

AWARDS TO ENABLE CATALYTIC IMPACT?

Analysing the Value of UNFCCC's Momentum for Change
Initiative for Strengthening Non-State Climate Actions

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Summary

Over the years, it has been observed that successful policy innovations by non-state climate actions may cause them to scale up or be replicated in other contexts, also described as 'catalytic impact'. Recognising this potential, the UNFCCC launched the 'Momentum for Change' (MfC) initiative in 2011, which annually awards non-state climate actions with high catalytic potential to become 'Lighthouse Activities'. Through this awarding mechanism, UNFCCC attempts to further strengthen the contributions of non-state climate actions to international climate change governance. This approach with international awards has been adopted beyond UNFCCC as well. However, there have been few studies to investigate the actual value of these awarding mechanisms for strengthening catalytic impact of non-state climate action, and additional understanding of catalytic impact is still necessary. Focusing on MfC, this thesis therefore aims to determine what drivers and barriers may be present for catalytic impact, and to what extent they are addressed by awarding mechanisms. To pursue this objective, the thesis is theoretically based in polycentric governance and transnational climate change governance and aims to characterise MfC's 'enabling power' for supporting non-state climate actions. Following a literature review and an online survey conducted among Lighthouse Activities, a wide array of drivers and barriers for catalytic impact has appeared. At the same time however, the survey indicated that only a smaller subset of drivers and barriers are perceived to be addressed when winning the MfC award. Specifically, MfC appears mainly to strengthen reputation as a driver for catalytic impact, as Lighthouse Activities receive explicit recognition by the UNFCCC for their initiative's work and catalytic potential. The latter observation is further supported by what survey respondents have indicated about the value of MfC, as well by similar findings from follow-up interviews: recognition by the UNFCCC after winning the MfC award is highly appreciated by Lighthouse Activities as it validates their initiatives' work and strengthens their position, regardless of whether they are able to address drivers and barriers for catalytic impact. The latter does often seem to be true for Lighthouse Activities, but may be strongly reliant on individual initiatives' circumstances and ability to capitalize on its strengthened reputation. In conclusion, it appears that the enabling power of the MfC award is strongly embedded in the UNFCCC's international authority, but the extent to which an award can help address drivers and barriers for catalytic impact appears conditional to an initiative's individual circumstances.

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List of Acronyms

CBFEWS	Community-Based Flood Early-Warning System
CDM	Clean Development Mechanism
COP	Conference of the Parties
CSA	Case Study Analysis
EU	European Union
ICIMOD	International Centre for Integrated Mountain Development
IIX	Impact Investment Exchange
JI	Joint Initiative
MfC	Momentum for Change
SSP	Swayan Shikshan Prayog (Indian NGO)
TCCG	Transnational Climate Change Governance
UNDP/GEF	United Nations Development Programme's Global Environmental Finance Unit
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
WLB Series	Women's Livelihood Bond Series
WOCAN	Women Organizing for Change in Agriculture and National Resource Management

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Preface

The basis of this thesis project and research internship originally stemmed from my growing interest and enthusiasm over the years in discovering the vast landscape of transnational climate change governance and non-state climate action. As addressing climate change becomes increasingly complex and challenging over the years, climate action beyond the state on every possible level within society grows in importance. It has become my main interest to discover how such climate actions can be strengthened to make a sustainable future a true collective effort.

Conducting this research has not only be thrilling to me as an assignment, but also as an exclusive opportunity to become better acquainted with the hidden world non-state climate action. Seeing that opportunities and efforts to address climate change continually improve and grow in volume, even in times of a pandemic, has been a strong motivator for my commitment to dedicate my future career to helping to overcome one of the most pressing contemporary crises.

Being granted this experiences, I want to thank my supervisor for giving me this opportunity to conduct this research and the invaluable support he has provided in making this thesis project what it has become now. Additionally, I have highly appreciated his efforts in getting me more acquainted with the academic world and growing my enthusiasm for research.

1. Introduction

1.1 Background and Problem Definition

A frequent criticism of traditional government approaches involving states or intergovernmental organisations such as the United Nations Framework Convention on Climate Change (UNFCCC), is that it is too slow and produces insufficient results to effectively address climate change (Chan et al 2015; Jordan et al 2018a). Consequently, new forms of governance have gained footing within the international climate change governance landscape (Jordan et al 2018a). In particular, transnational climate change governance (TCCG), encompassing climate actions by both sub- and non-state climate actors, has become increasingly relevant in the last decade (Abbott 2012; Bulkeley et al 2018; 2014a; Chan et al 2019; 2015; Hale 2018).

As a governance mode, TCCG distinguishes itself from traditional governance modes within the international climate change regime as it involves various non-state actors, such as stakeholders from businesses or civil society, taking the lead in addressing climate change. Moreover, governance activities in TCCG can take place beyond national or international governance settings, and initiatives active under TCCG are therefore often referred to as ‘non-state climate actions’. (Abbott 2012; Bulkeley et al 2018; 2014a; Chan and Pauw 2014). Due to its features, TCCG can allow for both policy innovation and experimentation, thereby potentially overcoming shortcomings of traditional forms of government (Chan et al 2019; 2015; Hale 2018). While such innovations and policy experimentation might result in direct valuable contributions to address climate change (Chan et al 2015; Hale 2018; Hermwille 2018), many authors deem the indirect impacts of non-state climate actions even more important. Successful innovations fostered by non-state climate actions can yield powerful demonstration effects, which can diffuse transnationally and result in both scaling and replication of the respective climate actions (Bulkeley et al 2018; 2014b; Chan et al 2019; 2015; Hale 2018; Hermwille 2018).

This indirect impact of non-state climate actions is often referred to in literature as ‘catalytic impact’, which entails the scaling or replication of these initiatives beyond its initial scope (Bulkeley et al 2014b; Chan et al 2020; 2019; Hale 2018). Ideally, catalytic impacts of these type of climate actions can bolster national and international efforts at mitigating climate change or improving climate change resilience and inspire greater ambition (Chan et al 2019; Chan and Pauw 2014; Hale 2018). Therefore, catalytic impacts can be further distinguished in that they extend within countries, across countries and across regions (Chan et al 2020).

Following these promising features of sub- and non-state climate actions that can culminate into catalytic impacts, various studies argue that such initiatives show potential to address the global emissions gap that results from insufficient mitigation targets set by states (Hsu et al 2018; Kuramochi et al 2020; Roelfsema et al 2018), and have set out to explore the possibilities for creating stronger linkages between the UNFCCC climate regime and non-state climate action (Betsill et al 2015; Chan et al 2015; Hermwille 2018). More recently, the role of non-state climate actions has also become more profound and recognised for strengthening climate change adaptation (Chan and Amling 2019; Dzebo 2019; Hale 2018). Beyond the scholarly developments, sub- and non-state climate actions have become a more prominent feature of international climate change governance. Significant in this regard is the explicit recognition of the value of contributions of ‘non-Party’¹ climate actions towards

¹ Non-party stakeholders refer to any group participating in global climate change governance that is not a sovereign state (Roelfsema et al., 2018).

global goals under the UN Paris Agreement in 2015 (Chan et al 2019; Hale 2018; Van Asselt and Zelli 2018).

Prior to the Paris Agreement however, the UNFCCC launched the ‘Momentum for Change’ (MfC) initiative in 2011 as an attempt to further stimulate and inspire climate action by highlighting the potential contributions of non-state actors (Chan et al 2020; UNFCCC n.d.-f). This initiative calls upon actors in TCCG to showcase their initiatives and introduces an awarding mechanism where the most prestigious climate actions in terms of innovativeness, scalability, and replicability are declared ‘Lighthouse Activities’ (Chan et al 2020; UNFCCC 2011; n.d.-f).

While the intent behind an awarding mechanism such as MfC is to stimulate innovation, improve visibility, and subsequently foster opportunities for catalytic impacts that benefit social and environmental goals (Chan et al 2020; Chan and Pauw 2014; UNFCCC n.d.-f), its actual value for strengthening TCCG, and thereby non-state climate action, is currently unknown. Recent work by Chan et al (2020) did find differences in catalytic impact between awarded and non-awarded initiatives participating in MfC but remained inconclusive on whether the difference could be ascribed to the awarding mechanism. Partially, this may be due to the current challenge of analysing and assessing catalytic impact (Chan et al 2020; Hermwille 2018; Bulkeley et al 2018). Moreover, while catalytic impact has seen significant conceptual development in describing mechanisms and processes, there has been less explicit focus on both drivers and barriers (Bernstein and Hoffmann 2018b; Bulkeley et al 2014b; Chan et al 2020; Hale 2020a). Identifying and describing these two aspects could not only improve conceptual development, but also alleviate current challenges for assessing the value of awarding mechanisms for strengthening non-state climate action, as one could determine whether and how awarding mechanisms help addressing both drivers and challenges for catalytic impact.

1.2 Research Aim

This thesis project attempts to further explore and assess the value of awarding mechanisms to foster catalytic impact by first identifying and describing the respective drivers and barriers in non-state climate action and, second, by determining how a particular award mechanism addresses these drivers and barriers. The main question is:

What are the drivers and barriers for catalytic impact by non-state climate actions and to what extent are these addressed through awarding mechanisms?

To answer this question, this thesis will analyse initiatives awarded by MfC, the so-called Lighthouse Activities (see previous section). The analysis is theoretically based in polycentric governance theory, complemented with insights from TCCG. Moreover, this thesis introduces a polycentric governance perspective on power in analysing the awarding mechanism by focusing on the idea of ‘enabling power’ (see chapter 2.3). The research process and its theoretical embedding is presented in the research framework (see figure 1). Next, to guide the research, the following sub-questions are formulated:

SQ1: What drivers and barriers for catalytic impact can be deduced from existing literature and how do they resonate with empirical findings for Lighthouse Activities?

To respond to this question, this thesis will first identify drivers and barriers for catalytic impact by means of a literature review. Subsequently, findings will be compared with actual drivers and barriers found for Lighthouse Activities, which are acquired through a web-based survey and expert interviews with MfC laureates. Answering this question comprises the upper half of (B) and (C) in the research framework.

SQ2: What are the intended and actual outcomes of the MfC's award mechanism?

As the MfC initiative attempts to foster opportunities for catalytic impact, outcomes should here be understood as the ability of the awarding mechanism to address drivers and barriers for catalytic impact experienced by Lighthouse Activities. The intended outcomes are derived through document-analysis, using the theoretical drivers and barriers for catalytic impact and the theory on enabling power as a reference framework. This output is produced in section (C) in the research framework, and will actually be used for analysis in section (D) for comparison with the actual outcomes of the MfC awarding mechanism. The latter follows from the drivers and barriers experienced by Lighthouse Activities indicated as being addressed through the awarding mechanism based on survey results and interviews.

