

The Global Climate Action Agenda: effective orchestration for bolstering transnational adaptation?

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Abstract

Current efforts to 'orchestrate' non-state climate actions have been strongly biased towards 'high mitigation potential' initiatives. This narrow focus has resulted in significant imbalances in recorded climate action across developed and developing countries. For instance, the vast majority of transnational climate actions are led by global North-based actors, and the benefits of transnational climate actions seem to materialize disproportionately in developed countries. However, transnational climate actions are especially urgent in developing countries, as they are the first to experience the detrimental impacts of climate change.

This article will address the question, *which role adaptation plays in the current landscape of transnational action*, as well as, *how adaptation action can be strengthened within the (transnational) global climate architecture*.

This article (1) discusses to what extent the transnational climate actions from two prominent large-scale international mobilization efforts, the 2014 UN Climate Summit Commitments and the Lima-Paris Action Agenda Initiatives, address adaptation and issues beyond 'mere' mitigation; (2) how climate actions have scaled their operations and whether they are addressing countries that are most vulnerable to the already occurring impacts of climate change; and (3) makes recommendations to strengthen transnational adaptation actions.

To answer the main research questions, we use the Global Aggregator for Climate Action (GAFCA) database, which contains data on 102 transnational climate actions that were launched at the 2014 UN Climate Summit, and announced at the 2015 Paris Climate summit by the Lima-Paris Action Agenda.

1. Introduction

The Paris Climate Agreement is a ground-breaking diplomatic achievement, introducing a 'bottom-up' architecture of 'nationally determined contributions' (NDCs). Across review cycles, these NDCs should substantially increase the achievability of long-term goals which aim to limit the rise of global average temperatures to 1.5 or 2C, as compared to the pre-industrial average. The NDCs will support the realization of a carbon-neutral global economy by the end of our century as well as *"enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal"* (UNFCCC 2015, Art. 7). The Paris Agreement further recognizes the potential role of non-state actors in implementation (*"enhancing public and private sectors participation in the implementation of nationally determined contributions"* (UNFCCC 2015, Art. 6b). Moreover, in Paris governments have also recognized the enormous potential of 'non-Party' contributions, including efforts by businesses, investors, cities, regions, NGOs and faith-based organizations. The Paris COP decision attributes an important role to such actors in enhancing pre-2020 climate action, designating 'High-level Climate Action Champions' with

the mandate to organize high-level climate action events, and to mobilize efforts by both state and non-state actors.

The growing international interest in non-state climate action can be understood from a functionalist perspective of international relations; governments simply do not place enough on the table to achieve the long-term goals they have agreed to. This is the case regarding mitigation, as the aggregate of current government pledges would still lead to an estimated 2.7C increase of global average temperatures by the end of the century (Rogelj et al., 2016). This is certainly also the case regarding adaptation. According to UNEP's Climate Adaptation Gap report (UNEP, 2016), 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 more than the amount of public funds currently available. Non-state climate action, in this perspective, could contribute to the closure of governance gaps, both in terms of financing, technical implementation, capacity (building), and the achievement of emissions reductions and physical infrastructure.

A growing circle of scholars and experts have engaged with climate action from the (functionalist) 'bridging the gap' perspective. Most notably, a lively discussion has unfolded on the potential contribution of non-state climate action in terms of mitigation (Widerberg and Pattberg, 2015; Hsu et al., 2015; Hsu et al., 2016), with estimated aggregated non-state contributions comparable to total national pledges, or even surpassing them. However, the (potential) role of non-state climate action in adaptation governance is much less understood. Dzebo and Stripple (2015) observe a growing engagement of non-state actors, and even declare a new era of adaptation governance in the context of the UNFCCC, in which traditional state-centered adaptation governance exists alongside non-state governance efforts in a complementary effort. Nonetheless, the actual contribution of non-state actors to adaptation, for instance in terms of financing, remains unclear. For instance, Pauw et al. (2016) find that few private sector actions in the 'Private Sector Initiative', under the Nairobi programme on impacts, vulnerability, and adaptation to climate change, prioritize the most vulnerable developing countries that are most affected by climate change impacts. Moreover, a lack in transparency of investments of these adaptation actions prevents a deeper understanding of their progress, actual effects, and subsequent scaling.

Large-n studies of transnational climate actions have rendered some additional insight on the relative underrepresentation of adaptation and other non-mitigation oriented actions in transnational governance. Bulkeley et al., (2014) find that - out of a sample of 60 climate initiatives - only two focus on adaptation. Recent studies of climate actions launched at the 2014 UN Climate Summit (UNCS) (Chan, Falkner et al., 2015; Chan, Falkner et al., 2016) and initiatives under the Lima-Paris Action Agenda (Galvanizing the Groundswell of Climate Actions, 2015) similarly suggest stark imbalances between mitigation and adaptation actions; the large majority of climate actions address mitigation, while there is some evidence that climate actions that primarily address non-mitigation aspects of climate change (including adaptation and resilience) are comparatively underperforming (Chan et al., 2016).

