

Determinants for Effectiveness of Transnational Climate Actions: The 'Momentum for Change' Initiative

Master thesis (30 EC) by Friederike Eichhorn

Joint International Master in Sustainable Development

Track: Environmental Governance

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List of Abbreviations

CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalents
COI	Country of Implementation
DIE	Deutsches Institut für Entwicklungspolitik
GAFCA	Global Aggregator for Climate Actions
Gg	gigagram
GHG	green house gas emissions
ICT	Information and Communications Technology
INDC	Intended Nationally Determined Contribution
LULUCF	Land Use, Land-Use Change and Forestry
MEA	Multilateral Environmental Agreement
MfC	Momentum for Change
NAZCA	Non-State Actor Zone for Climate Action
NGO	Non-governmental Organization
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary least squares
PET	Polyethylenterephthalat
TCA	Transnational Climate Action
UN	United Nations
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

Summary

Despite the most recent success of COP 21 in Paris, aggregated INDCs are far from sufficient to keep global warming below 2 °C, let alone 1,5 °C. Can transnational climate action (TCA) by non-state and subnational actors bridge this gap? Within the research framework of global environmental governance, this project examines the effectiveness and its determinants of 56 TCAs that are part of the 'Momentum for Change' activity database by the United Nations Climate Change Secretariat.

The research project supplements the still small collection of large-n studies that exist on the subject. It builds a comprehensive database on TCA with a focus on developing countries, which are so far underrepresented in literature. And it offers one among few ex post estimations of TCA's potential impact.

Building on the theoretical concept of regime effectiveness, the project first assesses the institutional quality and capacity of the TCAs themselves before evaluating their levels of output and achievements. Subsequently, the geographic patterns of the different types of partners and implementation activities are examined. Building on the results of the assessment, the question is raised whether the institutional set up or the lead partners determine the variation of effectiveness measured by output performance and achievements.

Data gathering focused on an online survey, which was sent out to all 445 climate actions of the MfC activity database out and achieved 56 responses (12,6 %). Data analysis was conducted descriptively, econometrically, and qualitatively.

Only a third of the TCAs were found to fulfil all assessed quality criteria. In contrast, all 56 TCAs are, indeed, producing output and a large majority produces outputs that partially or fully corresponds their functions. Cautious estimations place aggregated achievements in terms of GtCO_{2e} of 12 TCAs in a per thousand range of the global emission gap for a 2 °C outcome until 2025.

The linear regression analyses revealed little to no explanatory power of lead partners and institutional quality and capacity on the varying levels of effectiveness.

Based on the analysis of geographic patterns of partners, steering, and implementation activities the prevailing impression of Northern dominance in transnational climate governance cannot be confirmed, neither for implementation nor for leadership.

The immense efforts necessary to keep global warming below 2 °C are likely to keep transnational climate action high on political and scientific agendas. The broad range of feasible, ambitious, and innovative solutions offered by the underlying sample of TCAs shows their transformative potential. More research is needed to further determine how this potential can be maximised.

1 Introduction

Global climate governance has become a topic of ever increasing importance and complexity. It is no longer solely a matter of nation-states' decision-making under the United Nations Framework Convention on Climate Change (UNFCCC). The global emission gap between the full implementation of all unconditional intended nationally determined contributions (INDCs) and the least-cost emission level for a pathway to stay below 2 °C is currently estimated to be 7 GtCO₂e (range: 5-10 GtCO₂e¹) in 2025 (UNEP 2015b). The pressing nature of the topic and the perceived inability of multilateral climate negotiations to achieve sufficient greenhouse gas mitigation to reach the 2 °C target require additional action, innovative approaches and consistency from a broad range of non-state and subnational actors. The Paris Agreement and the Paris Decision, agreed up on at COP 21 in 2015, reiterate the necessity of non-state actor engagement "to uphold and promote regional and international cooperation in order to mobilize stronger and more ambitious climate action by all Parties and non-Party stakeholders, including civil society, the private sector, financial institutions, cities and other subnational authorities, local communities and indigenous peoples." (UNFCCC 2015, 2). Furthermore, the COP "invites the non-Party stakeholders (...) to scale up their efforts and support actions to reduce emissions and / or to build resilience and decrease vulnerability to the adverse effects of climate change and demonstrate these efforts via the Non-State Actor Zone for Climate Action platform" (NAZCA) (UNFCCC 2015, 19).

Transnational climate action (TCA) by non-state and subnational actors can be understood as new forms of private climate governance institutions in the context of global climate governance with the aim to contribute to a low-carbon and climate resilient future. These new forms of private climate governance institutions are seen as a "solution to deadlocked intergovernmental negotiations, to ineffective treaties and overly bureaucratic international organizations, to power-based state policies, corrupt elites and many other real or perceived current problems of global governance" (Pattberg et al. 2012). Additionally, they are perceived as "innovative form of governance that can pool together diverse expertise and resources from civil society, government and business sectors" with the potential to operationalize internationally set targets and translate them according to local realities (Bäckstrand 2006).

A tremendous amount of private climate governance institutions emerged over the past decades that is hoped to help achieve the international mitigation and adaptation targets. The question of interest is whether they can contribute to global climate targets and eradicate the shortcomings of intergovernmental efforts.

In contrast to climate commitments on national scales, commitments by non-state and subnational actors are not continuously tracked and aggregated so far. This lack of information prevents well-founded estimations on how private climate governance institutions actually contribute to achieving the 2 °C. Further, the question may be raised whether they are part of or additional to national climate commitments.

Even though TCA by non-state and subnational actors is not an entirely new phenomenon there still exist large knowledge gaps on how effective they are and what drives their success or failure. The diversity of institutional characteristics, geographic scope, partners, functions, aims and problems addressed constitute the challenge of finding common and comparable

¹ Range based on results of modeling with different scenarios.

assessment measures. This lack of comprehensive and comparable overviews complicates the assessment of their intended and unintended effects, and their influence on multilateral processes (Widerberg and Stripple 2016).

The objective of this research project is to establish a comprehensive source of information on TCAs that are part of the Momentum for Change (MfC) activity database of the United Nations Climate Change Secretariat.

An online survey was sent out to 445 TCAs of the MfC activity database and achieved 56 responses (12,6 %). Data collected through the online survey helped to establish a comprehensive database and assess the TCAs on three levels: institutional quality and capacity, output and achievements. The MfC sample has a high share of CA in developing countries. Since TCA in developing countries is so far underrepresented in literature, the database contributes to a better understanding of institutional characteristics, geographic patterns of partnerships and implementation activities, and performance of TCA in a development context. Current literature in the field of private climate governance suggests a dominance of northern stakeholders (Chan, Falkner, et al. 2015; Pattberg et al. 2012). This research project looks at whether that holds true for the sample under investigation.

By widening the information base on TCAs this research project follows the overall motivation to help answering the question, whether TCA by non-state and subnational actors has the potential to meaningfully contribute to the global climate targets.

In sum, the research project contributes to answering the following questions:

1. How effective are the transnational climate actions that are part of the MfC sample with regard to their levels of institutional quality and capacity, output, and achievements?

Sub question: Does the level of institutional quality and capacity correlate with the levels of output and achievements?

2. What geographical patterns characterise the cooperation of partners within the individual climate actions?

Sub question: Does the sample confirm a dominance of northern stakeholders?

3. Do institutional quality and capacity and the partners involved in the climate actions determine the level of output and achievements?

Sub question: If not, what other, and if yes, what additional factors hinder or favour the performance of TCAs?

The project has been carried out in cooperation with the German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE), and the UN Climate Change Secretariat. DIE, in cooperation with the London School of Economics, previously developed the Global Aggregator for Climate Actions (GAFCA) database and generally seeks to contribute to research on non-state climate actions. The UN Climate Change Secretariat initiated the 'Momentum for Change' (MfC) initiative. MfC recognizes innovative and transformative solutions from all over the world that tackle problems such as climate change, but also wider economic, environmental and social problems (United Nations Climate Change Secretariat 2016). The best of these cases are annually awarded as 'Lighthouse Activities', setting best practice examples from an UN perspective². The UN Climate Change Secretariat operates

² Selection criteria set up by the UN Climate Change Secretariat are introduced in more detail in Chapter 4.1

the initiative since 2011. MfC was motivated by the urgent need to take immediate action and the rather disappointing outcome of the COP 15 in Copenhagen in 2009 (L. Davila, personal communication May 13, 2016). The objective of the initiative is to raise awareness of the multitude of on-going climate action and change the mood towards a more optimistic and ambitious attitude with regard to future international climate negotiations under the UNFCCC. Without deliberate focus on side of the UN Climate Change Secretariat (L. Davila, personal communication May 13, 2016), MfC is dominated by climate action in southern and developing countries, which makes the sample especially suitable for this project as outlined above.

The thesis is divided into seven chapters. Chapter 2 provides the theoretical background of the project as well as an overview of current scholarly work in the field of TCA by non-state and subnational actors. Chapter 3 introduces the research design and methodology of the project. In Chapter 4 results are analysed in three steps: descriptively, econometrically, and qualitatively. Finally, Chapter 7 concludes with a brief summary of the main findings and an outlook for future research needs.

2 Literature review

This chapter is divided into three sections. The first section provides the definition for the research objects. Section 2 introduces the theoretical framework of the research project and the theoretical concept of regime effectiveness, which is used as a basis for assessing the TCAs. Section 3 takes a look at recent scholarly work on transnational climate governance approaches pointing towards a knowledge gap on TCA in developing countries. The three sections provide the essential components for the research design of this project.

2.1 Terminology

The terminology used to refer to non-state and subnational actors' engagement against climate change varies a lot in relevant scholarly work: (public-private) partnerships, (cooperative) climate initiatives, climate actions, transnational climate governance initiatives, etc. The research objects in this project are the individual climate actions within the MfC initiative. For the course of this project they will be referred to as 'transnational climate actions' (TCAs). They are examples for new transnational climate governance (TCG) approaches. TCAs are characterized by activities between or beyond national boundaries, executed by stakeholders other than states that are Party to the UNFCCC, and thus also referred to as "non-Party stakeholders". Actors include subnational entities such as cities and regions, as well as non-state actors in form of non-governmental organizations (NGOs) and international organizations, multinational corporations, small and medium enterprises, civil society actors, investors, indigenous communities and other societal groups. These actors can both act individually or in collaboration. This definition does not exclude central governments from participating in TCAs. Indeed many of the more successful actions are based on cooperation between government and non-governmental actors. Still the main drivers come from actors other than central government (UNEP, 2015).

2.2 Theoretical Framework

2.2.1 Regime theory

The research project is empirically rooted in the international regime theory as part of the international relations discipline of political science. The research project examines the role of non-state and sub-national actors in the political arena of governing global climate change. While international relation theories for a long time focused on nation states as the single most important players and governors of international affairs, the arena has opened up widely during the past two centuries. Multiple actors gained access and importance in governing global challenges: networks of experts, environmentalists, multinational corporations and businesses, new agencies and intergovernmental bureaucracies (Bäckstrand 2006; Biermann and Pattberg 2012; Karlsson-Vinkhuyzen and McGee 2013). Originally however, international relation theories focussed on states as key actors in international cooperation (Hasenclever, Mayer, and Rittberger 1997) and examined the influence of institutions on state actions as well as causes for institutional change (Keohane 1989; Young 1986). Following Keohane's definition, institutions are "persistent and connected sets of rules (formal and informal) that prescribe behavioural roles, constrain activity, and shape expectations" (Keohane 1989). In this sense, institutions build the explanatory frame for understanding patterns of intergovernmental cooperation.

Keohane assumes international institutions to take shape in one of three forms: First he refers to formal intergovernmental or cross-national nongovernmental organizations, which are purposive entities and bureaucratic organizations characterized by explicit rules and specific assignments of rules to individuals and groups. These kinds of institutions are capable of monitoring activity and of reacting to it. They are deliberately set up and designed by states. The second form of institution is described as an international regime; also characterized by explicit rules, agreed upon by governments. International regimes pertain to particular sets of issues in international relations. The third kind of institution is referred to as a convention. In contrast to the previous forms of institutions conventions are informal institutions, with implicit rules and understandings that shape the expectations of actors and increase their mutual understanding. Conventions provide a sound base for coordinating behaviour and can be understood as conditions for a successful establishment of international regimes or formal international organizations. (Keohane 1989)

Applied to the context of this research project, the establishment of the international climate regime started with the United Framework Convention on Climate Change (UNFCCC) drafted in 1992 and signed in 1994.

Levy et al. define “international regimes as social institutions consisting of agreed upon principles, norms, rules, procedures, and programs that govern the interactions of actors in specific issue areas” (Krasner 1983; Levy, Young, and Zurn 1995). Oran Young’s definition contributes to the definition by explaining international regimes as institutions forming around specific subjects and thus bringing together state parties interested in resolving or coordinating problems of international scope (Young 1980). Traditionally, members of regimes are sovereign states, who agree upon rules, roles and relationships that can be formally articulated and accompanied by explicit organizational arrangements. While sovereign states are the members of international regimes it is often private entities that carry out the actions governed by the regime (Young 1980).

Institutions differ with regard to their effectiveness and their resilience. According to Young (1980), international regimes range within two dimensions: their degree of formality and their degree of convergence of expectations of members. A classic regime is characterized by high degrees of both, formality and convergence in expectations. Classic regimes provide explicit rules and regular references to them at the one side and rule consistent behaviour at the other. These conditions provide the base for effective goal achievement and resilience towards power shifts and other exogenous influences. In reality however, rules and norms are often violated and denied when interests collide or outcomes generated by social choice mechanisms are disregarded. It is for that reason that measuring the effectiveness of regimes, compliance mechanisms and incentive structures has become a whole new field of research.

2.2.2 Global (Environmental) Governance

Regime theory at an early stage serves well as analytical framework for the early international climate regime that was established with the UN Framework Convention on Climate Change (UNFCCC, 1992). Biermann and Pattberg (2012) however argue, that three trends in current world politics require a further development and adjustment of the traditional state centred perspective. Firstly, the role of nation states as exclusive governing institutions is contested by the emergence of new and often powerful actors beyond central governments. New actor constellations and power relations are the result of this transformational globalization process. Second, the emergence of new actors is

accompanied by new mechanisms of transnational rule setting and rule implementation. Traditional intergovernmental cooperation is challenged by new transnational regimes, public-private partnerships, and market-based arrangements. Lastly, Biermann and Pattberg refer to new types of horizontal and vertical fragmentation and linkages in world politics that require an extended analytical framework for understanding. Moving climate governance beyond the state sets global environmental governance apart from traditional theoretical approaches of international environmental politics. (Biermann and Pattberg 2012)

Since the early 90s the term global governance gained popularity, offering a conceptual approach that takes these transformations of world politics into account. Global governance locates itself in the tradition of neoliberal institutionalism but is a contested term that leaves room for interpretation. In a broad sense Young defines global governance as “combined efforts of international and transnational regimers” (Young 1999, 11). James Rosenau calls it “the sum of the world’s formal and informal rule systems at all levels of community amount to what can properly be called global governance” (Rosenau 2002, 4). And Lawrence Finkelstein defines the concept as “governing, without sovereign authority, relationships that transcend national frontiers” (Finkelstein 1995, 369). The concept of global governance pays attention to an ever-increasing and complex network of global cooperation involving non-state actors and increasing global interdependencies: cross-border capital flows, international trade, CNN broadcasts, international migration, cross-border tourism, the diffusion of values and norms, transnational social movements, INGOs, and multinational corporations draw just a section of the image of globalization (Risse 2002). With their book on “Governance without Government” Czempiel and Rosenau (1992) describe a new form of problem solving oriented multilevel governance characterized in a non-hierarchical “system of rule” without formal authority or a world government (Rosenau and Czempiel 1992).

Global governance goes beyond analysing the cooperation of states and includes transnational actors as well as the coordination of the actors for the purpose of collectively solving global challenges. Opening up the political arena for new actors meets the requirement for additional expertise and action in the face of complex problems. At the same time it answers to slow and cumbersome intergovernmental cooperation and the perceived inadequate responses to globalization. From a functionalist perspective the hope is to increase the effectiveness of governance by including transnational actors and networks. Reality shows both, constructive and conflicting potential of this multi-level governing. In the context of globalization, traditional approaches of intergovernmental cooperation and international organizations are failing to address the increasing number of complex issues and transnational spillover effects. When looking at the subfield of global environmental governance, cities, counties, provinces, regions, civil society, and corporations respond to climate change independent or connected in networks to step in where the ‘official’ UN-sponsored negotiations and treaties fall short (Andonova and Levy 2003; Hoffmann 2011; Pattberg 2010). Climate change governance is no longer understood “as a matter of international cooperation addressing the challenge of a world of one atmosphere and a world of two hundred or so countries” (Widerberg and Stripple 2016). Widerberg & Stripple see this process also reflected by the shift from COP 15 to COP 21: whereas COP 15 – in vain – focussed on finding a fair, ambitious and binding treaty to move beyond Kyoto, COP 21 revolved more around how to represent, coordinate and account for the decentralized and diverse set of initiatives. Many initiatives were launched as response to the disappointing outcome of COP 15 and the unwillingness to accept stagnation in the face of urgently needed action. In contrast to the early regime theory transnational actors now co-govern along with state actors (Schäferhoff, Campe, and Kaan 2009). The intergovernmental and

transnational spheres of climate governance are increasingly linked (Chan, Brandi, and Bauer forthcoming in 2016): Loci of governance overlap and are closely connected by common memberships and platforms or the functionalist linkages of norm translation into implementation. The growing environmental multilateralism is hoped to result in mutual learning and diffusion of innovative policies through international and transgovernmental networks (Falkner 2013, 264).

In sum, opening up the governance arena to new actors can be seen as attempt to fill a gap left open by nation states slow-moving cooperation. The Momentum for Change initiative by the UN Climate Change secretariat is a recent and notable example for recognizing the value of bottom-up “innovative and transformative solutions that address both climate change and wider economic, social and environmental challenges” (United Nations Climate Change Secretariat 2016). Are these attempts effective and able to contribute to a climate resilient and low-carbon future?