SQ3: What is the perceived value of the award mechanism for addressing drivers and barriers for catalytic impact according to experiences of Lighthouse Activities?

This question attempts to determine if MfC laureates deem the award instrumental for overcoming barriers or strengthening drivers, or whether they value the award differently. Answering this question will be based on the data acquired through the survey and expert-interviews with MfC laureates.

As presented in figure 1, the different sub-questions reflect a stepwise approach which logically builds towards answering the main research question. Both the intended and actual outcomes of the MfC awarding mechanism as well as the perceived value of MfC are compared and discussed, answering the main research question and providing recommendations.

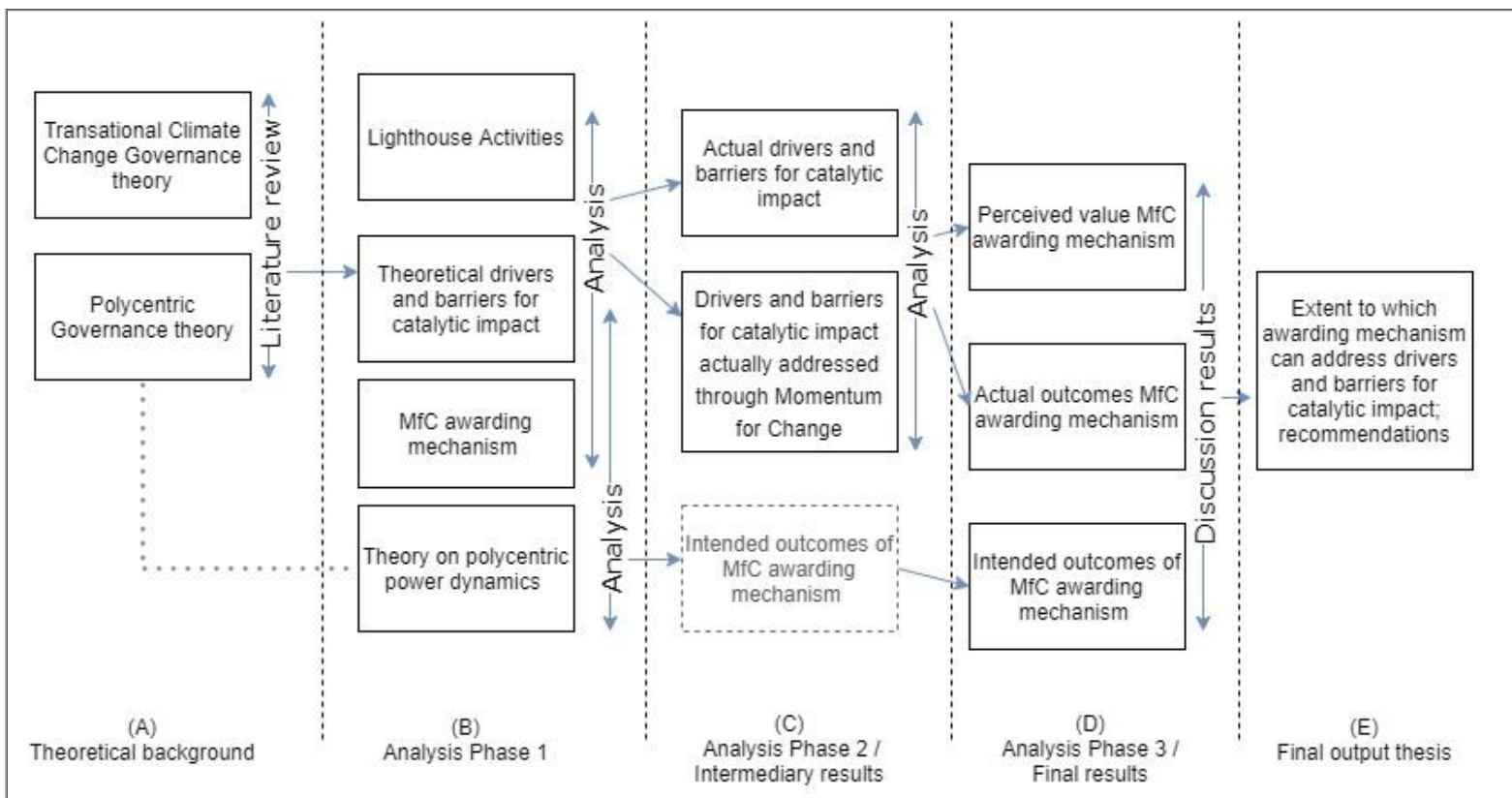


Figure 1: Research framework

1.3 Societal and Scientific Relevance

TCCG and non-state climate action has become an increasingly relevant within the global governance landscape for climate change (Abbott 2012; Bulkeley et al 2014a; 2018; Chan et al 2019; 2015). Gaining further understanding on the processes related to catalytic impact can therefore be valuable for improving the contributions of individual initiatives and, subsequently, TCCG as a whole. Furthermore, awarding mechanisms to stimulate innovative environmental action beyond the state have steadily grown in number in recent years and have become increasingly relevant as a governance tool in intergovernmental settings. Examples of the multitude of awarding mechanisms are the United Nations Environmental Programme's (UNEP) Champions of the Earth (UNEP n.d.), the European Union (EU) Sustainable Energy Awards (EUSEW n.d.) or the United Cities and Local Governments (UCLG) of Africa Climate Initiatives Awards (Africities n.d.). However, this increasing relevance has until now not been met with a parallel increase in scholarly interest, as studies on awarding mechanisms are currently limited. Therefore, analysing such mechanisms could be valuable not only for their practical improvement, but also for advancing scientific understanding on the subject matter. Additionally, as awarding mechanisms appear to exploit opportunities for catalytic impact, analysing these mechanisms also contributes to expanding scientific understanding for catalytic impact, as the conceptualisation of the latter could be further improved (Chan et al 2020; 2019).

2. Theory and Conceptual Framework

A framework for identifying, categorising, and analysing drivers and barriers for catalytic impact by non-state climate actions is not readily available, nor is there one for determining the ability of an awarding mechanism to respond to these drivers and barriers. To build a conceptual framework then, this thesis draws on polycentric governance theory (Dorsch and Flachsand, 2017; Jordan et al 2018a; Morrison et al 2017; 2019) combined with literature on catalytic impact in TCCG (Bernstein and Hoffmann 2018a; 2018b; Bulkeley et al 2018; 2014c; Chan et al 2020; Hale 2020a; Van der Ven et al 2017) in order to provide guidance for identifying and characterising drivers and barriers for catalytic impacts. Moreover, this thesis further expands this framework by adopting the concept of enabling power (Morrison et al 2019; 2017; Partzsch 2017) to analyse awarding mechanisms.

2.1 Polycentric Governance Theory: Background, Core Propositions, and Limitations

Polycentric governance was first introduced in the context of metropolitan governance (Ostrom et al 1961), and later adapted by Elinor Ostrom (1990) for the governance of common-pool resources. In the late 2000s, Ostrom (2009; 2010) explicitly linked polycentric governance to the issue of climate change and argued that reliance on international efforts to address climate change needed to be reconsidered to allow for new polycentric forms of climate governance. A polycentric governance system then, entails multiple, bottom-up governing authorities at different scales which exercise considerable independence (Dorsch and Flachsand 2017; Jordan et al 2018a; Morrison et al 2017). This stands in contrast to monocentric governance systems that assume control by top-down unitary state power (Morrison et al 2017). Polycentric governance theory holds five core propositions that guide its analysis: local action; mutual adjustment; experimentation; trust; and, overarching rules (Dorsch and Flachsand 2017; Jordan et al 2018a). These will be discussed in more detail in chapter 2.2 as well as their relation to catalytic impacts. For climate governance, most polycentric approaches were initially geared towards realizing a system of interactions between different governing units to contribute to a

common goal of mitigating climate change (Biesbroek and Lesnikowski 2018; Dorsch and Flachsand 2017). More recently however, polycentric approaches have also become more receptive of addressing climate change adaptation (Biesbroek and Lesnikowski 2018).

The desirability of a polycentric system for climate change governance however does not go uncontested, as it could lead to uncoordinated governance or fragmentation (Dorsch and Flachsand 2017; Jordan et al 2018b; Morrison et al 2017). Moreover, incentives for free-riding may persist, and by extending the arena of governance participants and policies, new opportunities might be exploited for worse (Dorsch and Flachsand 2017). Third, the focus of polycentric governance and its underlying theory on non-state actors risks obscuring the role of nation-states or intergovernmental organizations, as these actors still hold pivotal positions of power and maintain strong legal and financial competencies (Dorsch and Flachsand 2017; Jordan et al 2018b). In this line, Morrison et al (2019; 2017) additionally point out that polycentric governance theory often neglects or simplifies power dynamics. Overall, polycentric governance as a theory and practice is therefore arguably at best complementary to existing, traditional forms of governance (Jordan et al 2018b).

Despite these limitations, Jordan et al (2018b) and Dorsch and Flachsand (2017) argue that polycentric governance theory still offers the most holistic approach for assessing and understanding the different aspects, activities and interactions of self-governing authorities. As this thesis project intends to gain understanding of governance activities and interactions of non-state climate actions that relate to their ability to realise catalytic impacts, polycentric governance theory still holds relevance here for general analytical orientation. Furthermore, this thesis also intends to address part of the critique regarding the role and power of traditional governance actors in polycentric governance. As awarding mechanism and in particular the MfC award is established in an intergovernmental setting, analysing its enabling power (see chapter 2.3) can provide implications on the importance that traditional governments actors still hold for affecting the activities and dynamics of self-governing authorities.

2.2 Catalytic Impacts and Polycentric Governance

According to TCCG literature, catalytic impact reflects the ability of individual non-state climate actions to foster scaling and replication of its activities and approach (Bernstein and Hoffmann 2018b; Bulkeley et al 2014b; Chan et al 2020; 2019; Hale 2020a; Van der Ven et al 2017). Specifically, scaling is understood as an initiative's expansion over time in geographic scope, attraction of new members to its actor network, or the accumulation of additional resources. Replication refers to reproduction or adoption of an initiative's approach or activities, such as policy tools and standards, in other contexts by additional actors (Bernstein and Hoffmann 2018b; Bulkeley et al 2014b; Chan et al 2020; Van der Ven et al 2017).