While current studies give insight into the underrepresentation of adaptation actions, they leave crucial knowledge gaps. First, by investigating different types of samples and using different methods, current studies do not cumulatively lead to a better understanding of the growing trend of non-state climate actions. Second, current larger-n studies that include adaptation actions take samples that link to different political processes (e.g. Bulkeley et al., 2014), or from relatively low-key processes such as World Bank grant portfolios (Dzebo and Stripple, 2015) and the Private Sector Initiative (Pauw, 2016). Yet, it remains unclear what the role has been of the most prominent and high-level processes to mobilize non-state actions,

namely the successive initiatives under the Global Climate Action Agenda (GCAA): the 2014 'New York UN Climate Summit' (UNCS) (see: Chan, Falkner et al., 2016), the 'Lima-Paris Action Agenda' (LPAA) (see: Widerberg, 2017), and the 'Marrakesh Partnership for Global Climate Action' (MPGCA). The successive initiatives under the GCAA could be seen as instances of *orchestration*. International organizations, but also some governments and non-state actors, increasingly act as 'orchestrators' of transnational climate action (Abbott and Snidal, 2010; Hale and Roger, 2014; Chan and Pauw, 2014; Abbott, Genschel et al., 2015; Chan, van Asselt et al. 2015). For instance, international organizations, often lacking the means to achieve (internationally agreed) goals themselves, instead leverage influence and seek alternative resources from intermediary - often non-state and transnational - actors (Zammit, 2003; Abbott, Genschel et al., 2015).

By studying climate actions in the context of the GCAA, we can better understand its level of success at mobilizing adaptation action, and how and to which extent it could more effectively support non-state climate adaptation actions. Moreover, the current studies mostly rely on self-reported data, and ex-ante commitments to actions; placing limits to understanding how climate actions are actually performing. By considering (ex-post) output effectiveness, this study allows for a more accurate indication of the relative performance of adaptation actions under the GCAA. Crucially, this study also involves tracking climate actions under the GCAA, which allows us to analyze their developments over time and gain a better theoretical understanding of the orchestration (Abbott and Snidal, 2009, 2010; Abbott et al., 2012) of climate actions in adaptation governance.

This article continues to focus on the following empirical questions:

- *To which extent have adaptation actions been featured in the GCAA;*
- *How do adaptation actions compare to mitigation actions in terms of output performance;*
- *Have climate actions scaled their operations and are they addressing countries that are most vulnerable to the already occurring impacts of climate change;*
- *And, how orchestration in the context of the the GCAA can bolster non-state adaptation actions?*

Methodology and data collection

To answer these questions, 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). GAFCA was initially comprised of 50 climate actions launched at the 2014 UNCS; for this study we expanded the database to include all 70 climate actions under the Lima-Paris Action Agenda. The inclusion of these two samples allows for a comparative process analysis of climate actions over a period of three years. Data on organizational characteristics of climate actions, the countries for planned implementations, as well as countries of actual implementation, was gathered from publically accessible platforms (for instance UNFCCC's NAZCA platform and UNEP's Climate Initiatives Platform), as well as from social media accounts and official documents.

The main dependent variable of GAFCA is the Function-Output Fit (FOF), previously applied to the 'Partnerships for Sustainable Development Goals' initiatives (Pattberg et al., 2012), and climate actions (Chan et al 2015; Chan et al. 2016). The FOF is used to measure output effectiveness of individual initiatives, and is computed by first identifying governance

functions (such as capacity building, awareness raising, on-the-ground implementation, etc) and second, by collecting an initiative's output (e.g. events organized, publications, realized infrastructure). Further data on functions and outputs of individual initiatives will be gathered and verified through an online survey which the research team will send to focal points of all initiatives. We identify four FOF values: no output, output but no fit, partial fit (outputs partially fits functions), and full function output fit. A full function-output-fit indicates that an initiative's output links to its initially proposed function(s), for instance, an initiative that focuses on training producing training manuals and seminars. FOF is a minimal indicator for effectiveness; a full FOF does not imply higher order, environmental, or behavioural impacts, rather it can be safely assumed that an initiative will not achieve higher order effects when the outputs do not align with their proposed objectives.

In terms of geographic data of the implementation of climate actions, GAFCA not only collects data from self-commitments and declarations of where actions are planned, it further tracks where outputs are produced, rendering a better view of actual geographic patterns of implementation. By collecting such data over time, we gain insight into whether and to which extent climate actions scale up their operations across countries.

This article proceeds with an outline of the GCAA and how it evolved from the 2014 UNCS to the 2016 MPGCA. Subsequent analytical sections will respectively (a) compare the UNCS and LPAA samples of climate action and (b), compare adaptation and mitigation actions across the GCAA. These analyses allow us to better understand the development of adaptation actions over time as well as their performance vis-a-vis mitigation actions. The final section discusses to which extent the GCAA has successfully orchestrated climate adaptation actions, and how continued orchestration in the context of the UNFCCC could better support non-state adaptation actions.

2. Mobilizing Adaptation Action in the Context of the UNFCCC

Initiatives to mobilize climate action have gained a high profile in the context of the UNFCCC. The GCAA in particular, has received much coverage at climate conferences and continues to do so as the Paris Conference high-level climate action champions have been charged to continue a series of high-level climate action events. However, before climate action by non-state actors became prominent within the UNFCCC context, many steps were often taken by various orchestrators with varying interests and motivations (Widerberg, 2017).

Given the overrepresentation of mitigation oriented climate action in various climate action platforms (Hsu et al., 2016; Chan et al., 2016; Galvanizing the Groundswell of Climate Actions 2015), it may come as a surprise that the first steps to mobilize climate action among private actors were taken in the context of the 'Nairobi work programme on impacts, vulnerability and adaptation to climate change' (NWP). Launched in 2011, the Private Sector Initiative (PSI) *"provides a platform for businesses to contribute in a sustainable and profitable manner to a strong and effective response, both in their own adaptation efforts and, importantly, in those of the most vulnerable countries and communities around the world"*¹. Currently the PSI showcases over 100 case studies, including actions by businesses such as Rio Tinto, Nestlé, Unilever, and Syngenta, as well as by organizations such as the International Union of Railways, and GIZ (German development agency), across a variety of adaptation areas including: food security, transport, monitoring and early warning, as well as education and training.

