognizing orchestration efforts at other levels of governance; by aligning priorities across these levels; and by sharing lessons from GCAA orchestration to national and regional actors with an eye on possibly replicating such processes where most adaptation actions are rooted.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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