Global environmental governance is a sub field in the sphere of global governance that well resembles the process of fragmentation, the increasing importance of non-state actors, and the constant transformation of roles and functions. For this reasons global environmental governance serves as theoretical framework for this research project (Biermann and Pattberg 2012; Biermann et al. 2009; Chan, van Asselt, et al. 2015; Karlsson-Vinkhuyzen and McGee 2013; Zelli 2011).

2.2.3 The theoretical concept of regime effectiveness

The following section introduces the theoretical concept of regime effectiveness. The importance of measuring the effectiveness of institutions and regimes has already been outlined in chapter 2.1.3. This chapter touches upon what exactly is the object of evaluation when assessing effectiveness. Although TCAs are no regimes themselves, the concept bears valuable approaches for their assessment.

Already in the mid-1990s studies on regime effectiveness had become „a driving force in the analysis of international relations“ (Zürn 1998) with a high share of environmental issues as research objects. Question rose on whether these complex institutions were actually working and capable of achieving solutions to the challenges they were set up to resolve and thus worth the effort spent on them. These questions are just as relevant when looking at the growing number of public private partnerships, climate clubs and initiatives and transnational climate actions.

Helm and Sprinz distinguish three prominent phases of research in the field of regime effectiveness that well resemble the process of international environmental regime foundation: Since the Stockholm Conference on the Human Environment in 1972, marking a watershed towards a truly international approach, numerous multilateral environmental agreements (MEA) emerged in the 1970s. These so-called first-generation agreements are framework conventions acknowledging a problem without setting specific targets and measures to cope with it. The first phase of research focused on examining conditions for the emergence of international regimes as instruments for managing and resolving international conflicts or problems. During the late 1980s, several second-generation agreements came forth containing more specific numerical targets and deadlines for emission cuts. Despite the fact that those targets were partly random and not well funded, their set up made it possible to observe and measure progress or lack of such. The second phase of research concentrated on the effectiveness of the established international regimes. In the 1990s more sophisticated MEAs, third-generation agreements were brought forth, dismissing the

“one-size fits all approach” with equal targets and timetables for all parties. Debates on cost-effectiveness and fairness resulted in a more nuanced and differentiated approach, considering the uneven economic development of different countries and world regions (Andresen 2013). The third phase of research on regime effectiveness focuses on the core question of whether international regimes actually matter (Helm and Sprinz 2000). Examining the effectiveness and its determinants of TCA, this research project locates itself in the third generation of more sophisticated and fragmented institutions set up to deal with the global challenge of climate change.

When examining regime effectiveness one essential question has to be posed: What exactly is the object of evaluation and against which standard is the object evaluated? Is the object of evaluation the regime itself or is it the consequences of the regime’s action, such as the degree to which it resolves the problem it was built up for (Underdal 1992)?

If the regime itself is the object of evaluation, the quality of its set up and therefore its capacity can be assessed on their ability to support effective realization of targets. The key learning from the above sections on regime theory and the definitions on institutions according to Keohane (1989) and Young (1980) is the fact that institutions differ and that those differences are likely to influence their effectiveness. The design of institutions can differ with regard to how explicit their rules are formulated and assigned, for instance in form of decision making processes that coordinate the activities of an institutions or in form of dedicated staff that ensures the execution of planned activities. And the quality of institutions can differ, such as the specificity of targets against which progress can be assessed and the reliability of monitoring arrangements.

If the consequences of a regime’s action is the object of evaluation one looks at the problem solving effectiveness: the better the achievements of the regime match with the original goal, the higher its effectiveness. Accordingly, “effectiveness is evaluated in order to understand the degree to and ways through which actors, instruments or policies achieve a stated policy goal” (Hegemann, Heller, and Kahl 2013). The approach of problem solving effectiveness considerably limits the comparability of research objects: the scope of underlying problems and set up goals can vary profoundly. The more malign the problem or ambitious the goal the harder it is to effectively resolve it. More intellectual and institutional capacity and a greater amount of political energy will be required to achieve the “same level of effectiveness” (Underdal 1992). Sometimes a partial solution to a very complex problem can be more meaningful than entirely resolving a rather narrow problem. Additionally, goals are often stated vaguely. “Health for all”, as pursued by the World Health Organization, is a very unclear standard against which to measure progress (Andresen 2013).

It seems reasonable to suppose that a good evaluation of the regime itself positively correlates with a good evaluation of the regime’s consequences. In other words, the more explicit the institutional structures, such as clearly formulated targets and rules on how to achieve the targets, the higher the problem solving effectiveness.

For the assessment of consequences of a regime, three criteria, based on Easton 1965, gained recurring presence in research on effectiveness: Output, outcome, and impact (Easton 1965). A strong output performance essentially measures the potential effectiveness. Output is a qualitative and therefore weak indicator in terms of validity, since it does not allow for any conclusions on quantitative outreach of a regimes’ activity. In contrast, outcome and impact are evaluation measures for the implementation and maintenance phase of a regime. Outcome measures the actual progress of pursued targets and is reflected in behavioural changes among target groups. The indicator serves better in terms of validity. The

methodologically most challenging indicator for measuring effectiveness is impact: the extent to which the object of evaluation was able to resolve the problem it was set up to deal with (Andresen 2013). For both, outcome and impact, researchers face severe challenges in establishing uncontested causal links between the regime's action and the observed or absent change of behaviour and target indicators.

The process of operationalizing targets, finding meaningful assessment criteria and indicators is challenging. When examining TCAs, global mitigation and adaptation agreements are often fragmented into a puzzle of on the spot targets determined by geographic, political, cultural, and many other aspects. Finding individual assessment criteria results in an analysis on case study micro level that can unfold meaningful insights but decrease comparability amongst TCAs. In sum, impact and outcome are especially hard to measure for large-n research projects. Finding assessment criteria that fit all TCAs can provide a general assessment on the macro level.

In sum, global environmental governance provides the theoretical framework for this research project by taking into account new actors in the global climate governance arena. Using the theoretical concept of regime effectiveness offers a sound basis for the assessment of TCAs.

2.3 State of the Art

Empirical insights into the patterns and characteristics of climate action are still scarce and build on a limited amount of large-n studies (e. g. Bulkeley et al. 2012; Chan, Falkner, et al. 2015; Hoffmann 2011; Hsu et al. 2015; Pattberg et al. 2012; UNEP 2015a). Since effectiveness started to become one of the core questions, researchers mostly had to rely on ex ante assessments of potential effectiveness due to a lack of ex post data. Ex post data are scarce for several reasons: Many initiatives have not yet been active long enough to draw conclusions on their performance. Furthermore, they often do not have coherent monitoring, reporting and evaluation arrangements resulting in a lack of transparency regarding their activities and performance. While the assessment of potential effectiveness can result in an overall optimistic attitude towards TCG initiatives (UNEP 2015a), the difference between potential and realized impacts could be substantial (Widerberg and Strippel 2016). This fear is supported by findings of Pattberg et al. (2012), who examined Partnerships for Sustainable Development and found that 10 years after their presentation at the 2002 World Summit on Sustainable Development a majority of the partnerships were not active or operative, did not have a website and lacked internal governance structure and funding (Pattberg et al. 2012, 178).

While climate change is a global challenge, its impact and the way it is addressed varies a lot between countries and regions. Those geographic patterns are closely linked to discourses about vulnerability, responsibility and cost-effectiveness (IPCC 2014, 1011). Consequences of climate change hit the poorest the hardest. Geographic disposition, lack of institutional or financial capabilities to react to or prevent catastrophic dimensions of changing climatic conditions make the poor the most vulnerable. At the same time developing countries are assumed to have high efficiency potential. With technological upgrades emission cuts could be achieved at relatively low costs compared to industrialized countries. In contrast, industrialized countries bear a historic responsibility, hold advanced technological capabilities, but have little more potential for efficiency enhancement. These aspects can be summarized as a continuous North-South-discrepancy. Politically, the increasing influence of transnational actors is not beyond dispute. Multiple empirical studies find that often

transnational climate governance initiatives and public-private partnerships have their headquarters, lead partners or focal points in industrialized countries (Bulkeley 2001; Bulkeley et al. 2012; Chan, Falkner, et al. 2015; Pattberg et al. 2012). As a result developing countries tend to perceive these new forms of climate governance to favour Northern agendas and interfere with own, partially less democratic, political processes.

Table 1 provides an overview of five existing scientific large-n studies on TCG initiatives and partnerships for sustainable development. The table points out two important aspects: the diversity of labels for examined research objects and the overall considerable North-South imbalance in existing large-n studies³. The imbalance is demonstrated by the dominance of developed countries in both, leadership positions and implementation destinations.

Table 1: Selection of scientific large-n studies on transnational (climate) governance

Study	Research object	Sample size	Geographic distribution of actors and implementation
Chan Falkner et al. (2015) (Global Aggregator for Climate Actions, GAFCA)	Climate Actions	52	Majority of climate actions coordinated from North America and Western Europe 49 % of actions are being implemented in low and lower-middle income countries
Pattberg et al. (2012)	Partnerships for Sustainable Development	348	Leadership of partnerships lies predominantly in industrialized countries 28 % of partnerships do not implement in OECD countries
Hoffmann (2011)	Climate governance experiments	58	88 % initiated by actors in the global North 12 % initiated by combination of actors in the north and South None in South alone
Bulkeley et al. (2012)	Initiatives in transnational climate change governance (TCCG)	60	87 % initiated by actors from global North 60 % of initiatives involve actors from global North and South 23 % involve only actors from global North 7 % involve only actors from developing countries
Michaelowa and Michaleowa (2016)	Transnational climate governance initiatives	109	35 % with zero development country participation 3 % for which the founding country is not an OECD country 1 % with partners from developing countries

Note: Own presentation

³ Some studies examine lead partner origin and implementation destination of TCG by countries' income categories, their membership in the OECD, or their status as (Non-) Annex I parties.

Besides databases on climate actions there are also some online platforms mostly installed and operated by the UN or international organizations trying to accumulate data on existing climate actions: The Non-State Actor Zone for Climate Action⁴ (NAZCA) is the largest among them, comprising over 11.000 transnational climate actions, and the Climate Initiatives Platform⁵ with 241 climate actions. A recent study by Hsu et al. in early 2016 revealed that also NAZCA had a blind spot when it comes to developing countries, including China and nations in Africa and Southeast Asia (Hsu, Cheng, and Weinfurter 2016). Finally, there is the “Momentum for Change” (MfC) activity database by the UN Climate Change Secretariat⁶, comprising roughly 445 climate actions with a focus on developing countries. The TCAs comprised in the MfC activity database serve as empirical sample for this research project. The following section justifies the choice for the ‘Momentum for Change’ sample as starting point for this research project in more detail.

Momentum for Change: The Sample

Momentum for Change (MfC) is an initiative spearheaded by the UN Climate Change Secretariat. The initiative aims to “shine light into the enormous groundswell of activities underway across the globe that are moving the world toward a highly resilient, low-carbon future” (United Nations Climate Change Secretariat 2016). For this reason the UN Climate Change Secretariat annually tenders the ‘Lighthouse Award’ that honours outstanding climate actions for their innovative, scalable and replicable approaches to climate change. Climate actions from all over the world apply for the award and both, winners and unsuccessful applicants, are collected in the MfC activity database. 48 of 445 climate actions have been awarded as Lighthouse Activities between 2011 and 2015. The database has four thematic categories: ‘Urban Poor’, ‘Financing for Climate Friendly Investment’, ‘Women for Results’ and ‘ICT Solutions’.

While the need for further knowledge on climate actions is widely acknowledged, finding accessible empirical data is challenging. Choosing a closed sample allows for a transparent and verifiable case selection that helps avoid any conceptual and empirical confusion. MfC offers a sample of climate actions with a high spatial and thematic diversity and a focus on developing countries. Using it thus helps to address the lack of empirical data on transnational climate governance initiatives in the development context, while it is still representative on a global scale. At the same time the MfC activity database consists of both small scale and big scale initiatives. Especially with regard to the latter, this promises interesting new insights, since they are normally underrepresented in large-n studies. Many small-scale climate actions in developing countries do not have a web presence and if they do have one, it is often not translated into English. This does not hold true for the climate actions that were included in the MfC activity database; they had to go through an English-speaking application process and provide information in English.

Furthermore, all climate actions in the activity database had to fulfil five criteria to enter the activity database.

1. They have to address climate change mitigation or adaptation;
2. They already have to be in the implementation phase or in the course of implementation;

⁴ <http://climateaction.unfccc.int/>

⁵ <http://climateinitiativesplatform.org/index.php/Welcome>

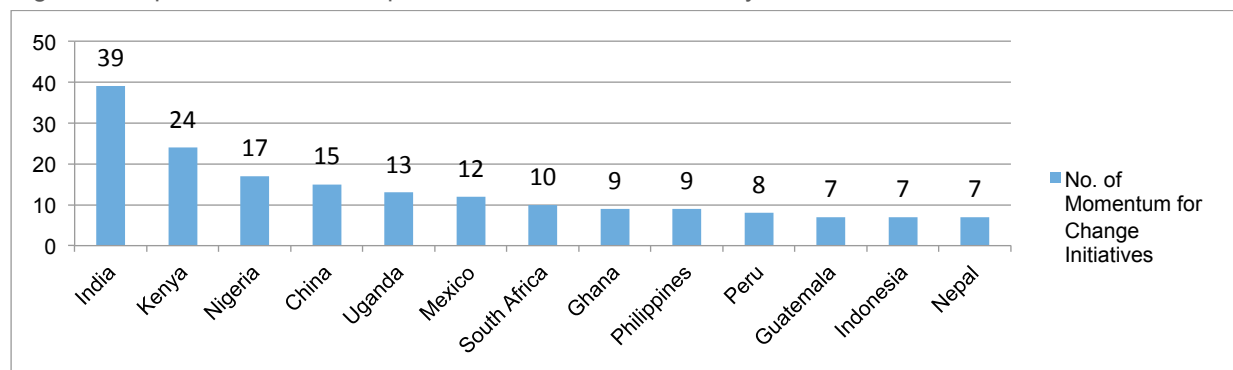
⁶ http://unfccc.int/secretariat/momentum_for_change/items/7176.php

3. They must be scalable and / or replicable, referring to a foreseeable expansion of impact and geographic spread;
4. They have to be innovative, which is stated as a call for new business models, technologies, processes or financing structures and transformative, asking for non-incremental, but long-term oriented structural changes;
5. Last but not least the actions have to deliver verifiable social and environmental benefits.

These criteria come with at least two essential benefits: They ensure that the TCAs possess a certain level of quality and they allow for the assessment of ex post data, which constitutes a major gap in research on transnational climate governance initiatives. At the same time the criteria suggest a dominance of business actors with regard criteria three and four and the call for innovation, scalability and replicability. This is interesting in the sense that large-n studies on transnational governance initiatives so far were mostly dominated by international or intergovernmental organizations or state partners (Chan, Falkner, et al. 2015; Pattberg et al. 2012).

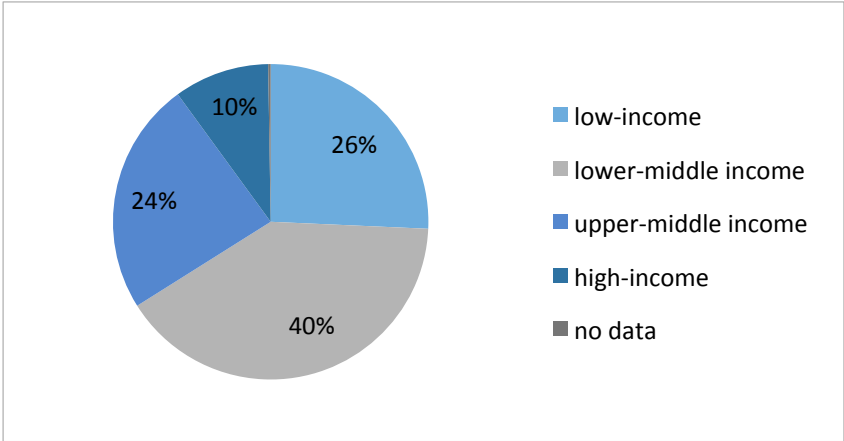
The sample also has to be put in the context of a political process steered by the UN Climate Change Secretariat. Questions on the representative nature of the sample arise, as the 'Lighthouse Award' is based on a normative concept and the selection of laureates could be influenced by political agendas of the UN Climate Change Secretariat. However, the sample does not solely consist of lighthouse awarded climate actions but largely of a wide range of climate actions from all over the world that are diverse with regard to their size, partner composition, geographic spread, goals, targets, functions, and outputs, launch year, budget, the political, cultural and geographical circumstances and many other aspects. It is safe to say that the political circumstances have to be considered when interpreting the results of the survey; however, they do not diminish the suitability of the sample. Additionally, interpreting results in light of the political process and the applied selection criteria could even enhance the quality of this research project, just because it assesses the individual climate actions by scientifically acknowledged methods of effectiveness assessment. Comparing the findings and seeing whether they comply with the requirements declared by the UN Climate Change Secretariat when first including the climate actions in the MfC database can offer a useful feedback of progress and development.

Figure 1: Top 13 countries of implementation in the MfC activity database



Note: Absolute number of TCAs per country

Figure 2: Geographic distribution of all countries of implementation in the MfC database



Note: In %

Figure 3: Geographic distribution of climate actions in the MfC activity database



Source: United Nations Climate Change Secretariat 2016

In conclusion, the state of the art reveals three gaps that are addressed by this research project: A general lack of ex post data on transnational climate governance approaches; a relatively weak presentation of developing countries as destinations for implementation activities; and an even weaker presentation of developing countries as hosts for secretariats, lead partners, or focal points for transnational climate governance.