¹ http://unfccc.int/adaptation/workstreams/nairobi_work_programme/items/4623txt.php, retrieved 6 May 2017

In the same year, the UNFCCC Secretariat launched the 'Momentum for Change' (MFC) campaign to "*recognize innovative and transformative solutions that address both climate change and wider economic, social and environmental challenges*"². MFC's 'activities database' features over 500 actions, addressing a variety of focus areas including: women, urban poor, planet health, and ICT solutions.

The first recognition of climate actions beyond the immediate scope of the UNFCCC thus occurred in the context of climate adaptation. However, the overall profile of non-state and subnational climate action was not particularly high. Mitigation remained firmly in the realm of intergovernmental regulation and negotiation, while 'softer' and 'indirect' means of governance were reserved for adaptation. The NWP itself was established to facilitate the development and dissemination of knowledge to support adaptation policies and practices; rather than about setting targets and committing to e.g. provision of assistance. MFC, as a UNFCCC Secretariat initiative and initially funded through the Secretariat's own limited means, links to the international regime weakly as it lacks a Party mandate.

As it became increasingly clear that a new climate regime would follow a different logic than primarily establishing mandatory emissions reductions, it would instead provide a framework for national pledges; the focus shifted from international distributional conflicts to what could be achieved in domestic contexts (Falkner, 2016). In the context of this emerging 'nationally-driven' architecture, non-state and subnational actors could *inter alia* contribute to the implementation of national climate policies, for instance, by leveraging additional means. Moreover, international organizations, and several key governments (for instance the COP20 and 21 Presidents of Peru and France, respectively), saw an opportunity to engage subnational and nonstate actors, to showcase 'solutions' that make more ambitious pledges plausible, and to demonstrate that large sections of society - particularly businesses - were in favour of decisive governmental action and an ambitious international climate agreement.

In November 2013, an 'International Cooperative Initiatives' portal was launched, featuring 60 - mostly mitigation - actions by a variety of partnerships that include both state and non-state actors. The portal aimed to exchange information to create new cooperative interactions in support of Workstream 2 (WS2) of the Ad-Hoc Working Group of the Durban Platform (ADP), the negotiations track towards pre-2020 action. This dataset was further expanded by Ecofys, the Cambridge Institute of Sustainability Leadership, and the World Resources Institute, with support from the Nordic Council of Ministers as the 'Climate Initiatives Database' (2014-2016), and since 2016 continued as the 'Climate Initiatives Platform' (CIP), hosted by UNEP. CIP currently features 222 entries, of which 33 are categorized as addressing climate adaptation.

The GCAA as a high-level process to engage non-state and subnational climate actions began in earnest with the 2014 UN Climate Summit, when the UN Secretary General and the summit's organizing team sought to mobilize new and enhanced climate non-state, subnational and cooperative initiatives across eight 'action areas'. Initially these areas were based on sectors with high mitigation potential, such as transport, energy, and forests. However, the summit organizers were aware of a (political) urgency to better accommodate development needs and focus on the needs of developing countries, particularly, low-income economies. As a result, 'resilience' was added as a separate climate action area (Chan, 2015). The UNCS set an important precedent, by combining high-level championing, non-state and subnational engagement, and significant attention for non-mitigation contributions.

² http://unfccc.int/adaptation/workstreams/nairobi_work_programme/items/4623txt.php, retrieved 6 May 2017

Following the UN Climate Summit, the Peruvian and French governments, (presiding COP20 and 21) together with the UN Secretary General and UNFCCC Secretariat, set out to continue the GCAA by forming the Lima-Paris Action Agenda (LPAA), with the purpose 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). Moreover, the 2014 Lima Climate Conference saw the launch of the Non-state Action Zone for Climate Action (NAZCA) to showcase, track, and gauge commitments to action by companies, cities, subnational regions, investors, and civil society organizations. While far from a comprehensive and multifunctional database (Chan and Pauw, 2014, Hale and Roger, 2014), NAZCA has become the central UNFCCC tool to showcase climate action, providing an overview of over 12,500 individual and cooperative commitments.

At the 2015 Paris Climate Conference, the LPAA presented 70 - the majority large-scale - climate actions, as well as a high-level climate action event. Particularly important for the continuation of the GCAA, was the fact that governments reiterated the NAZCA as a platform to register non-Party contributions, and agreed to install high-level climate action champions to continue mobilization efforts and the organization of high-level climate action events in the context of enhancing pre-2020 ambition. Moreover, the Paris COP decision extended the Technical Examination Process (TEP), in-session meetings that feature non-state and subnational solutions, to also start dialogues on adaptation alongside an ongoing dialogue on solutions with high-mitigation potential (Chan, Brandi, & Bauer, 2016).

The Post-Paris climate action agenda took shape in the 'Marrakesh Partnership for Global Climate Action' (MPGCA), with the the French and Moroccan high-level climate action champions, Laurence Tubiana and Hakima El Haité, presenting a roadmap in June 2016 in which they declare: *"We also wish to ensure that, 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"*³.