Drawing on Hale (2020a) and Bernstein and Hoffmann (2018a; 2018b), catalytic impacts can potentially be fostered through catalytic mechanisms of normalization, coalition building, and capacity building. Normalization or norm diffusion entails the changing of norms and notions in policies and behaviour that can follow from novel policy practices (Bernstein and Hoffmann 2018b). Empirically, normalization often entails legitimizing innovative standards or practices for climate action by a non-state climate action that can then subsequently be adopted by other actors or initiatives over time (Bernstein and Hoffmann 2018b; Hale 2020a). Coalition building occurs when individual initiative's successful policy innovations either strengthen connections or spur the emergence of new linkages with additional actors that can result in an initiative's expansion of scope or activities (Bernstein and Hoffmann 2018b; Hale 2018a). Lastly, capacity building implies the growth in initiatives' or actors' capabilities to act on climate issues as a consequence of additional funding, education, or material and informational

transfers between actors and organizations (Bernstein and Hoffmann, 2018b; Hale 2018a). Capacity building is therefore often preceded by demonstration effects of successful policy innovation or experimentation (Hale 2020a).

Linking catalytic impact to polycentric governance, Bernstein and Hoffmann (2018a) observe that catalytic impacts empirically can precede processes of self-organisation and mutual adjustment, both essential to polycentric governance (Bernstein and Hoffmann 2018a; Jordan et al 2018a). Furthermore, not only do Bernstein and Hoffmann (2018a) argue that understanding the dynamics of catalytic impacts helps the understanding of polycentric governance, they also suggest that drawing on the properties and related concepts of polycentric governance can be useful for acquiring additional insight on how to foster catalytic impacts. For this research then, such a combination of concepts used to analyse and describe catalytic impacts and those derived from the core propositions of polycentric governance offers a fruitful approach for developing a framework to identify both drivers and barriers to scaling and replication in individual initiatives. This will be further explored in the remainder of this section.

Considering the core propositions of polycentric governance, the first proposition on local action analytically implies the adoption of an actor-centred focus to examine what motivates actors to locally self-organise (Jordan et al 2018a). Furthermore it also draws attention to analysing how situational characteristics or site-specific political, economic, and social conditions, shape the process of and the possibilities for self-organisation (Bulkeley et al., 2014c; Dorsch and Flachsand 2017). Arguably, self-organisation appears similar to coalition building as a mechanism of catalytic impact, as both emerge from actors connecting to each other over time. Furthermore, it can also be argued that the process of self-organisation links to processes of capacity building, as multiple actors joining forces in a network would imply a greater pool of shared resources and capacities. As such, by adopting the concept of self-organisation for catalytic impact, identifying drivers and barriers can be guided by analysing actor motivations as well as site-specific conditions that create opportunities to engage in TCCG and non-state climate action.

The second proposition, mutual adjustment, refers to the ability of multiple units of governance to adapt to changing external conditions and to bridge differences. It emphasizes the importance of interactions and how they can lead to mutual adjustments among actors. (Jordan et al 2018a) Linking it to catalytic impact, the mechanism of normalization arguably also involves a process of mutual adjustment, as new norms, practices, or behaviours need to be adapted by actors that join non-state climate action. Arguably then, the proposition on mutual adjustment further offers additional guidance for identifying drivers and barriers for catalytic impact. It can draw attention to how different types of interactions could aid the diffusion of norms or adoption of new standards and thereby facilitate the process of normalization.

The third proposition on experimentation could hold additional value for normalization as well. It poses that experimentation as a means of knowledge and norm production, diffusion and evolution can enhance cooperation and foster governance innovation (Jordan et al 2018a; Dorsch and Flachsand 2017). Arguably, the intermediary step here would be that new knowledge resulting from experimentation facilitates normalization, which in turn enhances cooperation, as new knowledge could further support particular norms and standards. For catalytic impact then, this would indicate that drivers and barriers could be identified by considering how experimentation in non-state climate actions might affect normalization. Furthermore, additional knowledge generated through experimentation could also imply additional capacity, and thus exploring the link between the latter and capacity building might provide further opportunities for identifying drivers and barriers for catalytic impacts.

Next, the fourth proposition on trust essentially reflects the need to increase understanding on what factors can condition trust and trust-building among actors (Jordan et al 2018), as trust in turn can significantly affect self-organisation or mutual adjustment. Dorsch and Flachsand (2017) refer to factors conditioning trust and trust-building as 'trust-catalysts'. For this research, identifying trust-catalysts for non-state climate actions could potentially lead to identifying additional drivers or barriers for catalytic impact. As trust interacts with multiple aspects of polycentric governance, so could trust-catalysts interact with the multiple catalytic mechanisms.

Finally, the fifth proposition on rules stresses the importance of the latter for guiding local initiatives. Analysts should examine how rules, for example legislation on actor responsibility and authority for climate action, may or may not represent an opportunity structure for change as well as how it allows for self-organisation, experimentation, or mutual adjustment. (Jordan et al 2018a) Thus, here it can be examined how rules may create opportunities for initiatives to foster coalition building, normalization, and capacity building, and as such how the presence or absence of rules may imply drivers and barriers for catalytic impact.

Summarising, the propositions and related concepts discussed above combined with the mechanisms for catalytic impact provide a framework to reveal areas of focus for identifying drivers and barriers, presented in figure 2. Simultaneously, these focus areas also offer a first indication of what aspects of non-state climate actions can be addressed by awarding mechanisms to overcome barriers and strengthen drivers of catalytic impact, which will be further discussed in the following paragraph.

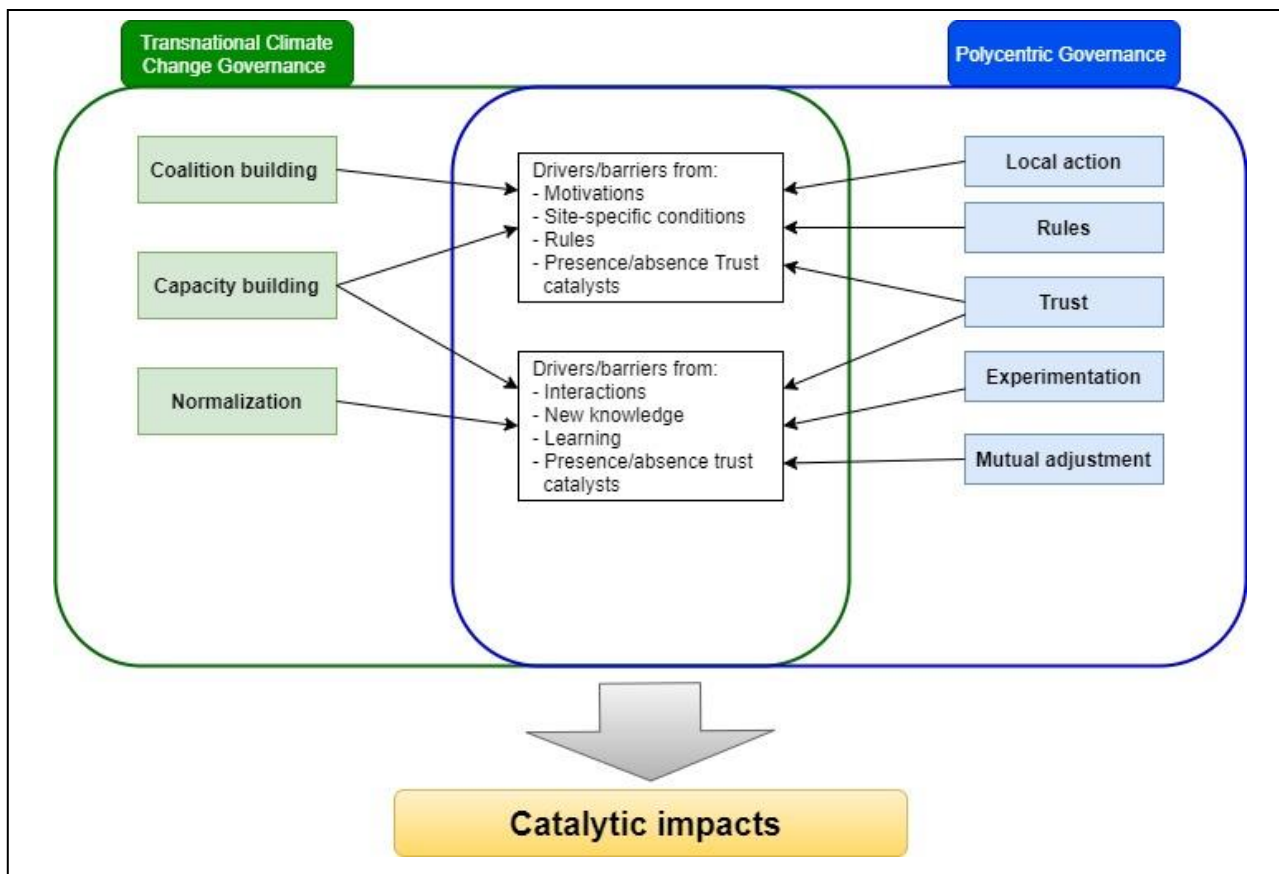


Figure 2: Conceptual framework presenting the focus areas for identifying drivers and barriers for affect catalytic impact as derived from a theory. The arrows linking the boxes indicate how these concepts jointly reveal potential focus areas.

2.3 Evaluating Awarding Mechanisms through Polycentric Governance: Adopting a Power Perspective

Considering the intent behind awarding mechanisms (see chapter 1.1), it can be argued that the latter by itself can be perceived as being catalytic in that it facilitates scaling and replication. This would imply that the propositions of polycentric governance as discussed above can be adopted for the analysis of awarding mechanisms. Additionally however, adopting a complementary perspective of polycentric governance (Morrison et al 2019; 2017) can be useful to not only describe what drivers or barriers for catalytic impact can be addressed through awarding mechanisms, but also how. As such, using this additional perspective can be fruitful for improving the understanding of the relation between polycentric governance and awarding mechanisms.

Returning to the proposition on local action, it is argued that motivation or capacity for self-organization does not always emerge automatically (Dorsch and Flachsand 2017; Jordan et al 2018a) and external facilitators may be needed (Jordan et al 2018a). An awarding mechanism may be such an external facilitator, for instance by supporting capacity and motivating self-organization, which in turn may affect drivers and barriers for catalytic impact. In addition, a polycentric perspective on awarding mechanisms can also be relevant with regard to mutual adjustment. It may draw attention to how such mechanisms can facilitate interaction among non-state climate actions or actors that results in norm diffusion or further support and maintenance of trust catalysts (see chapter 2.2). It could also offer

insight on whether or how awarding mechanisms support processes of policy experimentation and if it imposes or affects rules that can create opportunities to act.