Examining the MfC sample can lessen these gaps and provide interesting new insights into transnational climate governance by offering five compelling advantages: the opportunity of ex post data collection; a strong share of TCAs in developing countries (see Figure 1 - 3); the inclusion of small-scale TCAs; and transparent and verifiable case selection.

3 Research Design and Methodology

The following chapter presents the research design and methodology of this project. Section 1 concentrates on the method of data operationalization and assessment by building on the theoretical considerations of chapter 2. The concept of regime effectiveness is employed to assess the research objects. The theoretical considerations of regime theory and institutionalism are the starting point for a hypothesis on the importance of institutional quality and capacity. Literature findings on the North-South-imbalance in transnational climate actions and partnerships build the basis for research question (RQ) 2 and the respective sub question. Section 2 introduces the method of data collection and processing. Section 3 discusses potential limitations of data and methods.

3.1 Institutional Quality and Capacity

In order to answer RQ 1 (*How effective are the transnational climate actions that are part of the MfC sample with regard to their levels of institutional quality and capacity, output, and achievements?*), this research project builds on the theoretical considerations on regime effectiveness. According to Underdal, the first question that has to be posed when assessing the effectiveness of regimes is, what exactly constitutes the object of evaluation: the regime itself or its consequences?

In a first step, the object of evaluation is the TCA itself. The TCAs are assessed regarding their institutional quality and capacity. Institutional quality and capacity are operationalized through the following eight variables:

Table 2: Operationalization of institutional quality and capacity,

Assessment criteria	Operationalization
Institutional quality	Monitoring arrangements Reporting arrangements Evaluation arrangements Baseline scenario Quantitative targets
Institutional capacity	Dedicated staff Task division Steering organ

Note: Own presentation

These variables are considered as necessary conditions for a TCA to effectively contribute to global climate mitigation and adaptation efforts. The existence of monitoring arrangements provides a constant traceability of the TCAs activities. Evaluation arrangements force TCAs to measure their achievements against self-set targets, ensuring progress evaluation and output legitimacy. Reporting arrangements make information on the TCAs action accessible for the broader public and ensure transparency. All these arrangements enforce the overall accountability: they help explain eventually achieved change in behaviour (outcome) and target indicators (impact). Meaningful evaluation depends on clearly formulated quantitative goals that function as a yardstick for performance assessment. For mitigation oriented TCAs in particular one further criterion is of importance: The TCA should work with a baseline scenario, because only with a counterfactual scenario at hand, action can be legitimized in the first place and eventual progress can be put in context and evaluated. This is not to say that adaptation oriented TCAs would not benefit from a counterfactual scenario. However, so

far working with quantitative baseline scenarios is much more common in the emission cutting context. It is obvious that all variables (Table 3) complement one another: Ambitious targets have little meaning if progress is not monitored and actual achievements are not compared against them. At the same time monitoring arrangements do not ensure improvement beyond the business as usual scenario without a credible baseline scenario. The study evaluates whether the respective criteria are met or must be regarded as not fulfilled. Hence, the underlying variables are all of binary nature.

The analysis of the institutional capacity examines whether the TCA has the potential to deliver on declared functions and targets. In particular, the research project looks at whether the TCA has dedicated human resources in form of part or time employees or volunteers, whether tasks are clearly divided among staff members, and whether the TCA has a steering organ in form of a head quarter, a secretariat, a steering committee or similar arrangements. While there is no generalizable organizational set up that ensures high productivity, it can be assumed that dedicated staff is needed to move from target setting into target realization and that a clear division of tasks between staff members enhances productivity and organizational processes. Furthermore, a steering organ is assumed to have a positive influence on the overall process from target setting to implementation and maintenance. Research on transnational climate governance supports these assumptions and finds that higher levels of institutionalization (Chan and Pauw 2014; Widerberg and Pattberg 2015) are closely linked to a better performance of TCAs.

3.2 Output and Achievements

In a next step the objects of evaluation are the consequences of TCAs' activities by looking at the output and subsequently at the achievements. According to Hegemann et al. (2013) this translates into an evaluation in order to understand the degree to and ways through which actors achieve a stated goal.

First output performance is examined, trying to answer the question whether the TCAs produce output relevant to their indicated functions. In this study, output is understood as activities and products resulting from the TCA actions, for instance research publications, workshops and campaigning materials, or marketable products and technical installations. In this sense, output can be measured at a relatively early stage of a TCAs' existence and is often the most accessible and attributable information for researchers.

Output is a necessary but not a sufficient condition for a TCA to achieve effectiveness at the outcome and impact levels (Chan, Falkner, et al. 2015; Pattberg et al. 2012). While there is already value in examining, whether a TCA produces output or not, it is also important to check if the output produced fits the function the TCA was set up for, such as knowledge production, campaigning and education, or product development. Only if a TCA is active in a way necessary to fulfil its function, it can ultimately be effective. The project applies the so-called function-output fit (FOF) to examine effectiveness in this sense. FOF is defined by comparing what the TCA claims as their goal and function with what their actual activities and products (output) are. The FOF thus reveals the accuracy and consistency of the TCA's declarations.

The FOF-approach has been applied in at least two influential samples of non-state and transnational initiatives: 'private-public partnerships for sustainable development' (Pattberg et al. 2012) and climate actions that emerged from the 2014 New York Summit (Chan, Bauer, and Brandi forthcoming in 2016; Chan, Falkner, et al. 2015). Two lists of fifteen types of outputs and eleven functions were linked, based on the assumption that the presence of a

specific output would indicate at least partial fulfilment of the related functions (Pattberg et al. 2012, 8). The categorization and coding of functions and relevant outputs used in the publications mentioned were adapted to this research project. The list of functions takes into account a wide range of possible climate governance functions, such as campaigning, lobbying, or norm and standard setting, but also more on-the-ground action, such as participatory management, knowledge production and dissemination and technical implementation of low-carbon solutions. The list is matched with a number of outputs that are expected to help fulfil the declared functions. For instance, a TCA declaring product development as its function is expected to produce output in form of marketable or marketed new or enhanced products or services with climate benefits (for a complete list of all functions and output as well as FOF see Annex 1: Coding).

A TCA can score a partial FOF, if it has at least one type of visible output related to its function(s). A TCA can score a full FOF, if all types of visible output relate to its declared function(s). If no visible outputs are produced that relate to the declared function(s) the TCA is regarded as having no FOF. For the purpose of using this approximate measure, effectiveness of a TCA is thus defined as the sum of all its effects measured by observable output. The underlying idea is that observable output will eventually change the behaviour (outcome) of the target groups and the target indicators (impact). FOF is a purely qualitative measure, which does not take into account the number of declared functions. Thus the amount and malignity of functions are not readable from the result: full, partial, or no FOF. Not weighting the number of declared functions takes into account that a TCA that successfully pursues one function can have just as much transformative potential as a TCA pursuing a multitude of functions with less success.

Second, the project assesses the TCAs on their level of achievements. Examining the levels of quality and output solely measures the potential effectiveness and does not hold any information on behavioural change (outcome) and the change in target indicators (impact). In order to move beyond the assessment of potential effectiveness it is essential to also examine the level of ambition of TCAs and compare it to realized achievements and changes in target indicators (impact).

The project looks at five generalizable target indicators: number of people, villages, cities, and countries reached through implementation activities, and CO₂ equivalents of emissions avoided by the TCAs' activities. Such general indicators are broadly applicable and comparable and serve as a lowest common denominator for an overall highly diverse set of transnational climate actions. TCAs were asked on their levels of ambition and achievements towards these target indicators. Provided data was used in relative terms by asking what percentage of the original target has already been achieved by the TCA. Results were uniformly coded from 1 to 4 for all target indicators as indicated in Table 3:

Table 3: Categorization of levels of achievements

Percentage of targets achieved	Score
< 49 %	1
Between 50 – 99,99 %	2
100 %	3
> 100 %	4

Note: Own presentation

A descriptive analysis of the levels of institutional quality and capacity, output, and achievements is provided in chapter 4.2.

With the results of the assessment of the three levels, the sub question to RQ 1 can be examined: *Does the level of institutional quality and capacity correlate with the levels of output and achievements?* Based on the review of regime theory and Keohanes' (1989) and Youngs' (1980) definitions on institutions the following hypothesis is formed:

The level of institutional quality and capacity correlates with the levels of output and achievements.

The hypothesis is tested with help of a correlation analysis for the variables institutional quality and capacity, FOF, and percentage scores on achievements (chapter 4.3).

3.3 Geographic Patterns of Partners

To answer RQ 2, the focus shifts from effectiveness assessment towards the partnership nature of the TCAs: *What geographical patterns characterise the cooperation of partners within the individual climate actions?*

Answering this question requires an analysis of the geographic patterns of partners and implementation activities. The aim of the question is to get a better overview of what type of partners lead the TCAs, what type of partners cooperate, and what countries are targeted for implementation activities. It further reveals whether the TCAs are predominantly characterized by global, north-north, north-south, or south-south cooperation.

Six types of partners are considered: non-governmental and non-profit organizations (NGOs), partners from business and industry, international organizations, subnational actors (e. g. cities and municipalities), partners from research and education, and from national governments or government agencies. Looking at the geography of implementation activities allows to examine whether the anticipated southern bias on implementation activities that stood out from a first glance into MfC activity database holds true for the sample of respondents. Furthermore it is observed in how many countries the TCAs are active and whether the countries of implementation correspond with the lead partners' or steering organs' location.

The geographic patterns of implementation activities is analysed by looking at countries income levels (high, upper-middle, lower-middle, low) according to the World Bank country classification, and at regional levels (developed (OECD) countries⁷, Latin America and The Caribbean, Africa, Asia, Oceania).

⁷ According to the developing focus of this research project developed countries were in most parts of the analysis not further differentiated but clustered together in one country category "developed".

Table 4: Operationalization of variables

Variables for geographic patterns of partners and implementation activities	Operationalization
Partners of the initiative	Type of lead partners Types of partners cooperating in TCAs Location of (lead) partners by country groups according to national income (high, middle-upper, lower-middle, low)

Note: Own presentation

Chapter 4.4 provides the descriptive analysis of the geographical patterns of partners. Through the analysis of geographic patterns of cooperation the research project aims at answering the sub question to RQ 2 by investigating whether the underlying sample confirms a dominance of northern stakeholders in TCAs.

Assessing the previous variables builds the basis for assessing research question 3: *Do the institutional quality and capacity and the type of lead partner determine the level of output and achievements?* The question is answered by conducting a linear regression analysis. Two models are established, one referring to output, measured in terms of FOF, and one referring to the level of ambition as the dependent variable. The independent variables are composed of:

- Monitoring, reporting, evaluation, quantitative target, baseline scenario, task division, steering organ and
- Lead partners (business and industry, international organization, non-governmental organization or NGO, national governments or governmental agencies, subnational actors (cities or municipalities), research and education)

A linear regression analysis shows the aggregated explanatory power of these variables on variations in levels of output and achievement. This allows for conclusions on whether the examined variables determine the levels of output and achievements.

Lastly, chapter 4.5 conducts a qualitative analysis on statements about hindering and favouring factors for the development and performance of TCAs to answer to the sub question of RQ 3.

3.4 Data collection

One of the main research objectives is to build a comprehensive source of information on transnational climate action, while especially focusing on TCAs in developing countries. A comprehensive database was created to fulfil this objective. After defining the main categories in the database, the initial data gathering stage focused on an online survey.

The survey was sent out to all 445 climate actions of the MfC activity database out of which 56 responded between 6th of June and 9th of July 2016. The questionnaire corresponds to the research questions and hypothesis developed in the forgoing. The survey design thus focuses on institutional characteristics, functions and output, targets and achievements, as well as on geographical patterns of partners and implementation activities (for complete survey see Annex 5).

Most questions of the online survey had prescribed answering options in order to ensure quantitative analysis. A few questions were left open for individual statements in order to make maximal use of the experience-based insights of partly long running TCAs.

The survey has a minor bias towards mitigation oriented TCAs. This is due to the fact that research on operationalized indicators for quantitative assessments is far more developed and better applicable with regard to mitigation targets. This emphasis on mitigation is reflected by a few more in-depth questions on TCAs that respond positively to mitigation targets and goal quantification.

The data under investigation depend exclusively on the indications and assessments of the climate actions themselves. Additional interviews and desk research for data verification and contextualization would be favourable next steps, but were beyond the scope of this research project. The data collected through the survey is object of analysis in chapter 4. Chapter 3.2 discusses potential limitations of the underlying data.

3.5 Limitations

The following elaborates on limitations regarding reliability and robustness of the collected data and applied methods. Results of the analysis have to be interpreted accordingly.

3.5.1 Limitations of collected data

The collected data is solely based on self-assessment of the individual TCAs. Responses could thus be biased or incorrect due to at least two different aspects:

(1) Lacking knowledge: There is no indication on who exactly answered the survey. E. g., the respondent might have been the founder of the TCA, who can be assumed to be familiar with the TCAs' activities from scratch. However, the respondent might also have been a volunteer, who may not be as familiar with the initiative. Furthermore, some questions in the survey asked for very detailed information. Time constraints of respondents or deficient knowledge might have led to imprecise answers. Another point of scepticism points towards the ambiguity of language. Even though the survey went through two rounds of pre-tests by climate action⁸ and was additionally reviewed by experts on transnational climate governance, a certain level of ambiguity in understanding can never be eliminated. This may result in misunderstandings of metrics or words, which might lead to incorrect answers. Further, answers were predefined and a framing effect that distorts answers cannot be excluded.

Only cautious assumptions should therefore be drawn, especially when looking at the analysis of stated targets and achievements, since the metrics might have been misunderstood. These data should thus be used as a starting point for further verification and contextualization by desk research and interviews with respondents.

(2) Motivation to over or underestimate: Since respondents are all part of the MfC initiative under the UN Climate Change Secretariat one might presume motives to shine as well as to understate, a classic moral hazard situation. Both, under- and overstatements might be perceived to result in provision of additional means and resources.

⁸ The climate actions used for the pre-tests are not part of the sample under investigation.

3.5.2 Limitations of methods

Using FOF as measurement for output performance comes with a few methodological shortcomings. First, the (partial) absence of function-output-fits might be explained by ambiguity in the understanding of the individual functions and outputs. Even though the coded table of matching functions and outputs is a result of multiple independently working experts and has been applied to earlier samples, there is no guarantee for respondents to understand all options of functions and outputs the same way when filling out the survey. Additionally, different contextual factors might call for a different match of functions and outputs. Second, the functions a TCA was set up to deal with might change over time. Experiences, continuous learning and a changing environment might challenge original targets and approaches and call for an adaption of the originally pursued targets and functions. Third, assessing output as mentioned earlier, is a necessary but not a sufficient condition for eventual change in behaviour (outcome) and target indicators (impact). Lastly, FOF is a qualitative measure, which does not take into account the number or malignity of problems the TCAs try to address with the functions they set up

The same shortcoming holds true for the method that was chosen to assess the level of achievements due to the relative approach. E. g., a 50 % rate of achievements can result in a similar impact as a 100 % rate of achievement in the same target indicator, if the reference value represented by the original target amounted to the double. Furthermore, for both assessment methods time might be an influential aspect. It may be assumed that the level of achievement increases over time.

The sample size is a further limiting factor in terms of the robustness and the reliability of the correlation analysis. The core question is here, whether the underlying sample offers a reliable description of reality. The high diversity of countries of implementation, actors and action areas (displayed in more detail in chapter 4) speaks in favour of a good representative nature. However, the field of transnational climate governance initiatives is too big to derive a final statement within the scope of this research project.

4 Analysis

This chapter presents the main findings of the MfC database. Following the order of the research questions, the analysis focuses on assessing the levels of institutional quality and capacity, output, and achievements, as well as the geographic patterns of (lead) partners of the TCAs. Mostly, results are presented in aggregate form for all TCAs that provided information on the respective question. Comparing quantitative indicators across or aggregated results within action areas since the TCAs are unequally distributed across action areas. Where appropriate, results are presented by action areas that feature more than 10 actions⁹. The descriptive analysis is followed by an econometrical analysis on correlations and determinants of the output- and achievement-levels. The chapter closes with a qualitative analysis of statements of respondents on hindering and favouring factors for the development of their TCA.

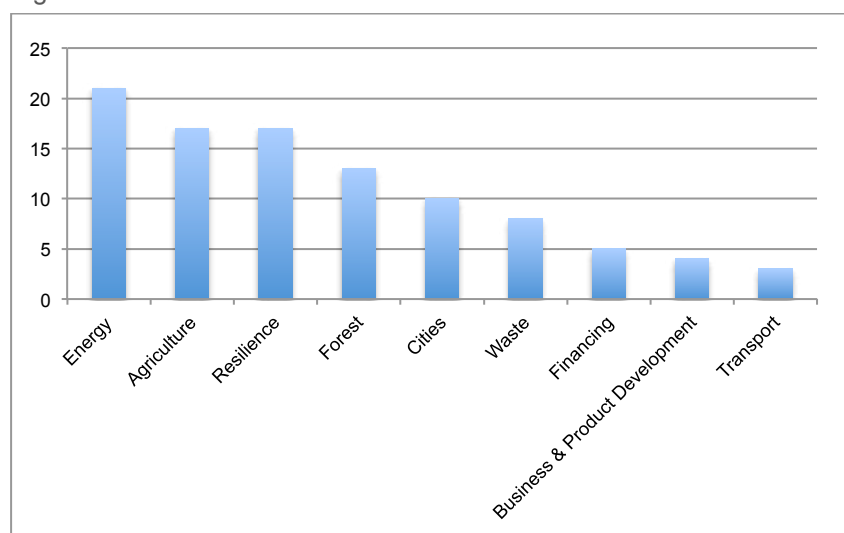
4.1 Overview of Sample of Respondents

The following section provides a brief overview of the 56 TCAs of the MfC sample that responded to the online survey. Before assessing their levels of quality, output performance, achievements, and geographic patterns of cooperation and implementation activities the first section looks at what kinds of TCAs responded, what action areas they are active in, what climate benefits they offer, and in which countries they are implementing.