However, the MPGCA is confronted with considerable challenges in the post-Paris climate process. The GCAA had been instrumental in galvanizing action towards the Paris Climate Conference, pressuring governments to reach an ambitious agreement. In this light, the GCAA may have lost some of its relevance. Moreover, it has become clear that the bottom-up logic of post-Paris climate governance has not yet mustered sufficient government pledges to set the world on course to a 2C, let alone 1.5C, development pathway. Since the first NDC cycle starts in 2020, non-state and subnational actors are pivotal for demonstrating plausible action in the short term and to encourage enhanced NDCs (Chan, Brandi, & Bauer, 2016). Subsequently, the pressure is on for non-state and subnational actions to resonate better with national levels of governance, in terms of implementation but also in overachieving current NDCs (Hermwille, 2016). In this light, the GCAA also needs to effectively address adaptation, as a large majority of NDCs (85%) explicitly refer to adaptation.

In the following we analyze a sample of 105 climate actions launched at the 2014 UNCS in New York and under the LPAA to: better understand the role of adaptation actions in the GCAA; how adaptation actions compare to mitigation actions in terms of output performance; and whether scaled climate actions are addressing countries that are most vulnerable to the already occurring impacts of climate change.

3. Analysis

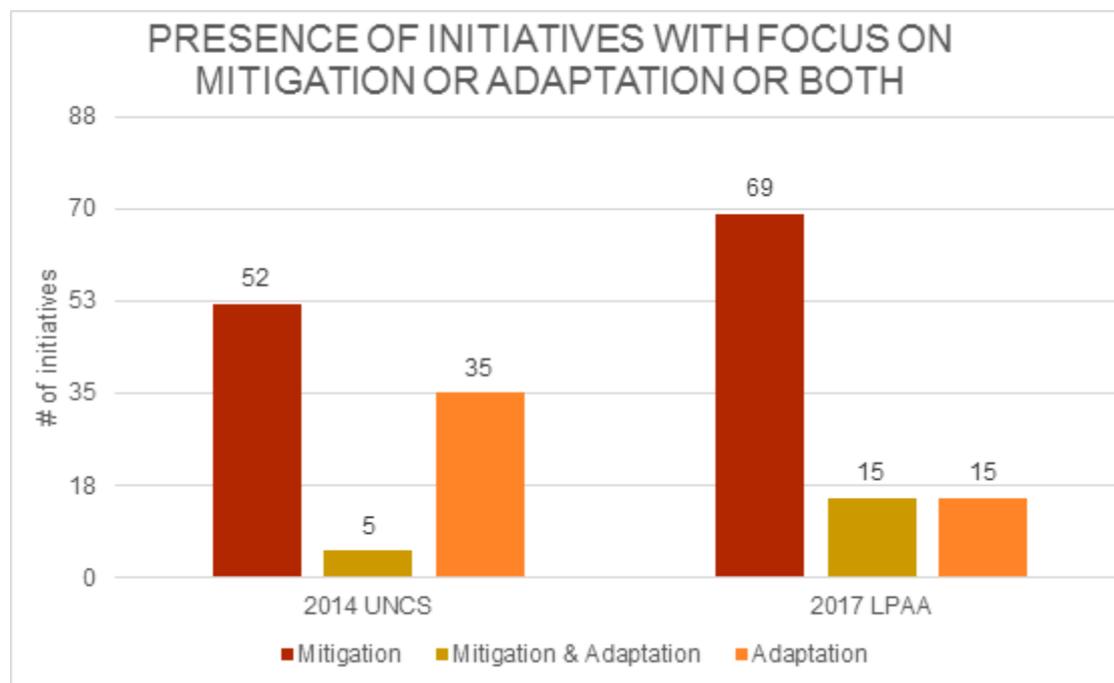
³ <http://newsroom.unfccc.int/climate-action/global-climate-action-agenda>, retrieved 6 May 2017.

In order to answer the research questions, we conducted a comparative analyses, utilizing two sample sets: 52 UNCS actions and 70 LPAA initiatives, a number of actions were featured both in the UNCS and LPAA, making for a total of 105 climate actions. In our analyses, we compared the UNCS and LPAA samples, allowing us to better understand to what extent adaptation and mitigation actions have been featured in the GCAA, and to gauge the relative performance and geographic focus of these initiatives.

3.1 Presence of adaptation in the Global Climate Action Agenda, from UNCS to LPAA

The growing emphasis on adaptation and non-mitigation aspects of climate action in the GCAA suggests a growing attention for, and presence of climate adaptation actions. However, the proportion of adaptation actions in the LPAA set declined significantly as compared to the UNCS (Figure 1). The UNCS, as the first high-level mobilization effort, decidedly broke with the mitigation-oriented UNFCCC's International Cooperative Initiatives portal - with conference organizers investing in considerable efforts to highlight resilience actions, as well as actions in the agriculture sector, many of them addressing adaptation. The share of adaptation actions (35%) and the actions that equally address both mitigation and adaptation (5%) were still no match for mitigation actions (52%), but at the very least it constituted a significant improvement compared to ICIs. LPAA did not continue the trend, instead almost 70% LPAA initiatives focused on mitigation, while only 30% either focused on adaptation, or on both adaptation and mitigation.