For a more systematic approach to analyse awarding mechanisms in relation to polycentric governance and catalytic impacts, the theorization of power dynamics in polycentric environmental governance as proposed by Morrison et al (2019; 2017) is suitable. While Morrison et al (2019; 2017) provide a careful characterisation of the different types of power that may prevail in polycentric governance systems, what is mainly relevant in the context of this research is their general approach to power. Rather than perceiving power as mainly a 'negative' force for coercion or marginalisation, Morrison et al (2019; 2017) argue that in the context of polycentric environmental governance, more emphasis should be put on power as a force for good. Specifically, Morrison et al (2019) argue that going beyond the negative effects of power allows for understanding of how the mobilisation of different types of power can produce desirable environmental and social outcomes. This understanding of power is drawn from Partzsch's (2017) conceptualisation of 'power with' and 'power to'. The former refers to power drawn from the ability to act in concert following processes of learning and cooperation, while the latter refers to power granted to groups or individuals that allows them to independently act for the pursuit of goals (Partzsch 2017). Combined, these concepts reflect the enabling effects of power (Morrison et al 2019) and will henceforth be referred to as 'enabling power'.

Returning to the context of this research, when one considers that the intent behind most awarding mechanisms is ultimately to produce desirable outcomes with regard to climate change mitigation or adaptation (see chapter 1.1), it can be argued that awarding mechanisms hold enabling power. In this research, the concept of enabling power will therefore be used to describe and analyse the role of an awarding mechanism with regard to its ability to alleviate barriers and support drivers for catalytic impact of non-state climate actions. More specifically, adopting the concept of enabling power can shed light on the intended and actual outcomes of the MfC awarding mechanism with regard to its facilitative role for catalytic impact. As such, enabling power as a concept will be integrated into the analytical approach of this research, as shown in figure 3.

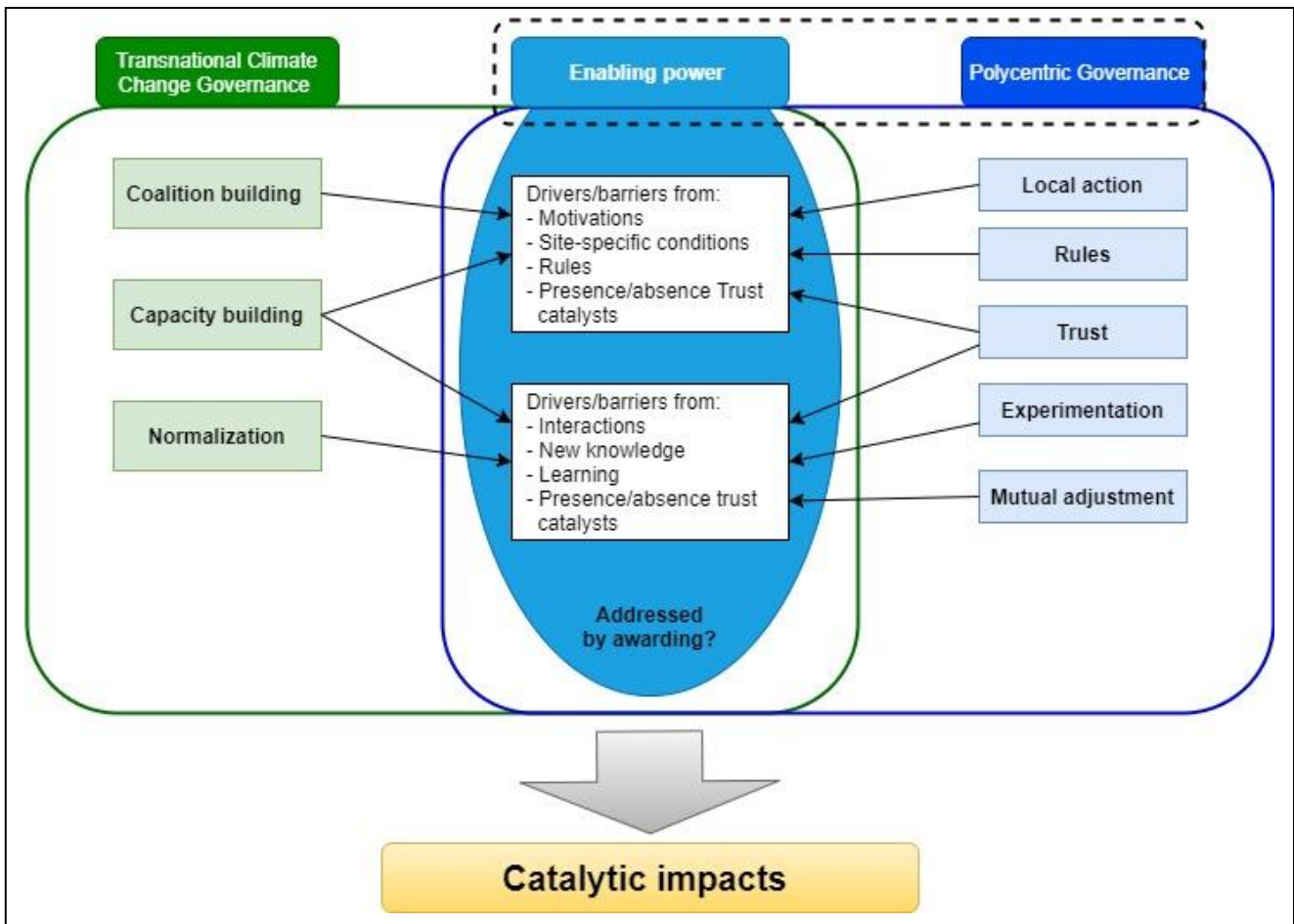


Figure 3: Final conceptual framework indicating how enabling power is expected to interact with the other concepts used for this research. The blue ellipse reflects the preceding argument that awarding as a form of enabling power might be able to address (part of) the to be determined drivers and barriers for catalytic impact.

3. Methodology

Building on the conceptual framework developed above, this chapter further operationalizes the concepts to empirically identify and analyse drivers and barriers for catalytic impact. The methodology and data-collection for this thesis is mainly qualitative. The following discusses the overall research strategy, describes the different methods, and explains how they contribute to answering the sub- and main research questions.

3.1 Research Strategy: Case Study Analysis

Determining what drivers and barriers for catalytic impact can be found for Lighthouse Activities and the extent to which awarding can address such drivers and barriers arguably implies the need for analysing and comparing multiple cases. A comparative case study analysis (CSA) (Burnham et al 2008; Gerring 2004; Yin 1994) therefore constitutes the overarching research strategy for this thesis. This research strategy is mainly geared at exploring effects of an independent variable on one or more

dependent variables, and as such attempts to gain more understanding of a broader phenomenon or effect through careful analysis of a small selection of cases (Burnham et al 2008; Gerring 2004; Yin 1994). As exploring the link between awarding mechanisms and catalytic impacts arguably reflects this assessment of the effect of an independent variable on a dependent variable, a comparative CSA in the context of this research appears suitable. Using this methodological approach contributes to acquiring a more general understanding of the effect of awards on transnational climate initiatives and TCCG as a broader phenomenon. Additionally, a comparative CSA also helps to account for the contextual embeddedness of dependent variables (Burnham et al 2008; Gerring 2004) which is suitable when investigating Lighthouse Activities which significantly vary in their contexts of implementation.

A comparative CSA requires selection procedures, where a distinction can be made between 'most different' and 'most similar' comparative research designs. The former requires a case selection where the independent variable is identical across all cases and dependent variables and context may be different, while the latter implies the inverse (Burnham et al 2008). As this research aims to determine the extent to which awarding mechanisms address drivers and barriers for catalytic drawing on a set of Lighthouse Activities that are highly varying in their structure and setting (see chapter 5 and 6), a most different design is most suitable. The most different research design therefore forms the basis for case selection, which will be further discussed under chapter 3.2.2.

Following this overarching research strategy, the following will further specify the comparative analysis and data collection.

3.2 Methods

3.2.1 Literature review

For answering the first sub-question regarding what drivers and barriers for catalytic impact can be deduced from literature, a literature review (Rowley and Slack 2004) will be conducted as a first step towards the actual comparative CSA. The literature search and the review are guided by the conceptual framework as presented in Figure 3, using presented concepts as search terms. Subsequently, studies are selected that either apply or elaborate on the aforementioned concepts, thus using polycentric environmental governance or TCCG in their either their research approach or case analyses. It should be noted however that the aim is not necessarily to find corresponding studies for each of the concepts presented in figure 3 when none can be found. The main aim of the review is to draw on literature to develop and categorise the drivers and barriers for catalytic impact with regard to particular themes that may emerge as well which catalytic mechanisms they might affect. Besides describing and discussing the findings, the identified drivers and barriers for catalytic impact will be presented in a table.

In short, the literature review aims to determine theoretical drivers and barriers for catalytic impact. An additional review of documents and non-academic sources, will be done to analyse the MfC initiative and to determine what drivers and barriers for catalytic impact can be addressed by its awarding mechanism. This will be based on its MfC's self-described functions, using the analytic perspective on awarding mechanisms as discussed under chapter 2.3, and subsequently develop characterisations of enabling power. This should result in responding to sub-question 2 of this thesis regarding the intended outcomes of the MfC awarding mechanism.

3.2.2 Online survey

As a first step to determine whether the drivers and barriers for catalytic impact found in literature resonate with empirical findings, a web-based survey (Bryman 2012; Fan and Yan 2010; Umbach 2004) is conducted that reaches out to all Lighthouse Activities awarded under MfC between 2011 and 2019². As such, the survey questions will be based on the findings from the literature review and the information found for MfC. Additionally, the questions are developed with support of the MfC's coordinating team at the UNFCCC to ensure accuracy and relevance of the survey. Overall, the aim is to acquire broad data on MfC laureates, and the questionnaire is kept short and mainly contains generalized statements on possible drivers and barriers for catalytic impact that the participants can respond to. The focus is therefore more on *whether* the participants in the survey experience particular drivers and barriers for catalytic impact, rather than *how*. To account for possible confirmation biases, the survey will also allow respondents to list drivers and barriers for catalytic impact not brought up in the questionnaire itself. Beyond determining the empirical relevance of drivers and barriers found in literature, the survey is also intended to provide information on the extent to which the MfC award has been able to address these. The survey outputs are as such also relevant for determining the actual outcomes of the MfC awarding mechanism. Moreover, as respondents are also allowed to provide a brief testimony on their experience with becoming a Lighthouse Activity, the survey also provides a first indication of perceived value of the MfC award.

The data that is gathered through this survey first will be analysed to better understand similarities with, and differences from, findings in existing literature. Additionally, data results can be tested for relevant statistics such as differences between Global South and Global North-led initiatives or possible correlations between different drivers and barriers. This methodology is further elaborated on in Appendix II. Finally, following the survey, interview partners can be selected to gain a deeper understanding of the different initiatives and their experiences with drivers and barrier for catalytic impact. For a complete overview of the survey questions as well as the methodology for processing the results, see Appendix I and II.