Action areas

Many respondents indicated two action areas: For instance, the action area “business and product development” was only been indicated in combination with energy, transport and agriculture – referring to an entrepreneurial approach of climate actions. This is why the sum of all actions as presented in Figure 4 (98) exceeds the sample size (56). Figure 4 shows the distribution of cases among the nine different action areas. For the course of the analysis and for reasons of representativeness and clarity, only the four action areas with more than ten cases (energy, agriculture, resilience, and forest) will be used when interpreting results in the light of action areas.

Figure 4: Action areas of TCAs



⁹ All figures in the following chapter (if not indicated otherwise) are derived from own calculations based on the MfC database that was build in the course of this research project.

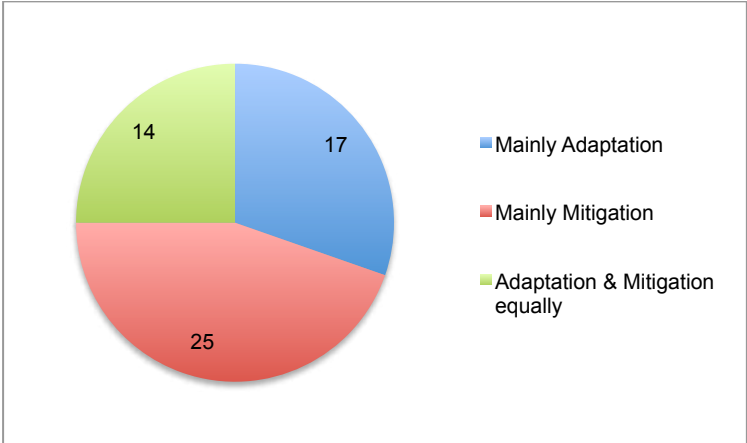
Notes: In absolute terms, multiple answer option

The four most frequently indicated action areas are energy (21), agriculture (17), resilience (17), and Forest (13).

Climate benefits

When looking at climate benefits of the TCAs, activities were divided into three areas: adaptation, mitigation or equal benefits to both. While a little less than half of the TCAs focus on mitigation activities (25), 17 of them focus on adaptation benefits and 14 TCAs target mitigation and adaptation equally (Figure 5).

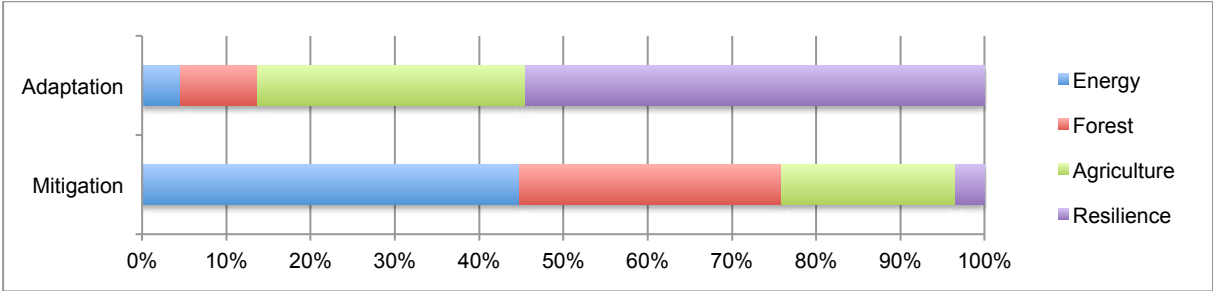
Figure 5: Climate benefits



Notes: Share of mitigation and adaptation targets of TCAs, in absolute terms

The share of action areas in adaptation and mitigation context is no surprise: In the mitigation category energy and forest activities are dominating, whereas in the adaptation category agriculture and resilience activities make up for the largest share (Figure 6).

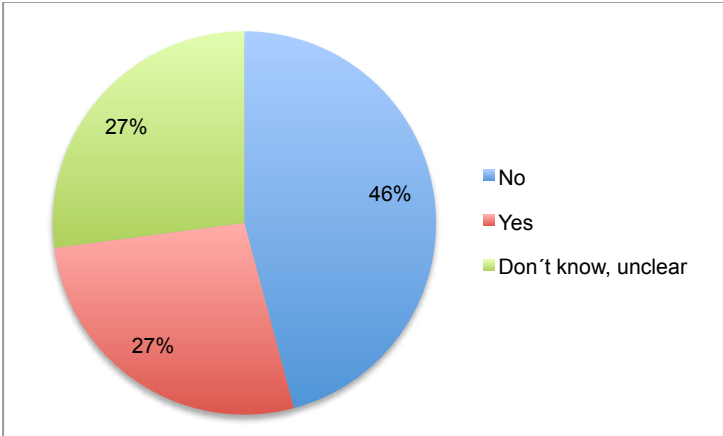
Figure 6: Action areas according to mitigation and adaptation categorization



Note: In %

With regard to the climate benefits respondents were also asked, whether their TCAs' mitigation contributions were accounted for at the national level. This question was not posed to the 10 TCAs that solely focus on adaptation without any reference to mitigation. Interestingly, 46 % of the remaining 48 TCAs stated that their actions were not accounted for at the national level. 27 % indicated that they did not know whether their efforts are taken into account on the national level and only the remaining 27 % answered the question with "yes" (Figure 7). A first conclusion could thus be, that there are additional activities, which are not yet factored into national pledges. Another conclusion is that linkages between the different governance levels are either unclear or not yet developed.

Figure 7: Accounting for mitigation activities included in national mitigation efforts

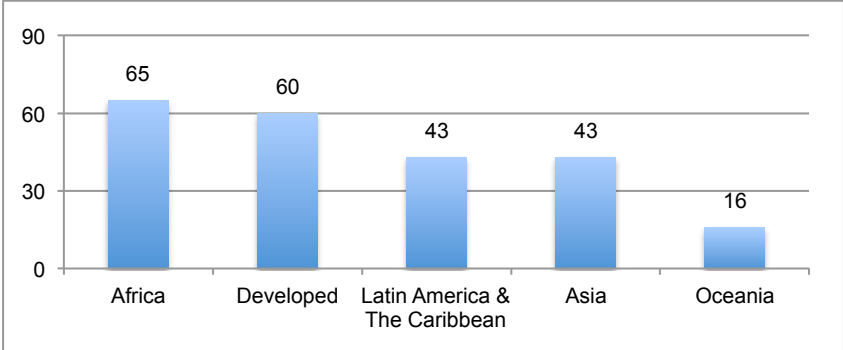


Countries of Implementation

The total of all indicated countries of implementation sums up to 227¹⁰. The 56 TCAs respresented in the sample are active in 127 different countries. The majority of TCAs are active in 1 to 6 countries (33 TCAs are active in 1 country only). A few of the TCAs seem to be active on a regional or even global scale with an indicated number of countries of implementation of upto 85.

Most implementation targets are located in Africa (Figure 8). Developed countries were clustered together (OECD countries) and only make up for a share of 26 % of all countries of implementation.

Figure 8: Distribution of countries of implementation by world regions

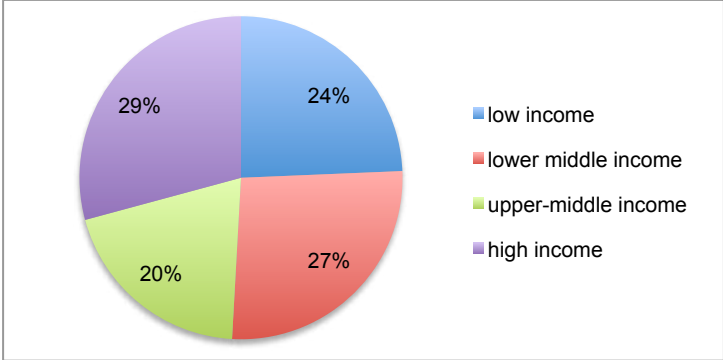


Note: In absolute terms

When looking at the implementation context in terms of income categories of countries, low and lower-middle income countries make up for a share of over 51 % of all COI, where as upper-middle income countries account for a share of 20 % and high-income countries a share of 29 % Figure 9.

¹⁰ Some countries are indicated multiple times by different initiatives, implementation activities take place in only 127 different countries.

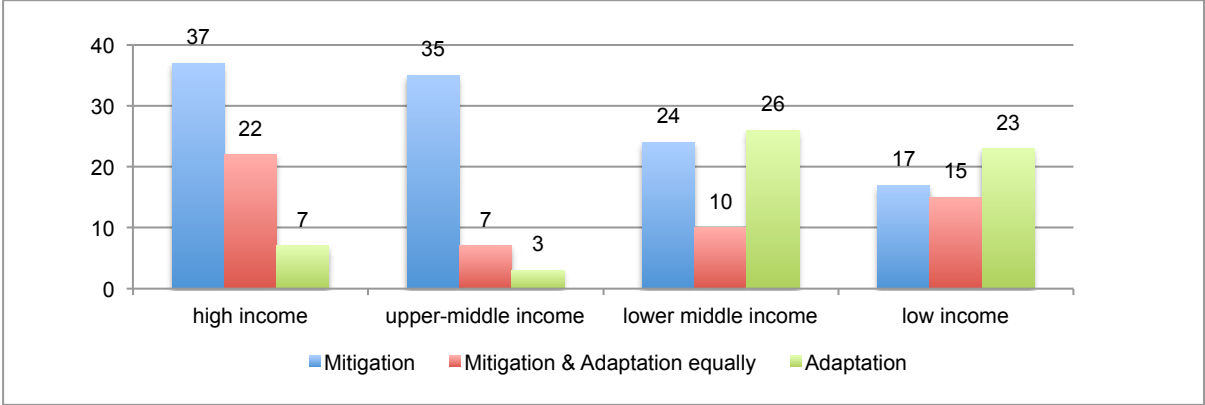
Figure 9: Share of countries of implementation according to their income category



Note: In %

Figure 10 examines whether there are prevailing geographic patterns of mitigation and adaptation oriented TCAs. Indeed the figure shows that as expected the number of mitigation oriented TCAs decreases from high to low income countries, whereas it is roughly the other way around with adaptation oriented TCAs. TCAs with equal benefits for both, mitigation and adaptation amount for the highest share in high-income countries and are roughly equally distributed among the other country categories.

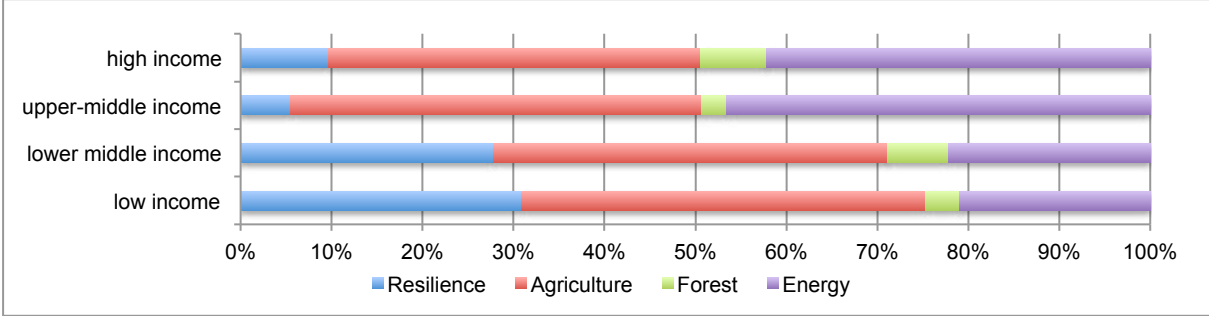
Figure 10: Distribution of mitigation and adaptation activities over COI



Notes: By income categorization, in absolute terms, data sum up to 227 COI

When looking at dominating action areas in the four country categories, resilience and agriculture dominate low and lower middle-income countries, whereas resilience has a very minor share in upper middle and high-income countries (Figure 11). The share of the action area energy is significantly higher in upper middle and high-income countries compared to lower middle and low-income countries. Agriculture is the only action area with a relatively equal share over all four income categories of countries.

Figure 11: Distribution of action areas over COI by income categories



Note: In %

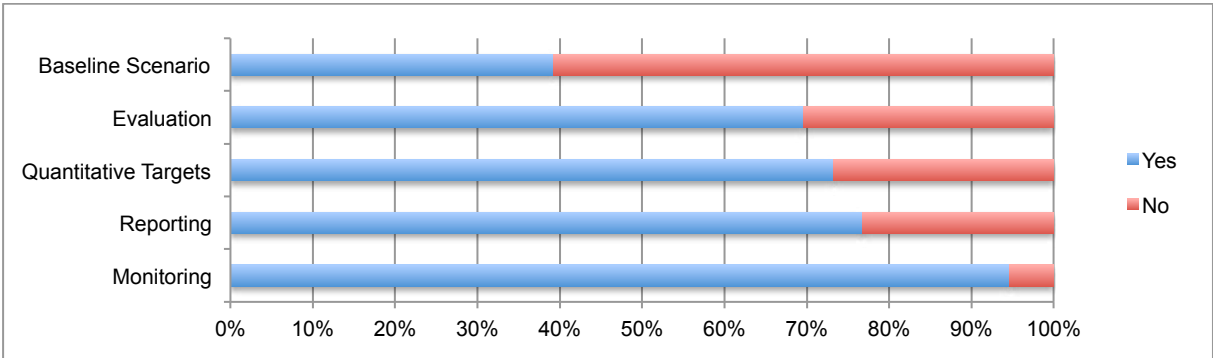
4.2 Assessment of levels of quality, output and achievements

4.2.1 Level of institutional quality and capacity

For the assessment of institutional quality five criteria are checked: baseline scenario, monitoring, reporting, and evaluation arrangements, and quantitative targets. 36 % of all TCAs fulfil all considered quality criteria: for mitigation oriented TCAs that means fulfilling all 5 criteria, for adaptation oriented initiatives this means fulfilling all 4 criteria, since having a baseline scenario was not considered a necessary condition for adaptation oriented TCAs. 29 % only miss out on fulfilling 1 quality criterion, 23 % fail to fulfil 2 quality criteria, and 6 % fail to fulfil 3 quality criteria. All TCAs fulfil at least 1 quality criterion.

95 % of all TCAs declare to have functioning and regularly updated monitoring arrangements (see Figure 12). 76 % claim to regularly report on their activities, which matches with the high frequency of the output category ‘Publication of activity records’. Almost across all action areas monitoring and reporting arrangements are better fulfilled than evaluation arrangements, which are only present in 70 % of the TCAs. The absence of evaluation arrangements is slightly linked to the absence of quantitative targets: 53 % of the TCAs with no evaluation arrangements also do not have quantified targets, whereas the remaining 47 % of TCAs with no evaluation arrangements have quantified targets but apparently do not evaluate progress.

Figure 12: Score of TCAs on the single quality criteria

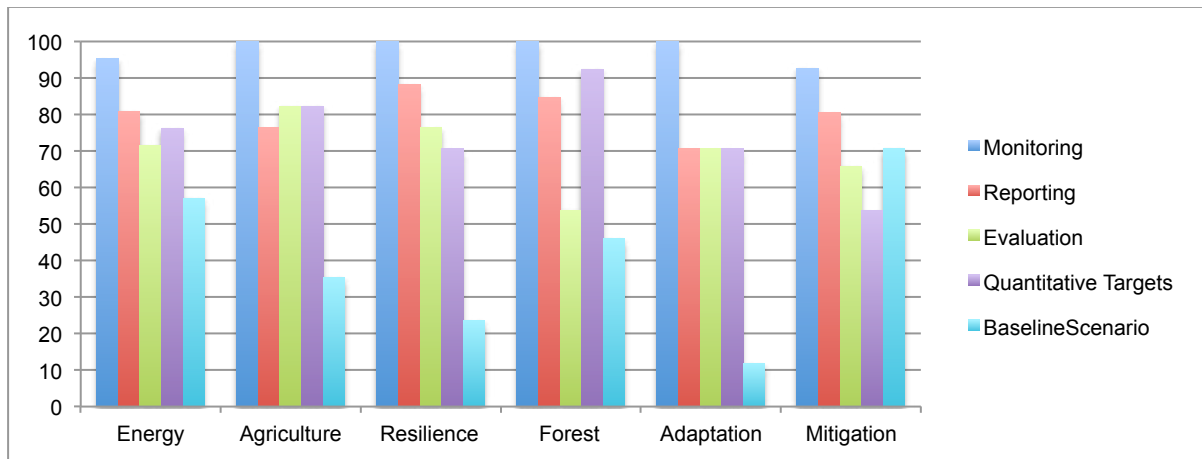


Note: In %

41 TCAs indicated that they set up quantitative targets. 24 provided quantitative indications on targets and achievements for general target indicators such as mitigation efforts, the amount of villages, cities or countries of implementation, or the number of people reached by their activities. This information is analysed in more detail in the following subchapter when looking at the level of ambition and achievements. Respondents further mentioned a number of individualised, project specific target indicators, such as the number of products installed (i.e. solar stoves), funding raised, jobs created, trees planted, tons of fruits and vegetables harvested, or the number of PET bottles that were upcycled.

Figure 13 shows how the main action areas score with regard to the different quality criteria. Additionally the graph also displays the two groups mitigation and adaptation, to allow for a comparison between activities and their main climate benefits. The overall levels of quality criteria fulfilment are quite similar between the different categories. Except for the mitigation category, ‘baseline scenario’ is the least fulfilled quality criteria. In the adaptation category there were only two TCAs who declared to be working with a baseline scenario. These two initiatives indicated mitigation as co-benefits.