Figure 1



Despite continued emphasis in the GCAA, for instance in the post-Paris roadmap, the share of featured adaptation actions in the GCAA declined between 2015 and 2017. We offer two possible reasons in the light of orchestration theory. First, the principal orchestrator is highly relevant. The UNCS was mainly orchestrated by the Executive Office of the Secretary General (EOSG), based at the UN headquarters in New York. As a general level of administration within the UN system, the EOSG as well as Secretary General Ban Ki-moon, declared ownership of the orchestration effort which helped at integrating both climate and sustainable

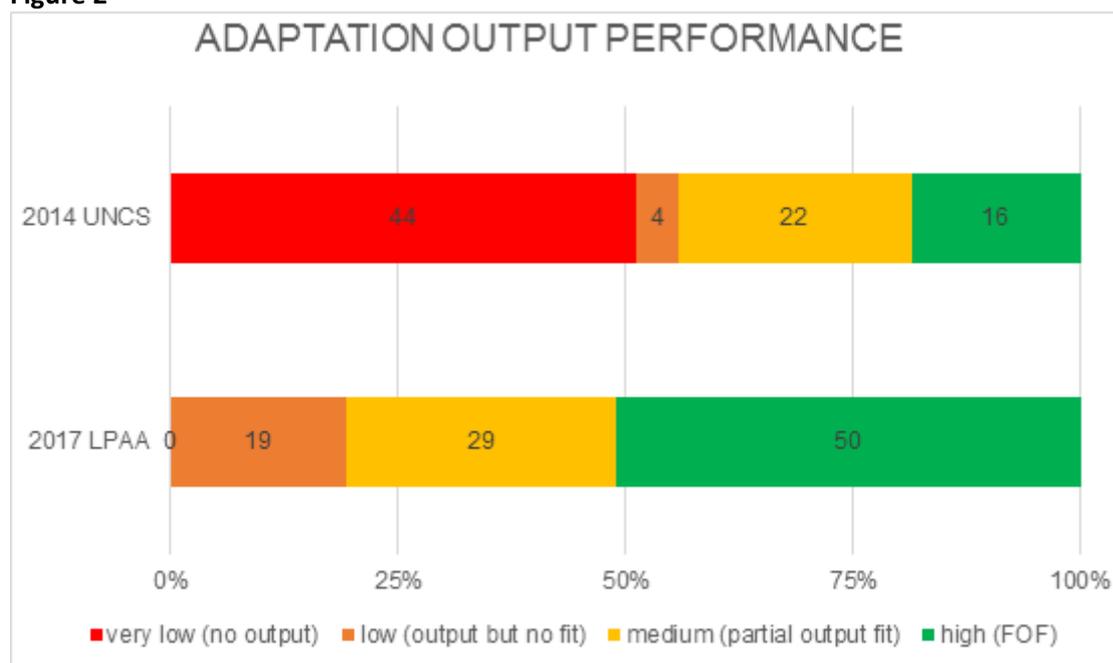
development concerns. Although the EOSG was a partner in the LPAA, it was co-owned with the UNFCCC Secretariat and the Peruvian and French governments. The COP presidencies were particularly concerned with building a 'positive agenda' to pressure governments on the short term (Widerberg 2017). The emphasis was less on supporting underperforming initiatives or kick-starting new initiatives, rather, the showcasing of more established (often mitigation focused) initiatives would help provide a positive action narrative to pressure governments into adopting an ambitious agreement. Related to this, and the second reason for the relative decline of adaptation in the GCAA between 2015 and 2017, is the fact that non-mitigation actions underperformed - making for less attractive showcases and readily applicable solutions.

Out of the 52 UNCS climate actions, 18 continued to be featured in the LPAA. The large majority of UNCS resilience actions underperformed in terms of output effectiveness, with many not having produced any output at all since one year of their launch (also see: Chan et al., 2015). 15 out of 18 initiatives also featured in the LPAA primarily address mitigation, while three focused equally on adaptation. Notably, 18 performed well, producing outputs that fit at least some of their functions. This suggests that partners in the LPAA had a good understanding of which initiatives could deliver, at least in the relative short term. Moreover, instead of focusing on supporting actions that may have needed more time and capacities to become effective, the LPAA focused on showcasing 'good practices'.

3.2 Performance of adaptation actions

The output performance of adaptation actions under the LPAA has significantly improved compared to those launched at the UNCS (Figure 2). Almost half (44%) of the 23 initiatives focusing primarily on adaptation produced no attributable output in the first year after their launch at the UNCS; by contrast, almost 80% of LPAA adaptation actions have delivered outputs consistent with some or all their functions.

Figure 2



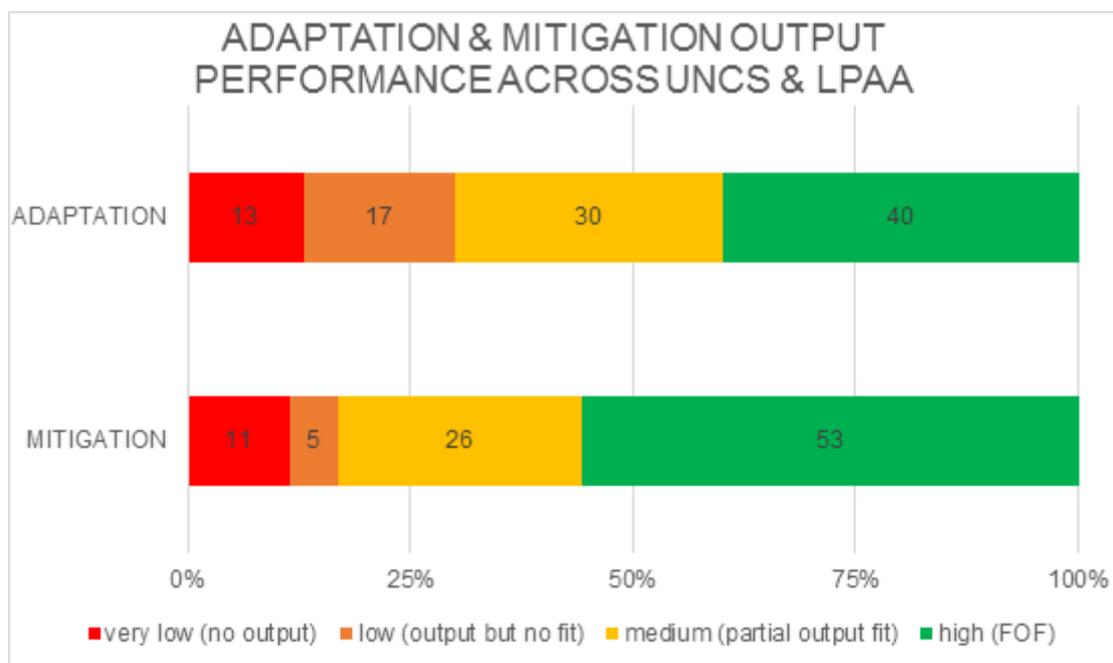
It is important to note, however, that the stark improvement between 2014 and 2017 in output performance of adaptation actions under the GCAA is not due to improving pre-