3.2.3 Expert interviews

In order to fully answer the sub-questions as well as the main research question, in-depth, semi-structured expert interviews with actors representing Lighthouse Activities will be conducted. The questionnaire for the interviews will be based on both the findings from the literature review as well as the results from the survey and mainly includes open-ended questions. A first step in the interviews however is to gain elaborate understanding of the respective initiatives in order to write case descriptions. Following this, the intention is to acquire deeper understanding of what precise drivers and barriers are experienced in the different cases and how they emerge. This will provide the final information needed to determine if drivers and barriers for catalytic impact empirically resonate with those found through the literature review. Furthermore, the aim of the interviews is also to create additional insight in how the MfC awarding mechanism has potentially supported Lighthouse Activities in addressing experienced drivers and barriers. This will help answering the second sub-question of this research concerning the actual outcomes of the MfC awarding mechanism in contrast to the intended outcomes. Even more, the answers will also help to develop an understanding of the perceived value of the awarding mechanism among MfC laureates: do the participants see the MfC award as a key factor for fostering catalytic impact? Or do they see it as a possibility and feel that

² The 2020 MfC Lighthouse Activities were not yet announced at the time the survey was conducted

catalytic impacts could also have been realised otherwise? This will provide information to answer the third sub-question of the thesis. The information retrieved through the interviews will be processed into brief but detailed case studies that highlight important observations with regard to drivers and barriers for catalytic impact or the value of the MfC award. Combined with the answers of the survey, the retrieved data should be conclusive for answering the main research question, and it will be attempted to generalise the findings to current understanding of catalytic impact and awarding mechanisms. For an overview of exemplary interview questions, see Appendix IV.

3.3 Limitations

The research strategy and methods and the underlying conceptual framework inevitably come with some limitations. Methodologically, the results of a comparative CSA are only as valuable as the cases are representative of the entire population, and as such generalisation of findings should be approached carefully (Burnham et al 2008; Gerring 2004; Yin 1994). As such, a sufficient response rate to the survey is necessary. The latter offers a practical challenge, as the researcher is limited in its strategies or influence for ensuring sufficient responses (Van Selm and Jankowski 2006). Related to this, a practical limitation and challenge for using online surveys to retrieve information is its sensitivity for selection bias with regard to respondents (Van Selm and Jankowski 2006). As this approach favours survey respondents with internet access, relevant participants and insights might be excluded. The same can be true for selecting interview partners as well. Nevertheless, for both the survey and the interviews, the questionnaires should be developed carefully and not lead to confirmation bias, especially with regard to drivers and barriers for catalytic impact found through the literature review and empirical analysis. At the same time, it is important to ensure full completion of both surveys and survey questions to develop reliable data for analysis.

This research attempts to accommodate for these limitations by developing and diffusing the survey in collaboration with MfC's coordinating team. As MfC stands in close contact with its Lighthouse Activities, the collaboration with the coordinating team has helped to ensure that the survey could be sent to every MfC-laureate since 2011 and thereby arguably providing each initiative with equal footing to participate in the survey. Furthermore, the collaboration also supports the legitimacy and relevance of this research and the survey among the recipients, which could create a greater sense of willingness to participate and thereby facilitate a higher response rate. Sending weekly reminders over a period of four weeks will also support a higher rate of fully completed surveys and survey questions. Second, as the collaboration also resulted in obtaining the most recent information on the complete sample of Lighthouse Activities, the representativeness of the survey sample obtained in this research will be checked by comparing general traits of the latter with the former, for example by comparing the representation of and the balance between mitigation and adaptation-focused initiatives across the two samples. In this way, the explanatory power of the survey sample can be more accurately nuanced.

4. Literature review: Drivers and Barriers for Catalytic Impact

Drawing on a vast collection of studies that discuss, apply, and analyse different aspects of polycentric governance and TCCG in different settings, a particular set of drivers and barriers for catalytic impact has been developed. As can be seen below, these drivers and barriers are not described and discussed separately, but instead are structured according to different themes that came forward from the literature.

4.1 Policy Failure and Policy Action

When it comes to motivation for local actors to connect and engage in climate action, policy failure at the national or international level is often mentioned (Fuhr et al 2018; Kern 2004; Gillard et al 2017; Hale 2020; Sunderlin et al 2015; Van Asselt and Zelli 2018). This motivation appears across different settings and contexts. Kern (2004) and Sunderlin et al (2015) observe how in forest governance local action often follows from a response to failures from the national or international policy arena to address the issue. Similarly, Gillard et al (2017) and Fuhr et al (2018) show in their studies of city and regional climate actions how the inability of national governments to address international agreements on climate change action has led to subnational or local actors reaching out to a wider array of non-state actors in order to implement climate change policies. On a more general level, Hale (2020b) and Van Asselt and Zelli (2018) argue that an important motivation for actors to engage in non-state climate action is the perception that traditional government actors, including national governments and intergovernmental organizations, have appeared inadequate in their responses to the issue, resulting in failure to develop and implement effective climate policies. With regard to catalytic impact, it can be argued that international or national policy failure appears as a significant motivation that drives non-state actors to either initiate climate action or attempt to build larger coalitions for more impact. Specifically, this could well suggest that policy failure mainly forms a driver for coalition building as a mechanism for catalytic impact.

Interestingly, literature also appears to suggest the opposite to be true, as policy action taken in national or intergovernmental settings can be an important stimulus for local climate actions (Andonova et al 2014; Burch 2010; Roger et al 2017; Salon et al 2014; Sippel and Jenssen 2009; Van Asselt and Zelli, 2018). In the case of climate action by cities, national governments setting ambitious goals for climate change governance provide a strong impetus for municipalities to realise those goals at a local level (Burch 2010; Salon et al 2014; Sippel and Jenssen 2009). Additionally, not only does national policy on climate action strengthen non-state actors' motivation for climate action, Andonova et al (2014) and Roger et al (2017) argue that stronger national climate policies create more and better opportunities for non-state actors to participate in TCCG networks. As with policy failure then, policy action arguably appears as a driver for catalytic impact in the form of coalition building. Additionally, it could potentially also be a driver for normalization, as when national governments already adopt more stringent or supportive norms and standards for climate change, it arguably facilitates norm diffusion by local climate actions.

4.2 Legislation and Regulatory Frameworks

Related to policy action by governments, literature indicates that in order for non-state actors to effectively engage in climate action, they must be granted with sufficient agency to act independent from governments (Andonova et al 2014; Burch 2010; Fuhr et al 2018; Martins and Ferreira; Sippel and Jenssen 2009). Following their studies on polycentric environmental governance, Bruns (2018) and

DeCaro et al (2017) argue that legislation is key in this regard. Specifically, they contend that national legislation should grant legally binding authority, responsibility, and resources to local actors to make decisions and implement chosen solutions to contribute to the resolution of a given socio-ecological issue. The latter would then arguably incentivize policy innovation and stewardship for climate change governance at the local level (Bruns 2018; DeCaro et al 2017). Similarly, case studies on climate actions by cities (Burch 2010; Fuhr et al 2018; Sippel and Jenssen 2009) and regional non-state actors (Royles and McEwen 2015) indicate that local initiatives are respectively frustrated or enabled by the lack or presence of legislative provisions to act independently from national governments on climate issues (Burch 2010; Fuhr et al., 2018; Royles and McEwen 2015; Sippel and Jenssen 2009). Thus, drawing on these arguments and observations from literature, it can be assumed that such legislation as described here is vital for catalytic impact: it enables participation of non-state actors in governing the public good and drives engagement with other actors in coalitions for climate action. Arguably then, absence of such legislation can form a significant barrier for the different mechanisms of catalytic impact altogether, as it withdraws a fundamental incentive for local actors to engage in climate action.

Additionally, the absence of the above discussed type of legislation can significantly affect local regulatory frameworks, understood as the authority and competencies or policy tools that local actors have at their disposal to act (Burch 2010; Sippel and Jenssen, 2009). By itself, local regulatory frameworks can additionally become a site of barriers for catalytic impact when it comes to scaling or replicating standards or policies in other contexts. On a general level, Tosun (2018) argues that a particularly important variable for the diffusion of policies or norms by non-state climate actions is how well such a local initiative can work in other jurisdictions compared to the jurisdiction it originates from. Empirically, Sippel and Jenssen (2009) observe how differences in regulatory frameworks between regions or countries following differences in legislation on local climate action can challenge progress in scaling or effectiveness of cross-country initiatives. Furthermore, a study by Burch (2010) on local climate action in Canada finds that even when local or regional actors operate in similar regulatory frameworks, inconsistencies may still arise from different local approaches to climate change, frustrating opportunities for building larger for climate action across cities or regions. Arguably, it can be deduced from these observations that such a challenge for expanding climate actions might also occur when local initiatives are scaling up beyond state boundaries. As such, inconsistencies between regulatory frameworks or resulting approaches across different jurisdictions appear as a barrier for catalytic impact as it can challenge local initiatives in building larger coalitions, as well as that it problematizes the adoption of standards or policy innovations in different contexts.

4.3 Resources and Co-benefits

Resources are essential to sub- or nonstate climate actions, and as such a lack of resources can form a formidable challenge (Fuhr et al 2018; Homsy and Warner, 2015; Koontz 2019; Martins and Ferreira 2011; Salon et al 2014). Resources in this context are often subdivided in financial resources, human resources, technical resources, and knowledge (Andonova et al 2014; Homsy and Warner 2015; Salon et al 2014; Sippel and Jenssen 2009). Not only does a lack of resources constrain the ability of non-state actors to implement and maintain their climate actions (Fuhr et al 2018; Salon et al 2014), it may also prevent non-state actors from engaging in larger coalitions. In the latter case, Galaz et al (2012) observe for the Global Partnership on Climate, Fisheries and Aquaculture that smaller organizations are constrained to meaningfully participate in governance activities. These organisations or actors often do not possess the resources to attend international meetings and work on joint issues (Galaz et al 2012). Likewise, Fünfgeld (2015) finds that in TCCG networks for cities a lack of resources may prevent participation. Interestingly though, an alternative argument is that a lacking resources may

precisely be the motivation for non-state actors to form partnerships, as it allows them to gain more resources and leverage to act on climate change issues (Andonova et al 2014; Hale 2020b; Koontz 2019; Roger et al 2017). As a result, a remarkable link between resources and catalytic impact may be constructed. On the one hand, a lack of resources can be considered a barrier as it both constrains capacity building of individual TCCG initiatives and may prevent non-state actors from joining larger coalitions. On the other hand, a lack of resources may drive coalition building as non-state actors seek to gain more leverage.