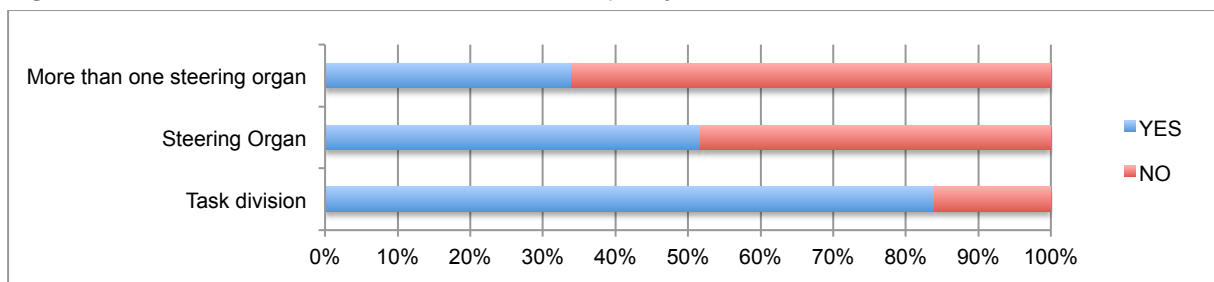
Figure 13: Quality criteria for different action areas and main climate benefit



Note: In %

In the sample there is no single initiative without dedicated staff. However, 8 TCAs have no full time employees, 6 of them have only part time employees and volunteers only, and 2 TCAs are exclusively organized by volunteers. Figure 14 displays that 84 % of all TCAs have a clear division of tasks and 52 % (29) of them have some kind of steering organ, 34 % (19) have more than one steering organ (e.g. secretariat, steering committee, central board, etc.). No major differences in the distribution of the three variables for institutional capacity stand out when looking at the different action areas.

Figure 14: Fulfilment of indicators of institutional capacity

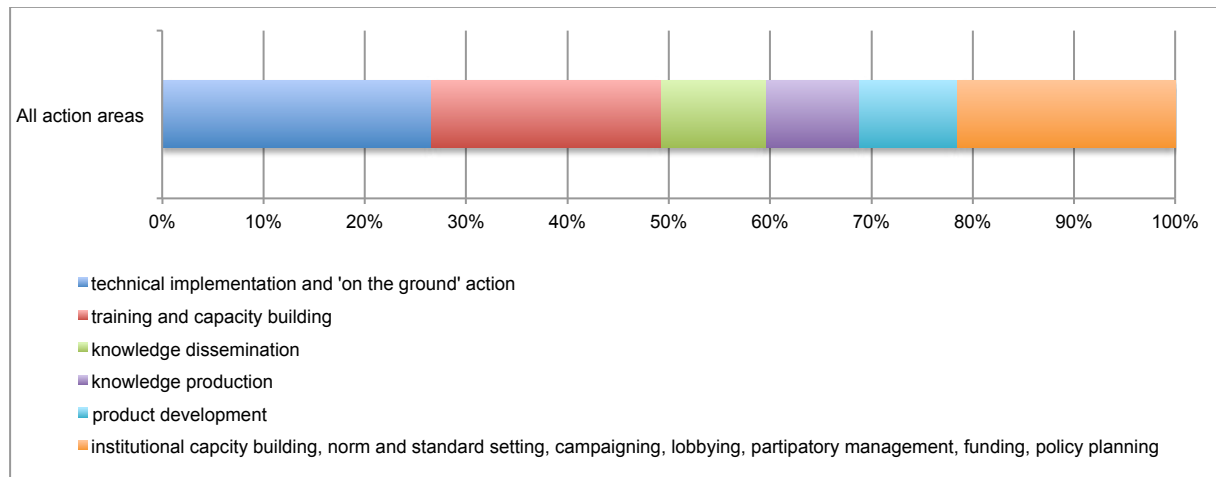


Note: In %

4.2.2 Level of output

The distribution of the different functions within the individual action areas did not vary much, which is why Figure 15 provides an overview that is representative for all action areas. Respondents could indicate up to three main functions. The sample shows a strong share of “technical implementation and ‘on the ground’ action” (28 %). This practical orientation can most likely be explained by the fact, that the sample exclusively contains TCAs that have already reached the implementation phase. The functions “institutional capacity building, norm and standard setting, campaigning, lobbying, participatory management, funding, and policy planning” were clustered into one component, since their individual shares were minor for all action areas.

Figure 15: Distributions of declared functions in the sample

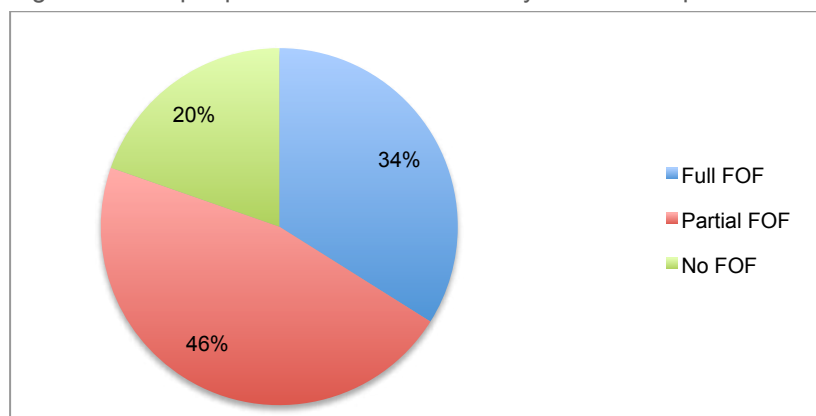


Note: In %

When looking at the two most frequently indicated forms of outputs¹¹ (“Initiation of new partnerships, organizations, or institutions” and “Finding new partners for the initiative”) it is surprising that so little functional focus was consciously put on institutional capacity building and participatory management. This finding indicates a certain level of mismatch between declared functions and achieved outputs. In contrast, the relatively high frequency of “construction or improvement of physical facilities, application and transfer of new technologies” (25) matches well with the strong focus on technical implementation and ‘on the ground action’.

For assessing the FOF, all declared functions were checked for relevant output, as introduced above¹². Figure 16 provides an overview of how the sample scored in terms of FOF. A promising first finding is that there is no single TCA that does not produce any output and thus can be counted inactive. 34 % of the TCAs score a full FOF that means all declared primary functions are reflected by relevant outputs. A little less than half of all TCAs produce at least some kind of output that reflects some of the indicated primary functions. 20 % of the TCAs produce output, which is not related to the declared functions indicating little potential effectiveness.

Figure 16: Output performance measured by function-output fit



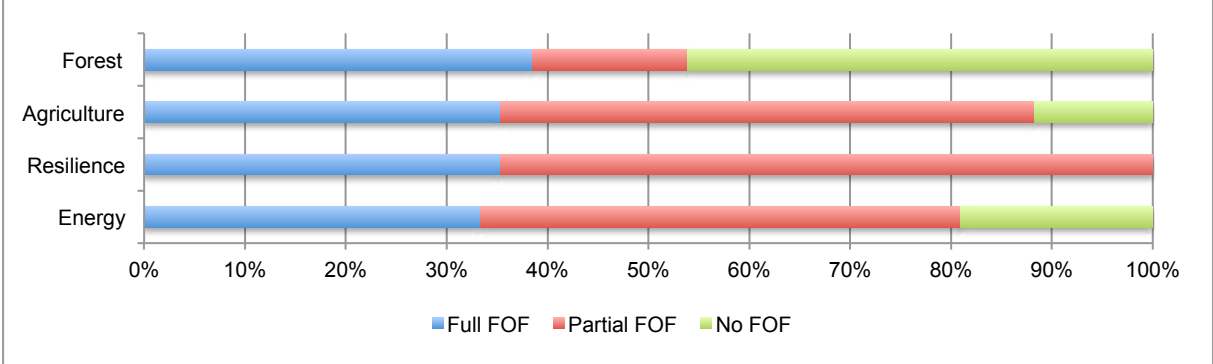
Note: In %

¹¹ For a complete list of outputs and the frequency of their indication see Annex 2, Table 9

¹² For a detailed look Annex 1 contains a table with all functions and matching outputs as well as detailed explanations

The four most prominent action areas account for similar scores on full FOF (between 33 and 39 %, Figure 17). Interestingly, 'Resilience' is the only action area, which has a zero score in 'No FOF', meaning that all resilience oriented TCAs produce output that fully or at least to some extent reflects their stated functions. TCAs in the forest sector have the highest share of 'No FOF', meaning that they largely produce output that does not support the function they were set up to deal with.

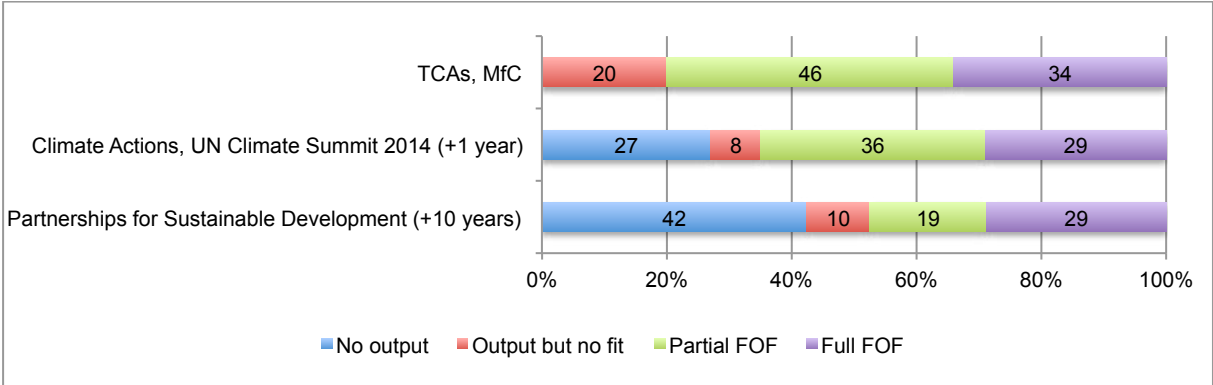
Figure 17: Output performance within the main action areas



Note: In %

Figure 18 puts the output performance of the TCAs in context to output performance of climate actions that emerged from the 2014 UN Climate Summit in New York (Chan, Falkner, et al. 2015) and the Partnerships for Sustainable Development that were launched at the 2002 World Summit on Sustainable Development (Pattberg et al. 2012). Both samples have a significant share of cases that did not (yet) produce any output. For the climate actions this might be due to the early assessment after their launch date (only one year later). The Partnerships for Sustainable Development still performed poorly after ten years. TCAs in the MfC sample most likely score better due to the selection process by the UN Climate Change Secretariat. Only TCAs, who already reached the implementation phase, are included in the MfC activity database.

Figure 18: Output performance in comparison to previous studies



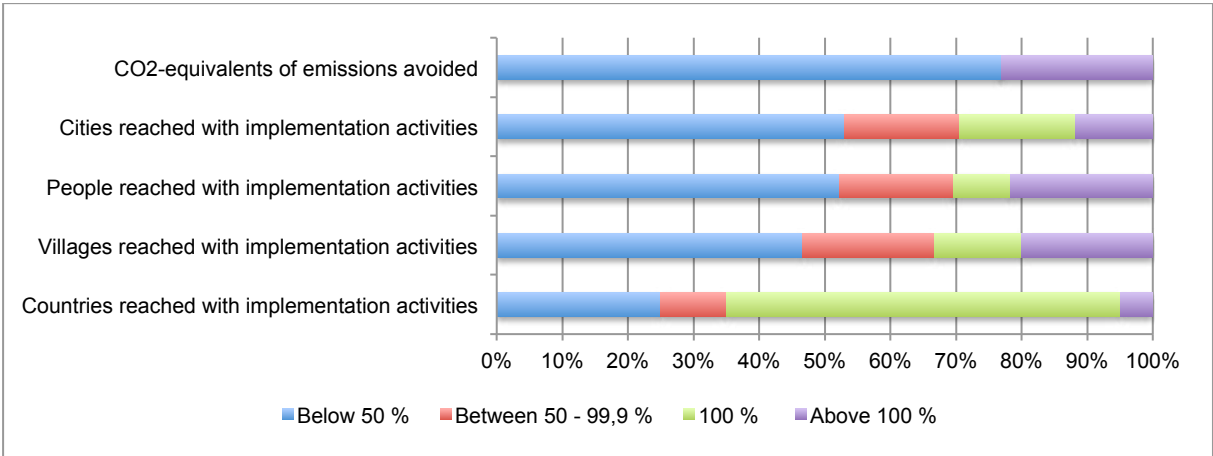
Notes: In %, source: Chan, van Asselt, et al. 2015; Pattberg et al. 2012

4.2.3 Level of achievements

Despite the fact that 41 initiatives indicated to have quantitative targets, only 23 respondents provided quantitative indications on ambitions and achievements for some of the most general target indicators, such as mitigation efforts, the amount of villages, cities or countries of implementation, or the number of people reached by their activities. It seems reasonable to assume, that many TCAs work with more individualized target indicators, which are hard to capture on a large-n level. Since indications on general target indicators differed severely,

the analysis focuses on the percentages of ambitions that have so far been achieved by the TCAs, according to the respondents. Statements were clustered into four categories: achievements below 50 % of original set up targets, between 50 and 99,9 %, 100 %, and above 100 %. Figure 19 is based on 20 indications of the number of targeted countries, 17 indications on the number of targeted cities, 15 indications on the number of targeted villages, 23 indications on the number of people targeted, and 13 indications on the targeted amount of CO₂ equivalents of avoided emissions. Despite the varying number of underlying observations in three of the target indicators 50 % of respondents achieved below 50 % of their targets. For all indicators there are a few “over-performers”, who, partly significantly, went beyond their targets. The fact that the indicator “countries” has the highest share of 100 % fulfilment of ambitions is most likely due to the fact that most TCAs target only one country for implementation activities, which makes it an “easy to reach” target. An interesting observation is that for CO₂ related ambitions there seem to be either low achievers (below 50 %) or over performers (above 100 %) but nothing in between.

Figure 19: Achievements in comparison to original stated targets



Note: In %

Table 6 displays the aggregated amounts of achievements of TCAs, which provided information on the individual target indicators. 23 TCAs stated to have reached out to 9.6 million people, which is approximately one-ninth of the German population. 15 TCAs collectively reach 2,238 villages and 16 TCAs address 231 cities with their actions. 21 TCAs state to be implementing in a total of 31 countries. In terms of ‘countries reached with implementation activities’ the number does not necessarily address 31 different countries since 2 or more TCAs might address the same countries with their implementation activities. Last but not least, 13 TCAs provide estimations on how much CO₂ equivalents were avoided by their activities so far. The indicated amounts reach an aggregated sum of 10,857,194 tons of CO₂e, which is equal to 10,857.19 GgCO₂e. This result is just a little less (95 %) than the total annual GHGs of Luxembourg (11,400 GgCO₂e)¹³. The global emission gap between the full implementation of all unconditional intended nationally determined contributions (INDCs) and the least-cost emission level for a pathway to stay below 2°C is estimated to be 7GtCO₂e (range: 5-10 GtCO₂e¹⁴) in 2025 (UNEP 2015b). The indicated sum of avoided GtCO₂e of 13 TCAs hence accounts for 0.17 % of this gap.

¹³ Data according to UNFCCC information (“United Nations Framework Convention on Climate Change” 2014) and including land use, land-use change and forestry (LULUCF)
¹⁴ Range based on results of modeling with different scenarios.

Table 5: Aggregated achievements

Indicator	Achievement	Number of TCAs*
People	9,607,897	23
Villages	2.238	15
Cities	231	16
Countries	31	21
CO2 (in t)	94,457,194	14

* Number of TCAs that provided information on the respective indicator

Potential limitations of the use of the underlying data have been outlined already. These limitations apply to the foregoing in particular, as the sample size is very small. When looking at the collected data on CO₂e additional questions come up concerning methods of CO₂ accounting and balancing. The emphasis of technical implementation of new products and services as presented in the underlying sample make these questions even more relevant: Are environmental impacts of TCA activities, such as product development and implementation, considered when accounting for CO₂ emissions? This question tackles the general need for uniformity or at least traceability of CO₂ balancing and accounting and is just as relevant for methods of baseline calculation. Similar to research on life cycle assessment, consistent and meaningful boundaries of CO₂ accounting have to be defined and consistently applied and verified. This will not only ensure quality and impact but also allow for a reliable interpretation of data on CO₂e of avoided emission, which was not possible within this research project. None of the respondents provided more detailed information on methods used for CO₂e accounting and balancing, which can lead to the conclusion that there is little uniformity or that the scope of the question does not fit in the scope of an online survey.

4.2.4 Correlation Analysis between Level of Institutional Quality and Capacity and Levels of Output and Achievements

With the results of the previous analysis hypothesis 1 can be examined. A correlation analysis between the assessed levels of quality, output and achievements is conducted to test hypothesis 1. The analysis is motivated by the presumption that a strong performance in the institutional quality and capacity might result in a strong performance in terms of output and achievements. Before drawing conclusions about causalities, a correlation analysis shows whether the examined variables are correlating with one another. The absence of correlations between variables also excludes causalities between them.

The analysis only shows one significant correlation between reporting and FOF ($p=0,009$)¹⁵ (see Annex 3, Table 10). The existence of reporting arrangements positively correlate with output performance in terms of function-output fit. Apart from the variable 'Reporting', variables for institutional quality and capacity do not significantly correlate with variables for levels of output and achievements. Based on the sample under investigation hypothesis 1 cannot be confirmed.

¹⁵ The according tables of the different statistical models and analyses are attached in Annex 3

Apart from checking correlations between the different assessed levels, the correlation analysis also allows to check for correlations between the single variables for institutional quality and capacity (monitoring, reporting, evaluation, quantitative target, baseline scenario, task division, and steering organ). ‘Monitoring’ has a highly significant positive correlation with ‘evaluation’, ‘quantitative targets’, and ‘task division’, with p-values below .01. ‘Reporting’ positively correlates with ‘steering organ’ (p= .01). ‘Evaluation’ has a highly significant positive correlation with ‘quantitative targets’ and ‘task division’ with p-values below .01. Lastly, ‘quantitative targets’ significantly correlates with ‘task division’ (p= .03). Even though a correlation analysis does not determine causality, these results do not come as a surprise. The research design already pointed to the assumingly close inter-linkages of these variables: evaluation makes little sense in the absence of quantitative targets that offer a yardstick for progress evaluation. Similarly, evaluation arrangements require careful monitoring. An interesting finding however is the fact that a steering organ seems to positively influence reporting arrangements.