existing initiatives. The LPAA took over only three adaptation initiatives (see above). One of the reasons why non-mitigation actions underperformed compared to mitigation actions in the UNCS set was that they were relatively novel, and needed more support, capacity, and time to become operational. With the LPAA, however, the GCAA did not evolve to include supportive functions. Rather the underperforming, non-mitigation actions were typically left out of the continued action agenda. This places considerable limits on tracking the performance of individual actions, and ultimately leads to a more generalized understanding of determinants of effectiveness. The current lack of data also prevents a better understanding of whether initiatives that previously underperformed moved beyond the conceptual stage.

The fact that the LPAA included adaptation actions that performed relatively well in terms of outputs may be indicative of the general growth of non-state and subnational climate efforts, as such it may have been “riding the wave” of subnational and non-state climate action.

We also looked at the output performance of the total set of adaptation actions compared to mitigation actions (Figure 3). Despite the LPAA managing to capture a better performing set of adaptation actions, overall, mitigation actions still perform significantly better than adaptation actions, with more than half (53%) of all mitigation actions demonstrating high output performance (producing fitting outputs for all functions associated with an action). A year after their launch about 30% of adaptation actions perform poor (producing outputs that do not fit an action's function) or very poor (no output).

Figure 3



One reason for the relative underperformance of adaptation action may be the fact that most of them seek to implement at the local level, usually in developing countries, and often with limited competence to engage state and non-state capacities, finances, and experience to work across different sectors in multistakeholder settings (see Koehn and Rosenau, 2002).

3.3 Focus on vulnerable countries and scaling?

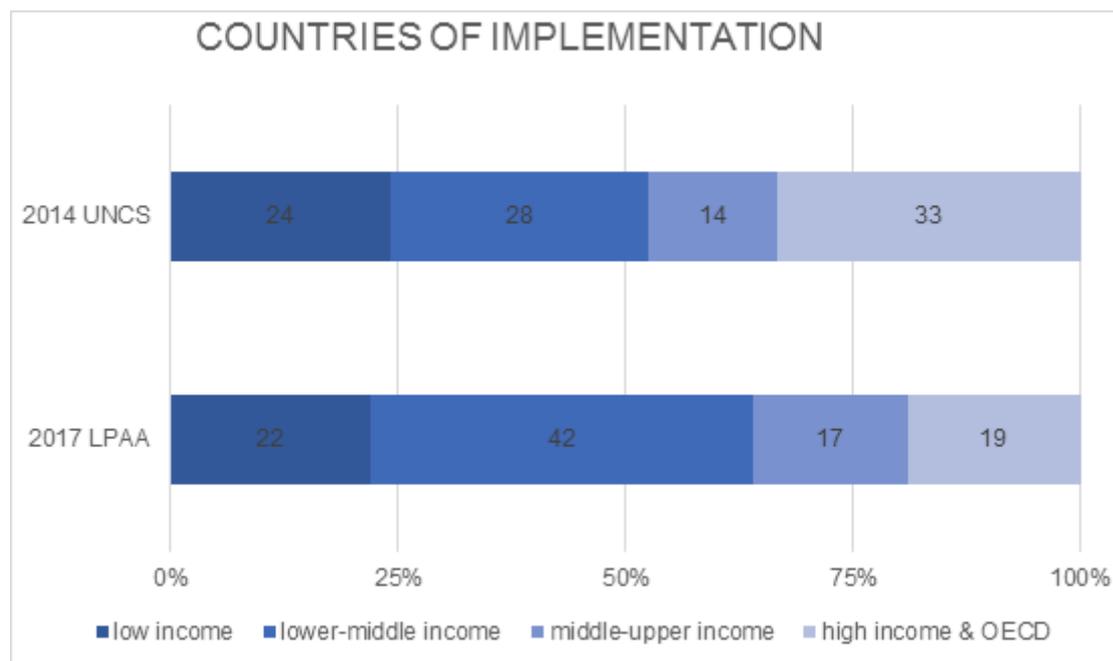
The investigation of two defining moments, the UNCS and the LPAA, allows for a unique assessment of whether and to what extent the GCAA has increased in geographic

scope, and whether they are specifically targeting in countries that are particularly vulnerable to the impacts of climate change.

Actions launched at the UNCS promised to implement across both developed and developing countries in a relatively balanced manner (Chan et al., 2016); similarly, climate actions presented in the LPAA reported that they plan to implement in all countries around the world except Liechtenstein (Galvanizing the Groundswell of Climate Actions 2015). In our study, we collected data on where the climate actions plan their implementation ('planned countries of implementation'), as well as data on where the outputs were actually produced ('actual countries of implementation'). This distinction helps us to track to what extent climate actions have expanded their operations, and helps us to indicate whether actual implementation is at par with the planned geographic scale of implementation.