Additionally, gaining more resources may not be the only motivation for non-state actors to participate in joint climate action. In the context of TCCG initiated by cities or municipalities, co-benefits may arise such as cost savings, energy efficiency or improved air quality (Roger et al 2017; Salon et al 2014; Sippel and Jenssen 2009). Acquiring such co-benefits have been as an important motivation for non-state actors in cities to engage in collaborative climate actions (Salon et al 2014), and also for the international city network ICLEI, co-benefits are often mentioned as the primary motivation to participate (Sippel and Jenssen 2009). As such, the acquisition of co-benefits potentially motivates non-state actors to join coalitions for climate action, and can thus be considered a driver for catalytic impact.

4.4 Competition and Reputation

Often, climate actors are not alone in their ambitions to address climate change or a particular socio-environmental issue, and they may experience competition in both their approach or goals. Observed on different scopes of non-state climate actions, competition may occur when more than one initiative aims to address the same climate-related issue. This can motivate non-state actors to ratchet up their initiative's scale and ambition in order to become the most prominent actor in their respective subdomain of climate actions (Garrick and Villamayor-Tomás 2019; Gillard et al 2017; Homsy and Warner 2015; Kern 2004). Conversely, Gillard et al (2017) and Kern (2004) contend that such competition in a market environment may lessen impact of climate initiatives and prevent growth, as costs for competing may become too high. Thus, it can be argued that competition can be a driver for catalytic impact in that it will stimulate non-state actors to look for ways to improve their capacity as well as opportunities to build larger coalitions. Simultaneously however, competition can also be a barrier in that it becomes too costly for initiatives to maintain capacity to act and engage in meaningful climate actions.

To answer to competition, initiatives might benefit from having established a reputation. As explained by Ostrom (2009) and Cole (2015), actors in polycentric governance who increasingly engage in cooperation can develop a level of trust among each other that reflects their commitments to act on common socio-environmental issues. Through this, establishing a reputation for trustworthiness can subsequently reinforce earlier cooperation and trust (Cole 2015; Ostrom 2009), and hence work as a trust-catalyst. Although in the former perspective trust and reputation refer to an actor's commitment to action, one can arguably broaden this conceptualization and see trust also as to imply trusting an actor's or initiative's capability to address particular issues. In this sense then, reputation might not only reflect trustworthiness for cooperation, but also credibility for delivering effective approaches to tackle climate- and environment-related issues. Building on the latter conceptualization, it can be argued that reputation can be a driver of catalytic impact in different ways. First, reputation can potentially have a normalizing effect, increasing the credibility of initiatives as well as the value of their approach to climate action. From this perspective, reputation possibly works a trust catalyst that can convince actors considering to join an initiative that the latter 'does the right thing'. This could then very well facilitate the building of coalitions. Second, coming back to competition, reputation may

provide an initiative with an edge over other similar climate actions, as reputation might provide an initiative with more legitimacy.

4.5 Initiative's Functions: Information Sharing, Monitoring, Sanctioning, and Conflict Resolution

Beyond the preceding factors that might affect the potential for catalytic impact by non-state climate actions, literature on polycentric governance also suggests that specific functions or attributes of initiatives could relate to drivers for scaling and replication. First, several authors argue that frequent face-to-face communication greatly fosters trust among actors (Dorsch and Flachsand 2017; Jordan et al 2018). Following their studies of polycentric governance systems, Koontz (2019), Galaz et al (2012) and Hamilton and Lubell (2019) emphasize that sharing information on beliefs, goals, and governance activities is an important function of an initiative. It allows actors to adjust their behaviours to each other, create common understanding, and diffuse or adopt novel innovative practices (Galaz et al 2012; Hamilton and Lubell 2019; Koontz 2019). In terms of catalytic impact then, it is assumed that information sharing through interaction may drive normalization.

Second, monitoring and reporting an initiative's activities and its progress on pledged commitments or goals can also be an important trust catalyst (Cole 2015; DeCaro et al 2017; Dorsch and Flachsand, 2017; Van Asselt & Zelli 2018; Hale 2020). As such, as it arguably supports implementation and adoption of standards and behaviours, monitoring could facilitate the process of normalization. Likewise, mechanisms for sanctioning inaction of actors committed to an initiative's goals help ensuring commitment as well (DeCaro et al 2017; Dorsch and Flachsand 2017; Kern 2004), and could therefore additionally enable normalization of standards and practices. The presence of either function in non-state climate actions could therefore be considered a driver of catalytic impact, while their absence might imply an additional barrier as it creates additional challenges to ensure implementation.

Third, as seen in case studies of polycentric governance systems, conflict may arise when participating actors hold different preferences with regard to goals and governance approaches (Carlisle and Gruby 2018; Heikkila 2019; Sunderlin et al 2015), especially when the initiatives involve the allocation of shared resources (Carlisle and Gruby 2018; Sunderlin et al 2015). As conflict can significantly affect the stability of such networks part of an initiative (Carlisle and Gruby 2018; Galaz et al 2012), possibilities for conflict resolution may be vital (Carlisle and Gruby 2018; Galaz et al 2012; Heikkila 2019). Moreover, it can be argued that having a conflict resolution mechanism in place for climate actions fosters trust among participants (Dorsch and Flachsand 2017), as they can hold each other accountable for their actions when necessary. Regarding catalytic impact, this could imply that the presence of a conflict resolution mechanism within a non-state climate action can facilitate normalization, as it can support the continuation and adjustment of climate policies and practices. As with the other functions discussed here, the absence of such a conflict resolution mechanism might also form a barrier as it can create challenges for stability among actors in a coalition.

4.6 Summary and Reflection

Using the conceptual framework as developed in chapter 2, the review of multiple studies of polycentric governance and TCCG offers insight on possible drivers and barriers for catalytic impact. It is argued here that these drivers and barriers can follow from international or national policy failure or action, legislation and regulatory frameworks, resources and co-benefits, competition and reputation, and functions or attributes of initiatives. While one can observe that the identified drivers

and barriers reflect or resonate to some extent with the concepts or and combinations of concepts presented figure 2 and 3, it should be noted that in this literature review no driver or barrier came up that strongly relates to experimentation (see Figure 2). As mentioned under chapter 3.2.1 however, this should not be considered as problematic, as these concepts were used as keywords and did not imply a requirement to retrieve studies that relates to each respective concept. To summarise the review, the different drivers and barriers are listed in Table 1.

Following these findings from literature, some notable observations become apparent. First, the literature seems to offer contradictory accounts or statements on what can be drivers or barriers for catalytic impact. For instance, a lack of resources in some studies is considered as a barrier, while in others it is perceived as an important motivation to engage in climate action coalitions. Likewise, some factors discussed above can appear as a driver when present, and a barrier when absent, such as particular legislation or an initiative's functions or attributes. These contradictory or ambiguous findings arguably provide a further indication of the challenge of analysing catalytic impact as well as the relevance of empirically investigating drivers and barriers. Second, the review as conducted here also gives rise to questions about possible linkages between the different drivers or barriers. For instance, it could be plausible that in a context where national governments commit on policy actions for climate change, local initiatives could be granted more authority and capacity to act. This can in turn imply that these initiatives then face less challenges from lacking resources. Such a linkage might also appear between barriers, but also across barriers and drives, where the presence of the latter could predict occurrence of the former or vice versa. Again, more clarity on these linkages might be provided through empirical assessment. Third, as became apparent in chapter 4.5, certain attributes or functions of initiatives such as monitoring or conflict resolution may be considered drivers for catalytic impact, and their absence may imply barriers. However, one can question whether these functions of initiatives specifically affect catalytic impact: it may well be that these functions are crucial for governing climate actions in general, and that their presence or absence only affects opportunities for catalytic impact insofar that it affects the functioning of a climate action as a whole. A such, the empirical analysis should very carefully assess the link between these functions and catalytic impacts.

Looking forward, the identified drivers and barriers provide a implication for the different levels on which enabling power could work and which factors the MfC award can potentially address, and some ways through which the enabling power of the MfC could work might already be evident. For example, considering that enabling power implies mobilising power and resources to realise desirable collective outcomes, one obvious way how MfC's awarding mechanism could hold enabling power is by addressing the problem of lacking resources for climate actions. However, a first step would be to more thoroughly characterise the potential enabling power and subsequently explore its possible linkages to drivers and barriers for catalytic impact, which will be further discussed in the following chapters.

(Contextual) factor	Driver / Barrier	Affected Catalytic Mechanism	References
<i>(Inter)national policy failure</i>	Driver	Coalition building	Fuhr et al 2018; Gillard et al 2017; Hale 2020; Kern 2004; Sunderlin et al 2015; Van Asselt and Zelli 2018
<i>(Inter)national policy action</i>	Driver	Coalition building, normalization	Andonova et al 2014; Burch 2010; Roger et al 2017; Salon et al 2014; Sippel and Jenssen 2009; Van Asselt and Zelli 2018
Legislation granting local or subnational actors authority and capacity to act*	Driver / Barrier	Coalition building, capacity building, normalization	DeCaro et al 2017; Bruns 2018; Burch 2010; Fuhr et al 2018; Martins and Ferreira 2011; Royles and McEwen 2015; Sippel and Jenssen 2009
Jurisdictional differences between actors in capacity and authority to act	Barrier	Coalition building, normalization	Sippel and Jenssen 2009; Tosun 2018
Jurisdictional differences in regulatory approaches	Barrier	Coalition building, normalization	Burch 2010; Tosun 2018
<i>Lack of resources</i>	Barrier	Capacity building, Coalition building	Fuhr et al 2018; Fünfgeld 2015; Galaz et al 2012; Homsy and Warner 2015; Koontz 2019; Martins and Ferreira 2011; Salon et al 2014
<i>Lack of resources</i>	Driver	Coalition building	Andonova et al 2014; Hale 2020; Koontz 2019; Roger et al 2017
Climate actions' co-benefits	Driver	Coalition building	Roger et al 2017; Salon et al 2014; Sippel and Jenssen 2009
<i>Competition among initiatives</i>	Driver	Coalition building, capacity building	Garrick and Villamayor-Tomás 2019; Homsy and Warner 2015; Kern 2004
<i>Competition among initiatives</i>	Barrier	Capacity building	Gillard et al 2017; Kern 2004
Reputation	Driver	Normalization, Coalition building	Cole 2015; Ostrom 2009
Communication & information sharing*	Driver / Barrier	Normalization	Galaz et al 2012; Hamilton and Lubell 2019; Koontz 2019;
Monitoring and reporting*	Driver / Barrier	Normalization	Cole 2015; DeCaro et al 2017; Dorsch and Flachsand 2017; Hale, 2020; Van Asselt & Zelli, 2018

Sanctioning inaction*	Driver / Barrier	Normalization	DeCaro et al 2017; Dorsch and Flachsand 2017; Kern 2004
Conflict resolution*	Driver / Barrier	Normalization	Carlisle and Gruby, 2018; Dorsch and Flachsand 2017; Galaz et al 2012; Heikkila 2019

Table 1: Drivers and barriers for catalytic impact as identified in the literature. The factors marked in italics refer to contradictory observations on the same factor. Those marked with an asterisk indicate factors that can be a driver when present, or a barrier when absent.