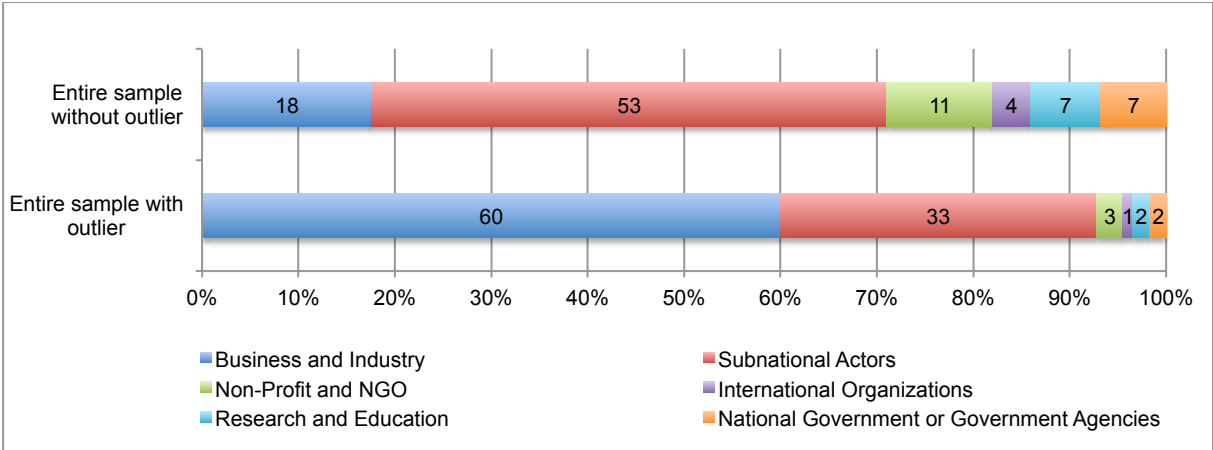
4.3 Analysis of Geographic Patterns of Partners and Cooperation

The analysis of geographic patterns of partners and cooperation build a basis for answering research question 2 and is divided into two sections. The first section looks at what types of partners are represented in the sample, where the partners come from, and how diverse the composition of partners is within the individual TCAs. Section 2 examines what types of partners are leading the TCAs and where the lead partners are located.

4.3.1 Partners and Cooperation

Figure 20 gives an overview of the different types of partners active in the MfC sample. The figure shows two bars that present the share of types of partners for the entire sample. Since two TCAs showed severe outliers in the number of partners on subnational and business partners, the upper bar can be assumed to better represent the entire sample by excluding the two outliers. In contrast to their role as lead partners, subnational actors are the most represented partners in the sample (53 %), followed by partners from business and industry (19 %) and NGOs as well as Non-Profit Organizations (11 %).

Figure 20: Composition of types of partners in the MfC sample



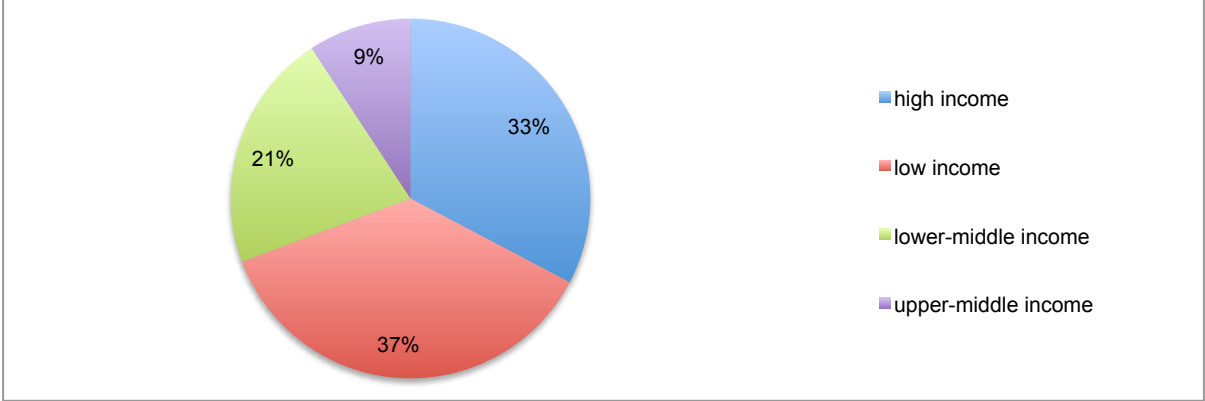
Note: In %

In 17 of the 56 cases respondents indicated that they have partners from all six categories of types of partners. In 40 cases at least four different types of partners are represented in the TCA. There are only three cases of TCAs that involve only one type of partner (international

organization (2) and NGO (1)). This finding indicates a highly diversified composition of partners in the TCAs.

Figure 21 shows where the partners come from according to country categorization by national income. With 58 %, partners from low and low-middle income countries outweigh the number of partners from upper-middle and high-income countries.

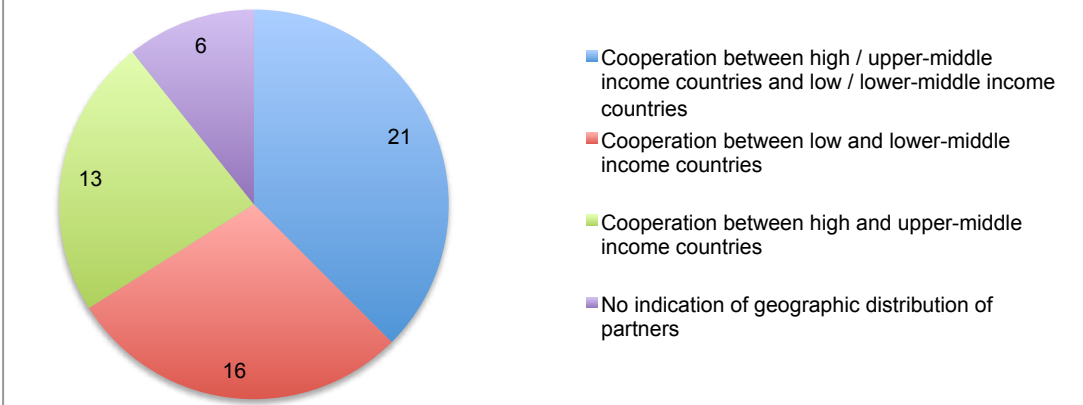
Figure 21: Partners geographic distribution



Notes: According to income categories, in % and under exclusion of two severe outliers

A look into the geographic patterns of partners within the individual TCAs gives insights into the extent of cooperation between country groups categorized by their income (Figure 22). The analysis distinguishes cooperation between countries of the same income category and cooperation between high / upper-middle income countries and low / lower-middle income countries. The latter have the highest share with 21 cases of cooperation. 12 of these 21 cases are characterized by having a few partners in high-income countries and the bigger share of partners in low and lower-middle income countries. There is only one initiative with a truly global spread of partners. The partners of this TCA come from Asia, Africa, Latin America and The Caribbean, Oceania and OECD countries and cover all four income categories of countries. There is an almost equal share of TCAs with cooperation between partners exclusively from high and upper-middle income countries (13) or between partners exclusively from low and lower-middle income countries (14). Most TCAs that exclusively have cooperation between partners from low and lower-middle income countries are only actively implementing in one country. There are only 2 TCAs, which do not have partners from any high income / developed countries but partners from more than one geographic region of low and lower-middle income countries. These two TCAs built cooperation between countries in Southern Asia and Sub-Saharan Africa and between Southern Asia and Oceania.

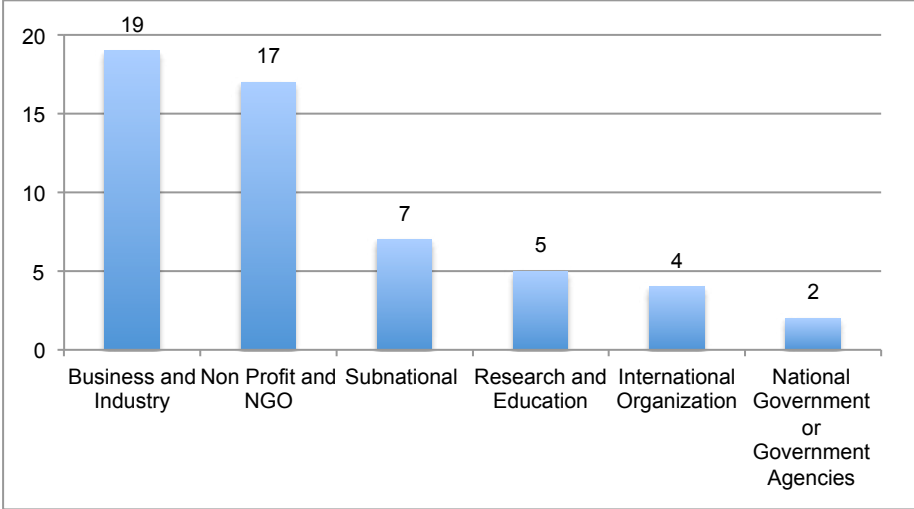
Figure 22: Geographic reach of partnerships / cooperation



Note: In absolute terms

The analysis now turns from looking at general partners to what types of partners lead the TCAs. Figure 23 shows that it is mostly partners from business and industry and non-profit or non-governmental organizations, who lead the TCAs¹⁶.

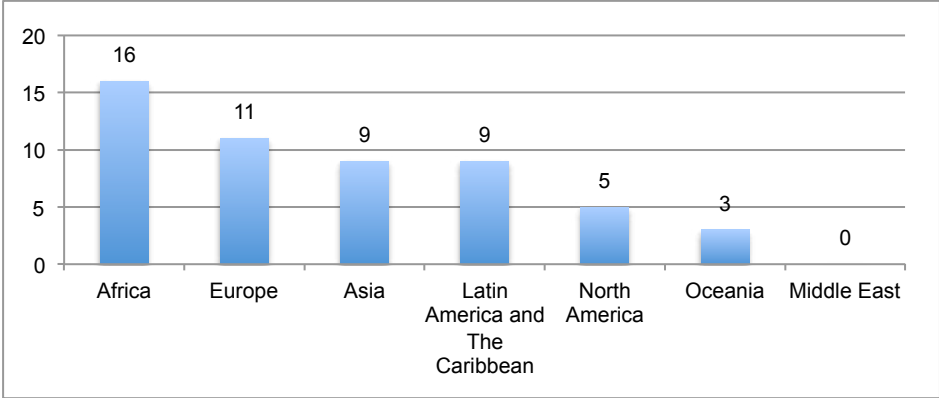
Figure 23: Types of lead partners of TCAs



Note: In absolute terms

Furthermore, respondents were asked on their lead partners’ or steering organs’ location. In most cases the location of the lead partner was identical to the location of the steering organ. Since some TCAs could not provide information on this question, for instance TCAs with international organization or NGOs as lead partner, the location of steering organ was used instead. Only in 3 cases there was no information on the location of lead partner or the steering organ. The result of this question stands in contrast to findings in previous studies that showed a strong northern dominance in leadership: Africa is the most frequently indicated location of lead partners or steering organs (in 16 cases), followed by Europe (11 cases), Asia (9) and South America (7). The geographic distribution of lead partners (Figure 24) clearly corresponds to countries of implementation (Figure 8).

Figure 24: Location of steering organs and / or lead partner



Note: In absolute terms

53 respondents provided information on lead partners nationality or location and / or the steering organ’s location. In 40 cases the lead partner or the steering organs are located in one of the countries of implementation (COI). In 13 of these cases the location of the lead partner or the steering organs is not equivalent to one of the COI. In these cases activities

¹⁶ Since two respondents indicated “other” when being asked on lead partners, Figure 23 does not accumulate to 56, but only to 54.

are led from another country than the where they are finally implemented. For 9 of the 13 cases lead partners or steering organs are located in a high or middle-upper income country and implementation activities take place in low or lower-middle income countries. 3 TCAs have their lead partners or steering organs in a low or lower-middle income countries and implement in another low or lower-middle income country. And one TCA in the solar energy sector has its lead partner a lower-middle income country (India) and implementation activities in a high-income country (Germany).

In sum, only in 9 of the 56 cases (16 %) show a steering of activities in low or lower-middle income countries by actors from developed countries. This result does not correspond with findings of previous studies that showed a strong northern dominance (see Table 1, Chapter 3). Answering to the sub question of research question 2, this sample does not confirm severe patterns of northern dominance; it is only present in 9 out of 56 cases.

4.4 Linear Regression Analysis

The quantitative analysis concludes with a linear regression analysis. The analysis focuses on the following question: Does the type of lead partner or the variables for institutional quality and capacity determine the varying levels of outputs (measured by FOF) and achievements (measured by relative achievements compared to original targets)?

As a first starting point to answer this question two models are tested based on a linear OLS¹⁷ regression analysis (see Annex 3, Table 11 and Table 12). They both contain the same independent variables (the six different types of lead partners and variables on institutional quality and capacity) but change with regard to the dependent variable. For Model 1 the dependent variable is the level of output in terms of FOF. Model 2 refers to the level of achievements, measured by 'percentage of number of people reached compared to original target'¹⁸. The latter stands representatively for all other indicators used to assess the level of achievements, because it has the highest number of observations (N=23)¹⁹. The sample size for both models is rather small, with 56 and 23 observations respectively.

Overall, the regression analysis only points to one significant regression coefficient. Within the sample for Model 1, "Reporting" leads to a higher expected output performance in terms of function-output fit based on the assumptions made (T=2.75; p=.09; Beta=.42, see Table 11). This result has already been indicated by the correlation analysis and can be confirmed under the assumption that causality runs from 'monitoring' towards a higher output performance. However, Model 1 results in a relatively low R value ($R^2 = .243$), which means that only a little amount of the variance in FOF can be explained and thus the informative value of the model may be questioned.

Model 2 has a higher R value ($R^2 = .613$) but no parameter has a significant impact on the level of achievement. This may be due to a relatively high number of dependent variables and/or co-linearity among them.

Otherwise, the models show no significant findings and thus attribute little to no explanatory power to the examined variables lead partner and institutional quality and capacity.

¹⁷ Ordinary least squares.

¹⁸ It is assumed that there is no causality running from the represented output variables towards the independent variables. Further, the model assumes a linear relationship between the independent and dependent variable. The interpretations rest on assuming independent and normally distributed error terms and homoscedasticity.

¹⁹ Models with less than 20 observations were not considered for a linear regression analysis.

Based on the assumption that the presented findings of this study should indeed be verified by further studies, further research should be conducted regarding the question, which other potentially determinants should be taken into account. The validity of the results may be questioned with regard to the limitations discussed under 3.3: The lack of statistically significant findings however, may instead also be attributed to the relative small sample size. Further econometric tests should be implemented to check e. g. for multi-co-linearity issues. In the scope of this research project, the validity of the results can thus not be completely verified.

4.5 Qualitative Analysis: Hindering and Favouring Factors

The quantitative analysis brings little to no insights on what determines the varying levels of output and achievements. Therefore, the statements by respondents on factors that hinder or favour the performance and development of their TCAs are qualitatively analysed.

The TCAs in the sample have been active on average for almost five years. To make maximal use of respondents experience the survey included a few open questions, for instance on factors that are perceived to hinder or favour the performance and development of the respective TCA. While there were some gaps in other non-obligatory questions, all TCAs provided information on this question. The collected information was clustered into thematic categories and ordered in detail and according to the frequency of indication in Annex 4. The following paragraphs concentrate on just a few that stood out in the context of this research project or by the frequency of indication.

Many statements on favouring factors related to the partnership nature of transnational climate actions. Here, respondents addressed four dimensions: As first dimension, respondents point to the inclusiveness and participation TCAs promote by engaging with partners from different policy levels (local) NGOs, subnational authorities and for some national authorities as well. Second, the knowledge dimension was highlighted stating a continuously increase of expertise provided through the diversity of partners, content-wise and with regard to international knowledge and best practice exchange. Third, respondents named the financial dimension, in terms of cost sharing and diversified fundraising sources. Fourth, the long-term orientation was repeatedly outlined as major favouring factor, with regard to experience-based knowledge building and project maintenance and with regard to long-term investments.

The highest-ranking favouring factor in terms of frequency of indication was community support. Respondents stated that the answers their TCAs give to people's urgent needs – such as feasible new solutions that often go hand in hand with the creation of new jobs, offers for women empowerment and participation – fall onto fertile ground, build trust and enhance stability.

Furthermore, respondents pointed to the important but often difficult communication between the TCA, authorities and target groups. If the communication between the different governance levels works TCAs stated it as favouring factor. Establishing it on the other hand is perceived as difficult, and the absence of communication between the different levels as adverse.

Missing governmental support is another hindering factor. Little or no environmental regulations and policies result in a lack of mandates and legitimacy for the activities of TCAs. In connection with missing governmental support and lack of expertise, the topic of data management was repeatedly mentioned. TCAs state that missing expertise make data

monitoring, the handling of CO₂ accounting, and evaluation difficult. Additionally, the absence of good data management on local and national levels prevents the use of reliable databases for calculating baseline scenarios and observing the development of target indicators. This finding points towards the need of better connecting the different levels of climate policy. Efforts on national and subnational levels to improve data management processes should be encouraged. This finding offers explanation for why some TCAs lack to fulfil certain quality criteria (especially baseline scenario and evaluation). It also connects well to the finding that a majority of TCAs indicated, that their activities were not accounted for at the national level or that they were unclear about it.