Looking at where outputs were produced among UNCS actions, implementations disproportionately took place in high-income countries (33%), while low income countries (24%) were relatively underrepresented (Figure 4). Patterns of implementation of LPAA actions are markedly different, with the bulk of climate actions focusing on lower-middle income countries (42%). The growing focus on lower-middle income countries between 2014 and 2016 could be encouraging from an adaptation and resilience perspective, as these countries are often among the most vulnerable countries in the world.

Figure 4



In the following we focus on a limited set of 18 climate actions that are both part of the UNCS and the LPAA. Their inclusion in both processes allows the tracking of their implementation over time.

No. of actual locations of implementation ('countries of implementation')				
	low-income	lower-middle income	upper-middle income	high-income countries
UNCS (2014)	13	36	34	53
LPAA (2017)	27	70	51	75

change	+15 %	+32 %	+20%	+17%
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Since their launch at the UNCS in 2014, climate actions that have also become recognized under the LPAA have increased implementation operations across both developed and developing countries; we accounted for 136 locations in 2014 and 223 in 2016; indicating that this sample of climate actions are scaling their operations. The increase is most substantial in middle-income countries; we observe a growth especially in outputs produced in lower-middle income countries. Nonetheless, implementation is still overrepresented in high-income countries. Moreover, despite the increase of implementation across developed and developing countries, at the time of their launch at the UNCS, the number of countries where activities were planned was still higher. In other words, climate actions have not yet lived up to their full commitment in terms of geographic scale, which may just be a matter of time.

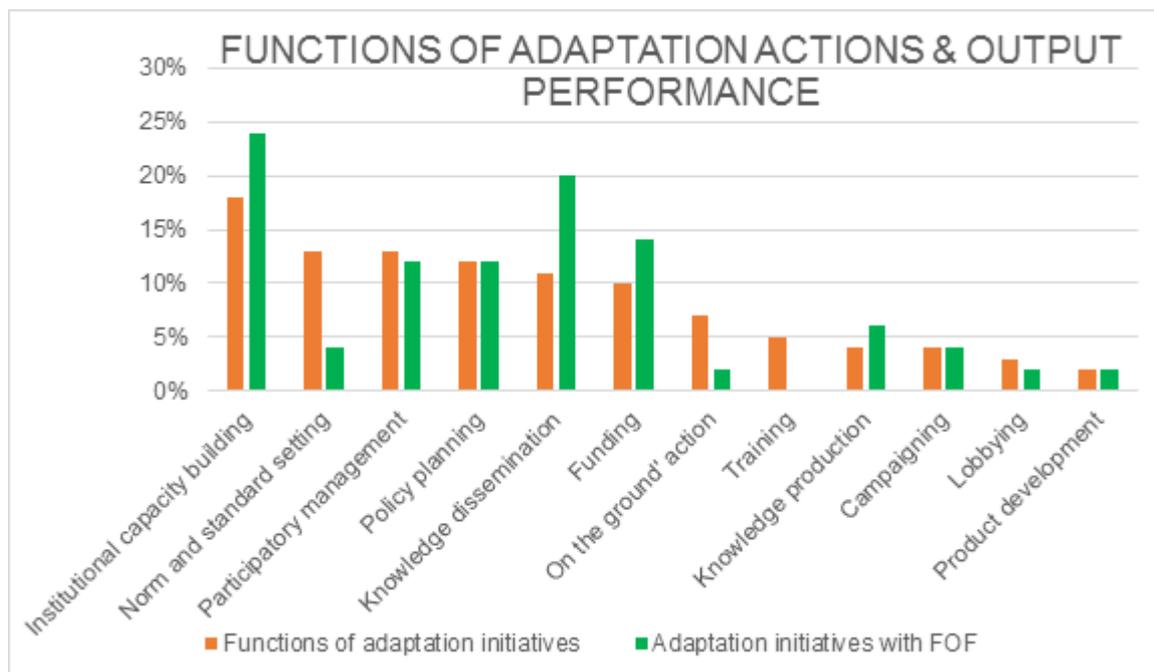
Climate actions seem to be scaling up their activities across lower- and upper middle-income countries. This may be cause for optimism, as many middle-income countries, especially lower-middle income economies, are already impacted by the effects of climate change. However, implementation in low-income countries, where the most vulnerable communities are located, is comparatively moving ahead slower. Moreover, out of the 18 climate actions in this sample, only three are addressing adaptation either as a main benefit, or focus equally on both adaptation and mitigation.

3.4 Characteristics of adaptation actions

Climate adaptation actions in the GCAA are very diverse, both in organizational and functional terms. However, we identified some widely shared characteristics. Despite the emphasis on engaging private actors such as businesses and investors at the UNCS and in the LPAA, initiative for taking climate action overwhelmingly lies with public and publically funded actors. The large majority of adaptation actions 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 sector (42%), followed by actions in disaster management (24%) and in trade and investment (15%). Perhaps surprisingly, the GCAA does not feature adaptation actions in forests or biodiversity action areas - as defined at the UNCS.

Adaptation actions vary widely in terms of the type of governance functions they seek to fulfil (see Figure 5). 18% of adaptation actions aim to build new social institutions (with or without legal status) or 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*). The distribution of actions across functions, however, does not necessarily match with effectiveness (Figure 5). Adaptation actions that perform particularly well in terms of output effectiveness often aim at institutional capacity building, and/or knowledge dissemination. Although a substantial number of actions aim at norm and standard setting, output effectiveness is relatively low regarding this function. 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. Conversely, some functions performed relatively well (measured by FOF), including the provision and raising of funds and the dissemination of knowledge.