5. Momentum for Change

5.1 Background, Vision, and Scope

The initiation of MfC followed the failure at the 2009 UN Climate Conference in Copenhagen (Chan et al 2020), and was formally established during the 2011 UN Climate Conference in Durban (UNFCCC 2011). In its first annual report, it is stated that MfC seeks to address three stigmatising misconceptions concerning climate change governance. First, it is a misconception that there is no climate action on the ground due to slow international negotiations. Second, it is wrong to assume that there has to be absolute policy certainty before the private sector can act. Third, the perception that many governments and companies consider participating in climate change mitigation and adaptation too expensive is incorrect (UNFCCC 2011). In order to overcome these misconceptions, MfC initially sets out to showcase innovative non-state climate initiatives as models of best practices for climate action, the so-called Lighthouse Activities. Furthermore, by improving initiatives' visibility, MfC hopes to foster inspiration for further climate action on the ground, as well as providing the awarded initiatives with new opportunities to capitalize on current impacts and activities (UNFCCC 2011; 2012; n.d.-f).

Within its approach, MfC attempts to cover the full scope of climate activities, including both small-scale projects as well as massive multi-regional initiatives (UNFCCC 2019; 2018; 2017; 2016; 2015; 2014; 2013; 2012; 2011). Initially, MfC focused on improving the visibility of actors and initiatives from the developing world (UNFCCC 2014; 2013; 2012; 2011), but since 2015 has grown to also include initiatives led by more established actors in the Global North (UNFCCC 2019; 2018; 2017; 2016; 2015). Compared to other platforms for showcasing non-state climate actions however, MfC has provided the best representation of climate actions led by actors from the Global South (Chan et al 2020; Chan and Van Asselt 2016). Additionally, it is also more balanced in showcasing both efforts at climate change mitigation and adaptation, where other platforms showcasing non-state climate action are frequently biased towards the former (Chan et al 2020). Generally, the initiatives showcased by MfC cover a wide variety of approaches, activities, and goals (UNFCCC n.d.-d). These are categorized into 'Areas of Focus', who, parallel to the increase in coverage of initiatives, have grown in number over the years and now include Climate Neutral Now, Women for Results, Financing Climate Friendly Investment, Planetary Health, ICT Solutions, and Urban Poor (UNFCCC n.d.-f). A brief description of each of these Areas of Focus is provided in Table 2.

Area of Focus	Description
Climate Neutral Now	<i>“recognizing efforts by individuals, companies and governments that are achieving real results in transitioning to climate neutrality (...)”</i>
Women for Results	<i>“recognizing the critical leadership and participation of women in addressing climate change.”</i>
Financing Climate Friendly Investment	<i>“recognizing successful and innovative climate-smart activities.”</i>
Planetary Health	<i>“ recognizing novel solutions that balance the need for both human health and a healthy planet (...)”</i>
ICT Solutions*	<i>“ recognizing successful climate change activities in the field of information and communication technology.”</i>
Urban Poor*	<i>“recognizing climate action that improves the lives of impoverished people in urban communities.”</i>

Table 2: Overview and description of Momentum for Change’s Areas of Focus (UNFCCC n.d.-f). Asterisks indicate Areas of Focus that are currently inactive.

5.2 Becoming a Lighthouse Activity: Momentum for Change’s Intended Outcomes

To ensure that MfC captures the best examples of climate actions for showcasing, initiatives seeking to apply for the award are subject to an extensive selection procedure. Fundamentally, any initiative that applies has to meet six selection criteria, which most recently include: 1) the initiative has to be scalable or replicable, 2) the initiative is already implemented or is in the course of implementation, 3) the initiative has to address climate change mitigation or adaptation, 4) the initiative has to be innovative and/or demonstrate potential for long term transformational change, 5) the initiative has to deliver verifiable social and environmental benefits, and 6) the initiative is not registered as a Clean Development Mechanism (CDM) or Joint Initiative (JI) activity. If any initiative can meet these six criteria as well as additional criteria for one of the particular Areas of Focus, it becomes eligible for awarding (Chan et al 2020; UNFCCC 2019). Next, the MfC’s Advisory Panel, consisting of experts in the field of climate governance, makes a final selection of the most promising and innovative climate actions to win the MfC award, recently also known as the UN Global Climate Action Award, and become Lighthouse Activities (Chan et al 2020; UNFCCC n.d.-f).

As of December 2020, a total of 139 initiatives have been awarded by MfC to become Lighthouse Activities (UNFCCC n.d.-d). Essentially, these Lighthouse Activities receive a range of benefits that are meant to facilitate further scaling or replication of their initiative (UNFCCC 2013). As such, Lighthouse Activities are featured extensively at the annual UN Climate Change Conferences (UNFCCC 2019; 2018; 2017; 2016; 2015; 2014; 2013; 2012; 2011), and subsequently gain access to policy makers and potential funders (Chan et al 2020; Momentum for Change 2020). Moreover, Lighthouse Activities gain public recognition by the UNFCCC, and are offered public relations support, media training, and promotional materials (Chan et al 2020; Momentum for Change 2020).

Following their award, Lighthouse Activities appear to reap the aforementioned benefits of winning the MfC award. With regard to catalytic impact, the UNFCCC states that award recipients have often

maximized impact and scaled up their activities (UNFCCC 2019; n.d.-g), or even won additional prizes for their initiatives (UNFCCC 2019). The study by Chan et al (2020) further appears to indicate the ‘effect’ of the award, as they observe significant differences between MfC laureates and non-laureates in terms of scaling and replication, as well as the scope on which these processes occur. However, as already discussed in chapter 1.1, it remains difficult to conclude that this effect on catalytic impact is a direct result of the MfC award. Considering the earlier described stringent criteria initiatives have to meet to become eligible for nomination, it cannot be ruled out that the observed effect on catalytic impact can also be traced back to MfC’s selection bias (Chan et al 2020). Nevertheless, observing MfC’s attention towards emphasizing the award’s effect for catalytic impact (UNFCCC n.d.-f; 2019), it is arguable that the initiative considers this enhanced scaling and replication to be a conceivable benefit for participating initiatives.

5.3 Linking Momentum for Change’s Intended Outcomes to Enabling Power

As has become apparent in previous sections, MfC intends to garner more optimism about the current progress in and opportunities for climate action beyond national governments or intergovernmental settings. Therefore, the main outcomes that the MfC initiative intends to produce are both improved visibility and fostering catalytic impacts of successful climate actions. To realise this, MfC essentially relies on facilitating partnerships for Lighthouse Activities to leverage capacity and resources to act. It should be noted however that the realisation of these outcomes is strongly based on the assumption that best practices for climate action are easily identified, and that enhanced visibility of initiatives will effectively result in new partnerships, resources, and a broader uptake (Chan et al 2020).

Nevertheless, MfC’s approach to realise its intended outcomes arguably reflects the mobilisation of enabling power as introduced in chapter 2.3. The first indication of this is MfC’s reliance on fostering partnerships to strengthen climate action. Being strongly tied to the UNFCCC and its network, MfC essentially offers a window of opportunity to laureates to engage with a wider network of actors with the intention to stimulate scaling and replication. Arguably then, this reflects enabling effects that flow from ‘power with’: the MfC initiative works in cooperation with UNFCCC members and partners to create this window of opportunity and enable enhanced non-state climate action. Second, ‘power to’ is arguably reflected in the benefits that Lighthouse Activities receive following their award. Through UNFCCC recognition, opportunities for new partnerships and improving visibility through PR support, MfC laureates are essentially provided with additional means to scale and replicate their activities, and thus are potentially better positioned to act on their own .

On a more specific level, it can also be argued that the enabling power of the MfC’s awarding mechanism translates into particular enabling effects for drivers and barriers for catalytic impacts as identified in chapter 4. These are presented in table 3. For barriers, MfC’s awarding mechanism arguably helps addressing and overcoming the barrier of lacking resources. Providing Lighthouse Activities with opportunities for new partnerships and resources can potentially strengthen their capacity to act and offer possibilities for building a larger coalition of actors. Combined with the improved visibility and explicit recognition by the UNFCCC, the latter could additionally help address challenges from competition, as a Lighthouse Activity gains a potential advantage. Furthermore, newfound partnerships or support as a result of becoming a Lighthouse Activity could also translate into improved governance functions performed by initiatives (see chapter 4.5), hence addressing potential barriers that may arise from lacking these functions. Simultaneously, this would also imply that MfC’s awarding mechanism would be enabling in that it could further support these functions as a driver for scaling and replication. In particular, the improved visibility could arguably imply better opportunities for Lighthouse Activities to share information and strengthen communication with other

actors. Most notable however, the MfC award greatly supports the reputation as a driver for catalytic impact. This presumably follows from laureates being featured at UNFCCC's annual Conference of the Parties (COP), explicit recognition for their climate actions by the UNFCCC, and being featured on MfC's web platform. This effect of the MfC award on reputation arguably also implies an important role of MfC as a trust catalyst (see chapter 2.2): the explicit recognition by the UNFCCC potentially further legitimizes an initiative, thereby normalizing its goals and practices, and could take away any remaining doubt among actors that consider to join or support the initiative's activities.

To summarize, it can be argued that the intended outcome of the MfC's awarding mechanism generally reflects enabling power for non-state climate actions. Being part of the UNFCCC the awarding mechanism mobilises 'power with' by drawing on its actor network to provide Lighthouse Activities with 'power to' through offering opportunities for new partnerships, recognition and improved visibility. Furthermore, the enabling effects resulting from the MfC awarding mechanism could be observed by how the award potentially helps addressing particular drivers and barriers as discussed above and shown in table 3. What has also become evident however is that MfC's awarding mechanism does not bolster enabling power that will address all drivers and barriers for catalytic impact as identified and discussed in chapter 4. However, it is important to note that all these arguments are for now hypothetical, as the actual analysis is required to confirm or reject any of the claims made here.