Furthermore, 35 of the 56 TCAs stated lack of financial resources as hindering factor, which makes this the most frequently indicated hindering factor. In this context, respondents also point to the need of freely applicable and continuous funding that allows for long-term planning. 13 statements of respondents point to a lack of knowledge infrastructure as reason for slow progress. Building up human capital (e.g. technical expertise), compensating for the absence of training and educational material (in local language) and kicking off international knowledge exchange, are perceived as major challenges.

The cultural perception of climate change is another factor influencing the progress of TCAs. A missing willingness to change and the perception of climate change as distant threat are obviously hindering factors. So is the occurrence of weather extremes (especially of floods), since it exacerbates often already difficult transport infrastructure.

Given the presence of entrepreneurial approaches to climate action in the sample, respondents also pointed repeatedly to economically favouring aspects, such as the right identification of market gaps, the availability of raw materials, and increasing costs of non-environmentally friendly alternatives as favouring factors.

5 Conclusion

This research project examined a sample of 56 TCAs, all part of the ‘Momentum for Change’ initiative run by the UN Climate Change Secretariat. The research project followed the overall motivation to find out how effective these private governance institutions are and whether they have potential to meaningfully contribute to global climate targets. To do so, the 56 TCAs were assessed on basis of data collected through an online survey.

First, the TCAs themselves have been evaluated. A look at their institutional quality revealed that little more than a third fulfils all relevant quality criteria. A large majority of TCAs stated to have quantitative targets and monitoring and reporting arrangements in place. Especially the high scores in the latter speak for a high degree of accountability and transparency and help to make changes in behaviour (outcome) and target indicators (impact) attributable. However, given the fact, that all TCAs went through an application process and had to answer to the five selection criteria formulated by the UN Climate Change Secretariat (see chapter 2.2.1) a higher level of institutional quality could have been expected.

Subsequently, the consequences of TCA activities were assessed regarding their levels of output and achievements. The analysis showed that all 56 TCAs are, indeed, producing output. This differs from findings in previous studies (Chan, Falkner, et al. 2015; Pattberg et al. 2012) but is of no surprise when considering the UNFCCC selection criteria. However, it might also be attributed to the different actor composition. While the sample of climate actions under the New York Climate Summit (2014) and the Partnerships for Sustainable Development are dominated by intergovernmental or international organizations and state actors, the TCAs in the MfC sample are dominated by actors from business and subnational entities. Encouragingly, a large majority produces outputs that partially or fully corresponds their functions.

The low response rate on the general target indicators limited the assessment of the level of achievements and was rather unexpected, given that a large majority of TCAs stated to have quantitative targets. This might be due to the fact that TCAs work with more individualized target indicators. Based on this assumption, examining a fundamentally bigger sample would be favourable to set up a list of more individual target indicators and thus further examine the impact level. Only for categories with enough cases, it makes sense to refrain from the generally applicable target indicators, such as number of people, villages, countries and CO₂e avoided, and to move towards a more narrow level of examination without risking to study the case level only. This calls for both, research on further large-n samples and efforts to develop a comprehensive, action specific list of target indicators.

The second aim of the research project was to offer a comprehensive source of information on TCA in developing countries. The analysis of the sample of respondents, their countries of implementation and location of lead partners or steering organs correspond with the structure on the entire MfC activity database: The majority of implementation activities is distributed over Africa, Latin America and The Caribbean, Asia, and Oceania. Both, the locations of lead partners’ and steering organs’ as well as the geographic patterns of implementation activities stand in contrast to other large-n studies as presented in chapter 2.2 and do not reveal a Northern dominance. Due to the sample size, it would be too early to call it a transformative power shift. However, with these results, the sample can be situated in the exact research gap it was set up for by offering valuable insights into patterns of TCAs in the development context.

When looking at determinants for the levels of output and achievements as measures for effectiveness, the econometrical analysis did contribute little to no explanation to what determines the varying levels of effectiveness. Using a bigger sample, such as NASZA, could help to support or withdraw these results. In contrast, the qualitative analysis of statements of respondents revealed information that partially well corresponded with findings of the descriptive analysis. This concerns specifically miscommunications between different governance levels and data accessibility. Respondents also outlined the beneficial nature of partnerships in terms of knowledge sharing and expertise. From a theoretical perspective the statement matches with the functional aspect of gathering additional expertise by including non-state and subnational actors into global (climate) governance.

Besides all attention to quality, output, and impact of the TCAs, unintended effects were disregarded in this research project. An entirely new field of research opens up when considering them. In particular the question may be raised whether there exist rebound effects that diminish the environmental and social impacts of the TCAs. This is a relevant issue for both, mitigation and adaptation oriented initiatives. For instance it may be of interest whether and how households substitute the time they do no longer have to spend on collecting firewood for cooking once they installed a solar cook stove and whether such activities are linked to CO₂ emissions. The CO₂ benefits of avoided deforestation could be diminished by behavioural change towards other CO₂ relevant activities (Jalas 2009). This consideration is also relevant when looking at entrepreneurial TCAs that do not only promise environmentally friendly solutions but also the creation of new job opportunities. An increase of household income, caused for instance by new job opportunities or savings through increased energy efficiency and time (Herring and Sorrell 2009), is closely linked to new patterns of consumption. In turn consumption is closely linked with CO₂ relevant emissions that arise during the consumption life cycles of products. This is a particular important aspect for developing countries, which generally offer great potential for efficiency measures and improved resource productivity, but are at the same time likely to experience a strong growth in future energy demand (Bishop 2015). Examining unintended and rebound effects of TCAs' activities shows the need for comprehensive monitoring arrangements and long-term oriented research.

The immense efforts necessary to keep global warming below 2 °C are likely to keep transnational climate action high on political and scientific agendas. The aggregated achievements of the underlying sample in terms of GtCO₂e of 12 TCAs are in a per thousand range of the global emission gap for a 2 °C outcome until 2025. This data is a careful first estimation based on TCAs' self indication and should be object of further verification by desk research and expert interviews. Still, this contributes to the list of few ex-post approximations that exist so far. Apart from potential mitigation contributions, the broad range of feasible, ambitious, and innovative solutions offered by the underlying sample of TCAs shows their transformative potential. More research is needed to further determine how this potential can be maximised.

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Annex 1: Functions and Outputs

The following tables show all function and output categories and how they are coded in terms of FOF. The categorization was taken over from the codebook that was developed for GAFCA (Chan et al. n.d.) in order to ensure comparability between the GAFCA and MfC database.

Table 6: Function categories and definitions

Function category	Definition
Knowledge production	Production of knowledge, information, innovation (scientific or applied)
Knowledge dissemination	Dissemination of knowledge, including dissemination of 'good practices'
Technical implementation and 'on the ground' action	Implementation of previously existing technologies, (mitigation and/or adaptation) plans and policies, including pilot and demonstration projects
Institutional capacity building (governments and formal institutions)	Building new social institutions (with or without legal status, for instance new partnerships) or expanding existing support organizations
Norm and standard setting	Setting up new norms or standards or spreading the use of such new norms, including the certification of products. Excluding internal (organizational) norm setting and policies.
Campaigning	Campaigns, including raising public awareness on a given topic, and education of the public at large
Lobbying	Lobbying, restricted to pressure applied on governmental actors from non-governmental ones
Participatory management	Participatory management and involvement of local communities in policy programmes
Training and non-state and subnational capacity building	Training of employees, other social actors, or students (including school training if new curriculum is introduced with a specific content related to climate change)
Funding	Providing funds for climate related project, or raising funds.
Product development	Developing new or renewed climate-friendly commercial products and services
Policy planning	Planning at national or regional levels (including the production of large policy plans, development or planning of policy instruments)

Note: Modelled after GAFCA Codebook (Chan et al. n.d.)

Table 7: Output categories and definitions

Output category	Definition
OUT_PUB_RES	Publication of Research
OUT_PUB_ADV	Publications of informative materials (campaign material, newsletter, petitions, promotion material: leaflets, posters, brochures)
OUT_PUB_STA	Publication about standards with regard to policies or procedures with climate or sustainability relevance
OUT_PUB_EDU	Publication of education material
OUT_PUB_POL	Publication for policy makers arguing for specific climate regulations or management procedures
OUT_PUB_EMR	Publication on emission reductions achieved by the initiative
OUT_PUB_REP	Publication of activity reports
OUT_DTB	Creation of a database
OUT_EVO_S2S	(Co-)Organization of events for scientist
OUT_EVO_SCP	(Co-)Organization of events for science / policy exchange
OUT_EVO_POL	(Co-)Organization of policy events
OUT_EVO_POP	(Co-)Organization of public popular events
OUT_EPA_S2S	Participation in events for scientific exchange
OUT_EPA_SCP	Participation in events for science / policy exchange
OUT_EPA_POL	Participation in policy events (i.e. COP of the UNFCCC)
OUT_EPA_POP	Participation in public popular events
OUT_ITT	Construction or improvement of physical facilities, application and transfer of new technologies
OUT_SOM	Active and operational websites / social media accounts
OUT_INS_ORG	Initiation of new partnerships, organizations, or institutions
OUT_INS_PIN	Development of new policy instruments
OUT_INS_PAR	Establishment of new partnerships
OUT_FUN_RAI	Funding for realization of new or existing projects related to climate action
OUT_FUN_PRO	Funding distributed for new or existing projects related to climate action
OUT_COM_PRS	Development of products & services with climate benefits
OUT_COM_CON	Advisory activity on climate related issues

Note: Modelled after GAFCA Codebook (Chan et al. n.d.)

Function Output Fit (FOF)

Table 8: Functions and fitting outputs

Functions	Fitting Outputs						
knowledge production	PUB_RES	DTB	EVO_S2S	EPA_S2S			
knowledge dissemination	PUB_EDU	DTB	EVO_S2S	EVO_SCP	EVO_POL	EVO_POP	EPA_
technical implementation and 'on the ground' action	ITT	PUB_EMR					
institutional capacity building (governments and formal institutions)	INS_ORG	INS_PIN	EVO_POL	EPA_POL			
norm and standard setting campaigning	PUB_STA PUB_ADV	EVO_POP	EPA_POP	SOM			
lobbying	PUB_POL	COM_CON	EVO_POL	EPA_POL			
participatory management	INS_PAR	PUB_REP	EVO_POP				
training and non-state and subnational capacity building	PUB_EDU	EVO_POP					
funding	FUN_RAI	FUN_PRO					
product development	COM_PRS						
policy planning	PUB_POL	EVO_SCP	EVO_POL	EPA_SCP	EPA_POL	INS_PIN	

Note: Modelled after GAFCA Codebook (Chan et al. n.d.)

Annex 2: Outputs

Table 9: Output categories

Absolute Frequency	Output
37	Initiation of new partnerships, organizations, or institutions
33	Publications of informative materials (campaign material, newsletter, petitions, promotion material)
32	Finding new partners for the initiative
30	Active and operational websites / social media accounts
29	Development of products & services with climate benefits
25	Construction or improvement of physical facilities, application and transfer of new technologies
22	Publication of activity reports
22	Participation in public popular events
22	Funding raised for realization of new or existing projects related to climate action
20	Creation of a database
19	Publication of education material
19	Participation in policy events (i.e. COP of the UNFCCC)
16	(Co-)Organization of public popular events
15	Publication of Research
14	Participation in events for scientific exchange
14	Participation in events for science / policy exchange
11	Publication on emission reductions achieved by the initiative
9	Publication for policy makers arguing for specific climate regulations or management procedures
9	(Co-)Organization of events for science / policy exchange
9	Funding distributed for new or existing projects related to climate action
8	Development of new policy instruments
7	Publication about standards with regard to policies or procedures with climate or sustainability relevance
7	(Co-)Organization of events for scientist
6	(Co-)Organization of policy events

Note: Ranked by frequency of indication of respondents

Annex 3: Models Quantitative Analysis

Correlation Analysis

Variables:

- Quality (monitoring, reporting, evaluation, quantitative targets, baseline scenario, task division, and steering organ),
- Output (FOF) and
- Achievements (people, villages, cities, countries reached with implementation activities, CO₂e avoided).

Note, that variables with a number of observations below 20 were not considered in the analysis for matters of robustness and validity.

Table 10: Correlation analysis

		People	Villages	Cities	Countries	CO2	FOF	Monitoring	Reporting	Evaluation	Baseline Scenario	Quant. Target	Task division	Steering Organ
People	Correlation according to Pearson	1	,881**	,460	,544*	,865**	-,211	°	-,173	°	-,147	,212	,212	-,361
	Significance (2-seitig)		,000	,073	,016	,000	,335	,000	,429	,000	,505	,331	,331	,091
	Number of observations	23	14	16	19	12	23	23	23	23	23	23	23	23
Villages	Correlation according to Pearson	,881**	1	,613*	,613*	,877**	-,229	°	-,437	°	-,046	,241	°	-,530*
	Significance (2-seitig)	,000		,045	,026	,002	,411	,000	,103	,000	,870	,386	,000	,042
	Number of observations	14	15	11	13	9	15	15	15	15	15	15	15	15
Cities	Correlation according to Pearson	,460	,613*	1	,550	,590	-,385	°	-,194	°	-,020	,129	,129	-,195
	Significance (2-seitig)	,073	,045		,022	,094	,127	,000	,457	,000	,941	,620	,620	,454
	Number of observations	16	11	17	17	9	17	17	17	17	17	17	17	17
Countries	Correlation according to Pearson	,544*	,613*	,550	1	,688*	-,527*	°	-,299	°	-,177	-,199	-,199	-,322
	Significance (2-seitig)	,016	,026	,022		,028	,017	,000	,201	,000	,454	,400	,400	,166
	Number of observations	19	13	17	20	10	20	20	20	20	20	20	20	20
CO2	Correlation according to Pearson	,865**	,877**	,590	,688*	1	-,141	°	-,133	°	,058	,158	,158	-,318
	Significance (2-seitig)	,000	,002	,094	,028		,646	,000	,664	,000	,851	,606	,606	,290
	Number of observations	12	9	9	10	13	13	13	13	13	13	13	13	13
FOF	Correlation according to Pearson	-,211	-,229	-,385	-,527*	-,141	1	-,063	,345**	-,139	-,109	-,160	,019	,092
	Significance (2-seitig)	,335	,411	,127	,017	,646		,644	,009	,307	,423	,237	,887	,498
	Number of observations	23	15	17	20	13	65	56	56	56	56	56	56	56
Monitoring	Correlation according to Pearson	°	°	°	°	°	-,063	1	,057	,360**	,029	,393*	,544**	-,071
	Significance (2-seitig)	,000	,000	,000	,000	,000	,644		,676	,006	,832	,003	,000	,604
	Number of observations	23	15	17	20	13	56	56	56	56	56	56	56	56
Reporting	Correlation according to Pearson	-,173	-,437	-,194	-,299	-,133	,345**	,057	1	,189	-,077	,145	,220	,316*
	Significance (2-seitig)													
	Number of observations													

	Significance (2-seitig)	,429	,103	,457	,201	,664	,009	,676		,163	,571	,286	,103	,018
	Number of observations	23	15	17	20	13	56	56	56	56	56	56	56	56
Evaluation	Correlation according to Pearson	. ^c	. ^c	. ^c	. ^c	. ^c	-,139	,360**	,189	1	,054	,390**	,346**	,140
	Significance (2-seitig)	,000	,000	,000	,000	,000	,307	,006	,163		,693	,003	,009	,303
	Number of observations	23	15	17	20	13	56	56	56	56	56	56	56	56
Baseline Scenario	Correlation according to Pearson	-,147	-,046	-,020	-,177	,058	-,109	,029	-,077	,054	1	,074	,153	,044
	Significance (2-seitig)	,505	,870	,941	,454	,851	,423	,832	,571	,693		,589	,261	,745
	Number of observations	23	15	17	20	13	56	56	56	56	56	56	56	56
Quant. Target	Correlation according to Pearson	,212	,241	,129	-,199	,158	-,160	,393**	,145	,390**	,074	1	,284**	,062
	Significance (2-seitig)	,331	,386	,620	,400	,606	,237	,003	,286	,003	,589		,034	,650
	Number of observations	23	15	17	20	13	56	56	56	56	56	56	56	56
Task Division	Correlation according to Pearson	,212	. ^c	,129	-,199	,158	,019	,544**	,220	,346**	,153	,284**	1	,162
	Significance (2-seitig)	,331	,000	,620	,400	,606	,887	,000	,103	,009	,261	,034		,234
	Number of observations	23	15	17	20	13	56	56	56	56	56	56	56	56
Steering Organ	Correlation according to Pearson	-,361	-,530	-,195	-,322	-,318	,092	-,071	,316	,140	,044	,062	,162	1
	Significance (2-seitig)	,091	,042	,454	,166	,290	,498	,604	,018	,303	,745	,650	,234	
	Number of observations	23	15	17	20	13	56	56	56	56	56	56	56	56

Notes: **. The correlation is significant on a 0.01 level (two-sided). *. The correlation is significant on a 0.05 level (two-sided).

c.Could not be calculated since at least one of the variables is constant.

Outlined in red are the correlations between levels output (FOF) of achievements (people) (lines) and variables for institutional quality and capacity (columns); outlined in blues are correlations between the single variables for institutional quality and capacity.