Figure 5



Functions such as training and technical/on-the-ground implementation are underrepresented among actions with a high output performance. These functions, however, are crucial to improve resilience, especially in vulnerable countries.

5. Discussion and conclusions

5.1. Summarizing key findings

This study addresses knowledge gaps with regard to transnational adaptation governance. For instance, most studies focus on ex-ante potential of climate actions, rather than on the actual effects and their effectiveness. Moreover, no studies have focused on the role of adaptation actions in the most prominent and high-level processes to mobilize subnational and non-state actions, the GCAA (successive orchestration initiatives under the UNCS, LPAA, and MPGCA). Our study, based on (ex-post) output effectiveness and geographic implementation data, allowed us to more accurately indicate the relative performance of adaptation actions as well as to track implementation over a large set of actions over time. By doing this, we contribute to a better theoretical understanding of the orchestration of climate actions and what this entails for adaptation governance.

We addressed four underlying empirical questions.

First, to what extent have adaptation actions been featured in the GCAA? Despite an early emphasis on adaptation in mobilization efforts in the context of the UNFCCC, and initial strong emphasis on non-mitigation aspects of climate action at the UNCS, the share of adaptation actions in the GCAA has declined under the LPAA. An earlier study on UNCS initiatives suggested that non-mitigation climate actions (resilience and adaptation) underperformed compared to mitigation actions (Chan et al., 2015). Our current findings show that LPAA orchestrators, the French and Peruvian governments, together with the EOSG and the UNFCCC secretariat, had a good understanding of which initiatives might deliver in the relative short term, and focused on showcasing successful (often mitigation) actions

instead of supporting actions that may have needed more time and capacities to become effective.

Second, we looked at how adaptation actions perform in terms of output effectiveness, employing the Function-Output-Fit methodology. We observed a stark improvement in output performance of adaptation actions under the LPAA as compared to actions launched at the UNCS. However, mitigation actions still perform significantly better than adaptation actions. The climate actions launched at the UNCS were relatively novel, and needed more support, capacity, and time to become operational. The GCAA however, did not evolve to include supportive functions. Rather the underperforming, usually non-mitigation, actions were left out of the continued action agenda. The better performance of adaptation actions under the LPAA, therefore, cannot be attributed to effective support of adaptation actions. Rather the LPAA orchestration specifically chose a more effective - and smaller sample - of adaptation actions.

Third, we investigated whether climate actions have scaled up their operations since the launch of the UNCS and whether they target countries that are most affected by climate change impacts. Over a limited set of climate actions that were both part of the UNCS and the LPAA, we found that the scale of implementations has increased, especially in lower and middle-income countries. It seems that the stark geographic imbalance in implementation across developed and developing countries among UNCS climate actions (Chan et al. 2016) has somewhat improved. This finding suggest that the initial implementation activities take longer in developing countries. However, implementation in the least developed countries is still lagging. This should be an important matter of concern to the GCAA as adaptation and resilience are most urgent in these countries.

5.2. Reflections on orchestration

Finally, we turn to the question on how adaptation actions can be strengthened in the context of the GCAA. Orchestration has been a means to increase non-state and subnational engagement and to strengthen the effectiveness of climate governance (Chan et al., 2015; Hale and Roger, 2014; Slaughter, 2017). The GCAA, as well as various studies on climate actions (Blok et al., 2015; Hsu et al., 2015; Graichen et al., 2016; UNEP, 2016; Pauw et al., 2016; Dzebo and Stripple, 2015), assume that orchestrated actions can fill various gaps, most notably to help close the climate mitigation gap, but also climate financing gaps. Orchestration, however, is a multifunctional mode of governance - which could serve political goals, as well as problem-solving. Within one non-state mobilization process, multiple orchestration functions could be distinguished, such as: the *recognition* of non-state contributions, the *brokering* of new collaborative efforts, the *tracking of progress* on implementation of non-state commitments, the provision of *material* and *ideational support* for existing climate actions, the facilitation of *learning*, et cetera. Our analysis demonstrates that the GCAA only engages with a very limited set of orchestration functions. While new collaborative efforts were brokered towards the UNCS, there was no function to support them, nor to facilitate learning between different actions. The fact that many of the underperforming initiatives (often adaptation and resilience oriented) were dropped in the ongoing GCAA, reveals an orchestration strategy that is not only linked to a problem-solving functionalist logic, but also a political motive to demonstrate success and to create a positive narrative in the context of the UNFCCC, and towards the Paris Climate Conference.

In a post-Paris governance context, the need to build up pressure on governments to produce on an agreement, and to inject a positive narrative in negotiations is less urgent. Negotiations are shifting towards implementation, particularly implementation at the

national levels. In this context, a successful continuation of the GCAA (for example, the MPGCA) should shift its focus from solely showcasing success, to facilitating actions, to help governments implement their targets, and to increase the plausibility of more ambitious climate policies. A shifting focus on national implementation should also be accompanied by a renewed focus on adaptation. This is not only because when mitigation is delayed, the focus needs to shift to adaptation (Hens, 2014). Adaptation - in contrast to mitigation - is a more localized challenge, at the national and subnational level. Moreover, the large majority of NDCs, especially from developing countries, make strong references to adaptation. Credible adaptation, both by non-state and subnational actors, is therefore key to implementing NDCs, but also to maintain credible political commitment to adaptation in the context of the UNFCCC.

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