Model 1

Dependent variable: FOF, $R^2 = .243$; N=56

Table 11: Model 1 linear regression analysis

		Coefficient ^a				
Model		Non standardized coefficients		Standardized coefficient	T	Sig.
		Regression coefficient	Standard deviation	Beta		
1	(Constant)	,074	,748		,099	,922
	TaskDiv	-,078	,366	-,040	-,212	,833
	SteerOrg	-,041	,214	-,028	-,191	,850
	LP_Subnational (e.g. municipalities, communities)	,745	,625	,343	1,192	,240
	LP_Business and Industry	,827	,563	,546	1,470	,149
	LP_Non-Profit and NGO	,514	,579	,329	,889	,379
	LP_International Organization	,744	,662	,267	1,123	,268
	LP_Research and Education	,739	,658	,293	1,123	,268
	LP_National Governments or Government Agencies	,500	,721	,129	,693	,492
	Monitoring	,250	,586	,078	,427	,672
	Reporting	,720	,262	,423	2,750	,009
	Evaluation	-,140	,264	-,090	-,530	,599
	BaselineScenario	-,060	,243	-,041	-,248	,805
	Quant_Targ_Dummy	-,245	,252	-,151	-,971	,337

Model 2

Dependent Variable: People, $R^2 = .613$; $N=23$

Notes: Monitoring and Evaluation were constant and therefore not included in the analysis

Table 12: Model 2 linear regression analysis

		Coefficient ^a				
Model		Non standardized coefficients		Standardized coefficient	T	Sig.
		Regression coefficient	Standard deviation	Beta		
2	(Constant)	,190	1,489		,128	,900
	TaskDiv	1,736	,973	,481	1,784	,100
	SteerOrg	-1,258	,682	-,513	-1,845	,090
	Reporting	-,260	,742	-,088	-,350	,732
	BaselineScenario	,375	,581	,150	,645	,531
	Quant_Targ_Dummy	,217	,868	,060	,251	,806
	LP_Subnational (e.g. municipalities, communities)	,187	1,315	,043	,143	,889
	LP_Business and Industry	-,036	1,188	-,011	-,030	,976
	LP_Non-Profit and NGO	1,032	1,225	,424	,843	,416
	LP_International Organization	3,000	1,481	,503	2,025	,066
	LP_Research and Education	1,535	1,338	,425	1,148	,273

Annex 4: Hindering and Favouring Factors for TCAs

Table 13: Hindrances and Opportunities for TCAs

Frequency	Threats	Opportunities	Frequency
35	Lack of financial resources (especially freely applicable funding, continuous funding)	Community support (by addressing urgent needs, offering feasible solutions, empowering women, choosing participatory approaches in the implementation process, or creating jobs)	13
13	Lack of knowledge infrastructure / exchange (concerning employees (lack of human capital), partners, and authorities), Lack of training and educational material in local languages, technical expertise	Successful identification of market gap / demand for proposed good or service	11
11	Lack of governmental support, lack of regulations / policies on environmental & climate issues (lack of mandates / legitimacy)	Funding and grants (flexible and long term oriented financing)	9
6	Finding partner / Networking / reconciliation of interests of different partners	Human resources, gained and accumulated experience, technical expertise gathered over time	8
6	Lack of transport infrastructure	Partners and their respective expertise, networking	8
3	Marketing to increase visibility, customer acquisition	International support (knowledge exchange, volunteers, fundraising)	8
3	Lack of impact measurement and monitoring tools	Persistence, determination, commitment, ambition	6
3	Data collection / accessibility (e.g. no standardized data collection procedures on national level, no digital access)	Increasing costs of less environmental friendly alternatives (both financially and in terms of health costs)	5
3	Organizational matters (project management, concept development, monitoring, maintenance (adequate technical operation of implemented sites, ...))	Availability of raw material (sun, bamboo, land)	3
2	Suppression of small organizations by bigger ones	Private and public sector participation (especially for cost sharing)	3

2	Extreme weather events	Governmental support, legitimacy and accepted mandates by authorities	3
1	Language barriers (translating project content into English for funding opportunities, networking etc.)	Low financial and participatory barriers for customers and rapid economic payback	2
1	Security issues	Funding spent on research and development	2
1	Traditions and unwillingness to change them	Continuous communication between organization, authorities and target groups	2
1	Climate change perceived as distant threat	Customer acceptance and support	2
1	Exchange rate fluctuations	Training (for better data management, technical expertise, project management, etc.)	1
		Transparency	1
		Franchise model	1
		Public awareness of environmental / climate issues	1
		Media presence	1
		Collaboration with smallholders due to their direct consternation of climate change consequences	1
		Political momentum	1
		Feed-in tariffs and tax incentives	1

Note: Based on self indication and ranked by the frequency with which respondents indicated them

Annex 5: Survey

Pages with drop down lists of countries were excluded for the sake of clarity.

Determinants of the Potential of Climate Actions: The case of the 'Momentum for Change' Initiative

Dear Participant,

this survey is part of a research project on the potential of non-state climate actions and factors that influence their success and failure. This is a joint project by Utrecht University (UU) and the German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE). The survey results will help better understand the potential of climate action by non-state actors. Our results will be useful to the UNFCCC secretariat as well as to climate actions themselves and aggregated results will be shared with them. Your individual information however will be anonymised and treated confidentially.

We kindly ask you to complete the survey on behalf of your climate action registered with the 'Momentum for Change' initiative. In case you are interrupted while completing the survey, your data will be saved and you can continue at a later point in time.

Thank you very much for taking the time to complete the survey. It will take approximately 20 minutes. If you have any questions or comments, please contact friederike.eichhorn@die-gdi.de.

There are 36 questions in this survey

About your climate action

[]What is the name of your initiative as registered in the 'Momentum for Change' activity database? *

Please write your answer here:

[]When was your initiative launched? *

Please enter a date:

[]Is your initiative still active? *

Please choose **only one** of the following:

Yes

No

In case your initiative is inactive, please continue responding on the basis of the last year of activity.

[]Is there a final target year for your initiative?

Please enter a date:

If yes, please enter target year (it may be in the past). If there is no final target year, please leave blank.

Functions, activities and achievements

[]What main action area does your initiative address? *

Please select between 1 and 2 answers

Please choose **all** that apply:

- Agriculture
- Cities
- Energy
- Forest
- Financing
- Business and Industry
- Waste
- Transport
- Resilience

[]What is the main climate benefit of your initiative? *

Please choose **only one** of the following:

- Mitigation (reduction of greenhouse gas emissions)
- Adaptation (adaptation to impacts of climate change)
- Mitigation with adaptation co-benefits
- Adaptation with mitigation co-benefits
- Equal benefits to both, mitigation and adaptation
- Other

[]What are the most important functions of your initiative? *

Please select between 1 and 3 answers

Please choose **all** that apply:

- Knowledge production
- Knowledge dissemination
- Technical implementation and on-the-ground action
- Building new institutions and organizations
- Training and capacity building
- Norm and standard setting
- Campaigning (directed at the broader public)
- Lobbying (directed at policy makers)
- Increasing stakeholder participation
- Fund raising

- Fund distributing
- Product development
- Public policy planning
- Consultancy
- Other:

[]Which secondary functions does your initiative perform? *

Please choose **all** that apply:

- No secondary functions
- Knowledge production
- Knowledge dissemination
- Technical implementation and on-the-ground action
- Building new institutions and organizations
- Training and capacity building
- Norm and standard setting
- Campaigning (directed at the broader public)
- Lobbying (directed at policy makers)
- Increasing stakeholder participation
- Fund raising
- Fund distributing
- Product development
- Public policy planning
- Consultancy
- Other:

[]Which of the following consumption sectors does your initiative affect most?

Only answer this question if the following conditions are met:

Answer was 'Equal benefits to both, mitigation and adaptation' or 'Mitigation with adaptation co-benefits' or 'Other' or 'Adaptation with mitigation co-benefits' or 'Mitigation (reduction of greenhouse gas emissions)' at question '6 [AdaptMitigation]' (What is the main climate benefit of your initiative?)

Please choose **only one** of the following:

- Food
- Clothing
- Construction (e.g. buildings, infrastructure, ...)
- Shelter (e.g. operation and maintenance of residences, energy supply, ...)
- Manufactured Products (e.g. furniture, cleaning products, electronic equipment, ...)
- Mobility (e.g. private vehicles, public transport, passenger air travel, ...)
- Services (e.g. public administration, health, education, ...)

- Trade (e.g. freight transport & shipping, retail, ...)

[]What are the outputs your initiative has already implemented or produced to date? *

Please choose **all** that apply:

- Publication of Research
- Publications of informative materials (campaign material, newsletter, petitions, promotion material e.g. leaflets, posters, brochures)
- Publication about standards with regard to policies or procedures with climate or sustainability relevance
- Publication of education material
- Publication for policy makers arguing for specific climate regulations or management procedures
- Publication on emission reductions achieved by the initiative
- Publication of activity reports
- Creation of a database
- (Co-)Organization of events for scientist
- (Co-)Organization of events for science / policy exchange
- (Co-)Organization of policy events
- (Co-)Organization of public popular events
- Participation in events for scientific exchange
- Participation in events for science / policy exchange
- Participation in policy events (i.e. COP of the UNFCCC)
- Participation in public popular events
- Construction or improvement of physical facilities, application and transfer of new technologies
- Active and operational websites / social media accounts
- Initiation of new partnerships, organizations, or institutions
- Development of new policy instruments
- Establishment of new partnerships
- Funding for realization of new or existing projects related to climate action
- Funding distributed for new or existing projects related to climate action
- Development of products & services with climate benefits
- Advisory activity on climate related issues
- My initiative has not yet produced any output
- Other:

Please do not indicate output that is still in the planning phase or output that has been produced / implemented by individual partners of your initiative.

Organizational characteristics

[] Does the initiative have dedicated staff? *

Please choose the appropriate response for each item:

	No	Yes, between 1-5	Yes, between 6-20	Yes, between 21-100	Yes, more than 100
Full time employees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Part time employees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Volunteers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[] Does your initiative have...

Please choose **all** that apply:

- A secretariat
- A headquarter
- A board of advisors
- An executive board
- An executive council
- A steering committee
- Other:

[] Where is the headquarter or secretariat located? *

Only answer this question if the following conditions are met:

Answer was 'A secretariat' or 'A headquarter' at question '12 [Board]' (Does your initiative have...)

Please choose **only one** of the following:

- Afghanistan
- Albania
- Algeria
- Andorra
- Angola
- Antigua and Barbuda
- Argentina
- Armenia
- Australia
- Austria
- Azerbaijan
- Bahamas
- Bahrain
- Bangladesh
- Barbados

- Sri Lanka
- Sudan
- Suriname
- Swaziland
- Sweden
- Switzerland
- Syrian Arab Republic
- Tajikistan
- Thailand
- The former Yugoslav Republic of Macedonia
- Timor-Leste
- Togo
- Tonga
- Trinidad and Tobago
- Tunisia
- Turkey
- Turkmenistan
- Tuvalu
- Uganda
- Ukraine
- United Arab Emirates
- United Kingdom of Great Britain and Northern Ireland
- United Republic of Tanzania
- United States of America
- Uruguay
- Uzbekistan
- Vanuatu
- Venezuela (Bolivarian Republic of)
- Viet Nam
- Yemen
- Zambia
- Zimbabwe

[]Is there an explicit division of organizational tasks within the initiative? *

Please choose **only one** of the following:

- Yes
- No

[]What is your project budget?

Please write your answer(s) here:

Annual project budget (in USD)

Total project budget (in USD)

Please provide approximate values if unclear.

Monitoring, reporting, evaluation

[]

Does your initiative regularly monitor its activities? *

Please choose **only one** of the following:

- Yes
- No

[]Has your initiative set targets? *

Please choose **only one** of the following:

- Yes, quantitative targets.
- Yes, qualitative targets.
- Yes both, quantitative and qualitative targets.
- We have a vision but no clearly formulated targets.
- No.

[]Does your initiative evaluate performance against targets? *

Please choose **only one** of the following:

- Yes
- No

[]Please specify targets and achievements to date.

Only answer this question if the following conditions are met:

Answer was 'Yes' at question '18 [Evaluation]' (Does your initiative evaluate performance against targets?) *and* Answer was 'Equal benefits to both, mitigation and adaptation' *or* 'Other' *or* 'Adaptation with mitigation co-benefits' *or* 'Mitigation with adaptation co-benefits' *or* 'Mitigation (reduction of greenhouse gas emissions)' at question '6 [AdaptMitigation]' (What is the main climate benefit of your initiative?)

	Target	Achieved to date
Number of people reached	<input type="text"/>	<input type="text"/>
Number of villages reached	<input type="text"/>	<input type="text"/>
Number of cities reached	<input type="text"/>	<input type="text"/>
Number of countries reached	<input type="text"/>	<input type="text"/>
Amount of Tons of CO2-Equivalent avoided	<input type="text"/>	<input type="text"/>

Make estimations if you are unclear.

[]What (additional) indicators do you use to monitor and evaluate achievements and impact of your initiative?

Please write your answer here:

Please list them and add quantitative achievements where applicable, i.e. kilometers of coast line protected

[]How frequently does your initiative evaluate performance against targets? *

Only answer this question if the following conditions are met:

Answer was 'Yes' at question '18 [Evaluation]' (Does your initiative evaluate performance against targets?)

Please choose **only one** of the following:

- Real time
- Biannually or more frequently
- Annually
- Every two years
- Every four years
- Infrequently

[]Did your initiative specify a baseline scenario, that is the amount of emissions that would have been produced without your initiative? Or, in other words, did you specify the potential CO2 emissions saved by your initiative? *

Only answer this question if the following conditions are met:

Answer was 'Adaptation with mitigation co-benefits' or 'Equal benefits to both, mitigation and adaptation' or 'Mitigation with adaptation co-benefits' or 'Mitigation (reduction of greenhouse gas emissions)' or 'Other' at question '6 [AdaptMitigation]' (What is the main climate benefit of your initiative?)

Please choose **only one** of the following:

- Yes
- No

[]According to your baseline scenario calculation, how many tons of CO2-Equivalents per year is potentially avoided by your initiative?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question '22 [BaselineScenario]' (Did your initiative specify a baseline scenario, that is the amount of emissions that would have been produced without your initiative? Or, in other words, did you specify the potential CO2 emissions saved by your initiative?)

Please write your answer here:

[]Does your initiative regularly report on activities? *

Please choose **only one** of the following:

- Yes
 No

[]How frequently do you report? *

Only answer this question if the following conditions are met:

Answer was 'Yes' at question '24 [Reporting]' (Does your initiative regularly report on activities?)

Please choose **only one** of the following:

- Real time
 Biannually or more frequently
 Annually
 Every two years
 Every four years
 Infrequently

[]Are your initiative's mitigation contributions accounted for at the national level? *

Only answer this question if the following conditions are met:

Answer was 'Mitigation (reduction of greenhouse gas emissions)' or 'Mitigation with adaptation co-benefits' or 'Adaptation with mitigation co-benefits' or 'Equal benefits to both, mitigation and adaptation' at question '6 [AdaptMitigation]' (What is the main climate benefit of your initiative?)

Please choose **only one** of the following:

- Yes
 No
 Don't know, unclear

Make a comment on your choice here:

Comment or further explication optional.

Partners of the initiative

[]Which types of partners are involved in your initiative and how many? *

Please write your answer(s) here:

National Government or Government Agencies

Business and Industry

Non-Profit and NGO

International Organizations

Subnational Actors (e.g. municipalities, communities)

Research and Education

Total number of partners

Please, enter '0' if a type of partner is not involved. If you are unclear about exact numbers, please provide estimations.

[]What type of partner has initiated the initiative? *

Please choose **only one** of the following:

- National Government or Government Agencies
- Business and Industry
- Non Profit and NGO
- International Organization
- Subnational (e.g. municipalities, communities)
- Research and Education
- Other

If your institution is the initiator, please still indicate the fitting category.

[]What type of partner is leading your initiative? *

Please choose **only one** of the following:

- National Governments or Government Agencies
- Business and Industry
- Non-Profit and NGO

- International Organization
- Subnational (e.g. municipalities, communities)
- Research and Education
- Other

If your institution is the lead partner, please still indicate the fitting category.

[]In which country is the lead partner based?

Please choose **only one** of the following:

- Afghanistan
- Albania
- Algeria
- Andorra
- Angola
- Antigua and Barbuda
- Argentina
- Armenia
- Australia
- Austria
- Azerbaijan
- Bahamas
- Bahrain
- Bangladesh
- Barbados
- Belarus
- Belgium
- Belize
- Benin
- Bhutan
- Bolivia
- Bosnia and Herzegovina
- Botswana
- Brazil
- Brunei Darussalam
- Bulgaria
- Burkina Faso
- Burundi
- Cambodia

- Tunisia
- Turkey
- Turkmenistan
- Tuvalu
- Uganda
- Ukraine
- United Arab Emirates
- United Kingdom of Great Britain and Northern Ireland
- United Republic of Tanzania
- United States of America
- Uruguay
- Uzbekistan
- Vanuatu
- Venezuela (Bolivarian Republic of)
- Viet Nam
- Yemen
- Zambia
- Zimbabwe

[] Please indicate where your partners come from and how many partners you have in the respective country.

Please write your answer(s) here:

Afghanistan

Albania

Algeria

Andorra

Angola

Antigua and Barbuda

Argentina

Geography of implementation

[]Where is your initiative active?

Please choose the appropriate response for each item:

	Active in past, inactive now	Active at the moment	Activity planned, inactive at the moment
Afghanistan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Albania	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Algeria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Andorra	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Angola	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Antigua and Barbuda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Argentina	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Armenia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Australia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Austria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Azerbaijan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bahamas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bahrain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bangladesh	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Barbados	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Belarus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Belgium	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Belize	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Benin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bhutan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bolivia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bosnia and Herzegovina	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Botswana	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brazil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brunei Darussalam	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bulgaria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Burkina Faso	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Burundi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cambodia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cameroon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Canada	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cape Verde	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Central African Republic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
China	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Colombia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[]

What difficulties and hindrances does your initiative face in implementing and upscaling its activities?

Please write your answer here:

Please only use keywords.

[]What factors particularly favoured the development of your initiative so far?

Please write your answer here:

Please only use keywords.

Final Remarks and Future Research

[] Do you have any final remarks you would like to share on behalf of your initiative?

Please write your answer here:

Please try to cluster them and only use keywords, i.e. biggest challenges: ...; need for research:; greatest reward:; etc.

[] Can we contact you for follow up questions or questions for clarification as we continue our research on non-state climate action? If yes, please provide us with your email address.

Please write your answer here:

Thank you very much for completing this survey. If you have questions or remarks please contact friederike.eichhorn@die-gdi.de.

10.07.2016 – 00:00

Submit your survey.
Thank you for completing this survey.