Function/aspect of MfC award mechanism	Addressed Driver / Barrier	Enabling power effect	Affected Catalytic mechanism
Providing opportunity for new partnerships/donors	Lack of resources	Strengthened capacity to act and larger coalition	Capacity building, coalition building
	Competition	Strengthened capacity to remain competitive	Capacity building
	Governance functions: monitoring, sanctioning, Conflict resolution & information sharing	Additional support for either implementing or maintaining these functions	Normalization
Improved visibility (through PR support / featured at COP)	Competition	Gain competitive advantage over other initiatives, i.e. by benefiting from comparatively better visibility	Capacity building, coalition building
	Governance function: information sharing	Becoming better positioned to communicate/share information with others	Normalization
Recognition by the UN Climate Change Secretariat	Reputation	Initiative being strongly legitimized, thereby potentially attracting additional actors and support.	Normalization, coalition building

Table 3: Overview of how the different functions/aspects of the MfC awarding mechanism translate into enabling power effects and the related catalytic mechanism that is affected. The colours in the second column indicate whether the awarding mechanism addresses this factor as a driver (green) or barrier (red). When no colour is used, this implies that the awarding mechanism could address this factor as being either a driver or a barrier.

6. Results and Analysis

In order to build a valid argumentation and evaluate previous theorization on both drivers and barriers for catalytic impact and the extent of enabling power enclosed within MfC's awarding mechanism, this chapter will extensively discuss the data and results from the survey and expert-interviews. The chapter is structured to first discuss the data from the survey with regard to drivers and barriers experienced by Lighthouse Activities, followed by a discussion on the actual outcomes of the MfC award and the perceived value of the latter by participants as implied by the survey results. Finally, to deepen the understanding of these different aspects and how they are empirically rooted, eight case studies are discussed that reflect the various types and forms of Lighthouse Activities found both within the survey sample as well as in the actual scope of MfC laureates.

6.1 General Survey Results

Out of the 126 Lighthouse Activities considered in the survey, 54 responses were collected between October 2nd and November 30th 2020, resulting in a response ratio of approximately 43 percent. The majority of Lighthouse Activities that participated provided fully completed responses (88%). When comparing the original sample³ and the survey sample in terms of Areas of Focus (see figure 4 and 5), Lighthouse Activities awarded under the Women for Results category are slightly overrepresented (+8%), while Lighthouse Activities under the category Financing for Climate Friendly Investment appear most underrepresented (-7%). Combined however, deviations from the original sample seem only minor in this regard. Furthermore, the representation of Lighthouse activities led by actors of the Global South⁴ or Global North appears fairly balanced, with 59 percent of the Lighthouse Activities in the survey sample being led by actors from the Global North and 41 percent being led by actors from the Global South. Regarding the distribution in the survey sample between Lighthouse Activities addressing climate change mitigation, adaption, or both, a rough balance is present as well, each respectively taking up 33 percent, 24 percent, and 37 percent. Overall, it can be argued that each of these statistics indicate no strong bias towards particular aspects or types of initiatives, making the sample fairly representative of the complete set of Lighthouse Activities.

The survey data was initially broken down to allow for comparison between Global North and Global South-led initiatives, mitigation and adaptation initiatives, and to compare results between Areas of Focus. Across all of the aforementioned dimensions of comparison however, no significant difference (p -value > 0.05) is found in rates and scope of scaling and replication, experienced drivers and barriers for catalytic impact, and the statistics regarding the value of MfC. As such, in the remainder of this chapter, none of the aforementioned comparative statistics will be discussed.

³ Note that in the original sample data on distribution of Area of Focus, Lighthouse Activities in the year 2011 and 2012 were left out, as in those years Urban Poor was the only eligible Area of Focus.

⁴ To determine which initiatives were led by actors from the Global South, this research uses member states to the Group 77 as a reference (see <https://www.g77.org/doc/members.html>).

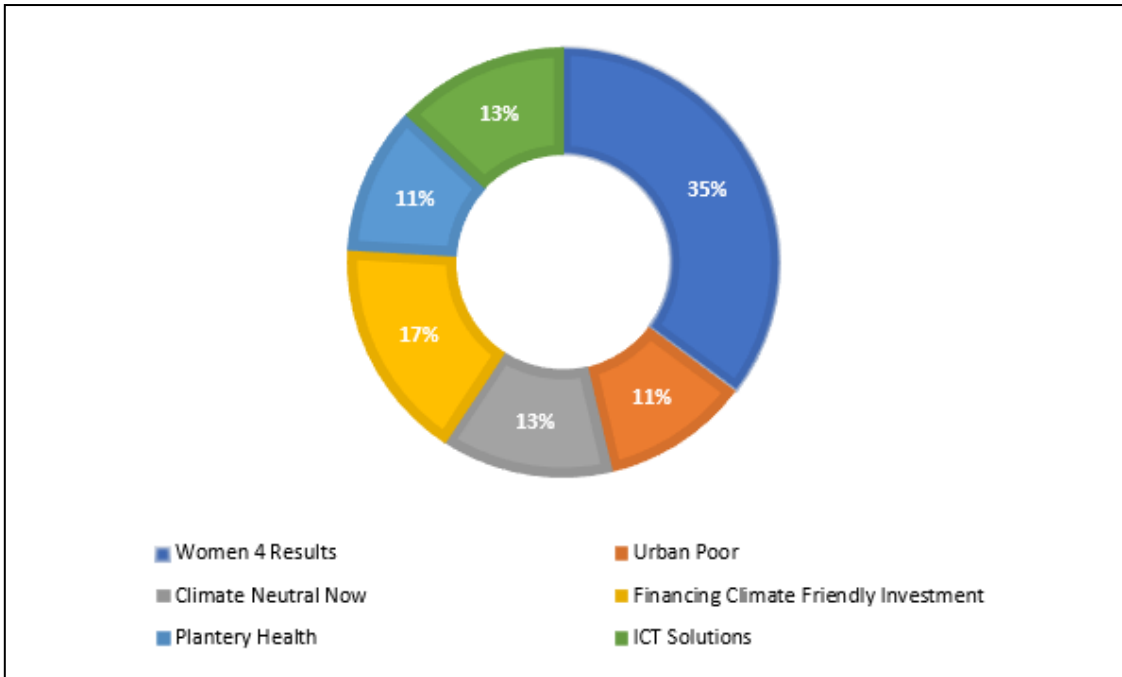


Figure 4: Distribution of Lighthouse Activities per Area of Focus (%), survey sample

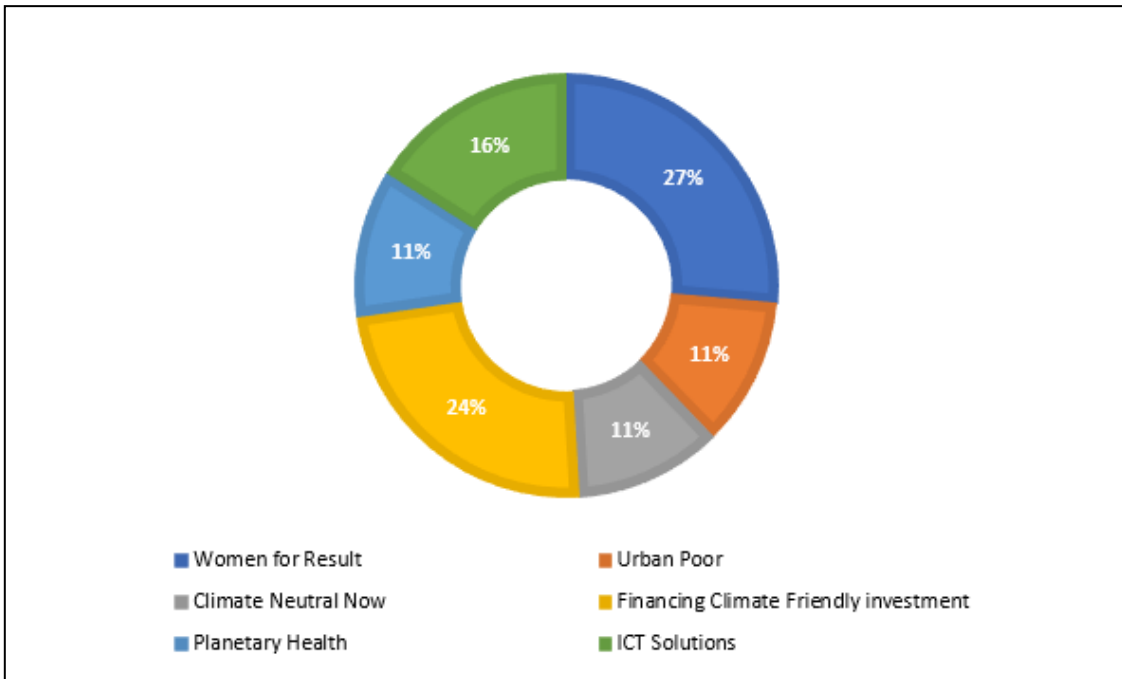


Figure 5: Distribution of Lighthouse Activities per Area of Focus (%), total population.

6.2 Drivers and Barriers for Catalytic Impact: Experiences from Momentum for Change's Lighthouse Activities

6.2.1 Catalytic impact by Lighthouse Activities

In total, 95 percent of the Lighthouse Activities in the survey sample indicate to be successful in scaling their initiative. This success in scaling is fairly evenly distributed across within-country, cross-country, and cross-region scaling, where within-country country scaling appears slightly more prevalent than the latter two (38%). Replication is realised for 80 percent of the Lighthouse Activities in the survey sample, within-country and cross-region replication being the most frequent. Given that these initiatives are awarded in part for their catalytic potential, these results are not unexpected.

The rates in scaling and replication of Lighthouse Activities derived from the survey data arguably indicate that these initiatives experience at least some drivers for catalytic impact. The survey data actually confirms the occurrence of all drivers identified in the literature review (see chapter 4 and table 1), but also of all barriers. However, it also becomes apparent that there are significant differences in how often Lighthouse Activities in the survey sample indicate to experience or have experienced particular drivers and barriers for catalytic impact. This will be further discussed below.

6.2.2 Actual drivers and barriers for catalytic impact

As figure 6 indicates, Lighthouse Activities in the survey sample experience major drivers for catalytic impacts more frequently than barriers: the five most frequent major drivers are experienced in at least 20 percent of the Lighthouse Activities in the survey sample, compared to only two of the most frequent major barriers. Having a reputation for being trustworthy or delivering best practices for climate action (see chapter 4.4) is experienced most often as a major driver for catalytic impact in the survey sample (58%), while a lack of resources is most often indicated as a major barrier among Lighthouse Activities (49%). Accounting for the different types of resources, lacking financial resources are mentioned most often as a barrier for catalytic impact (43%), followed by human resources (29%), informational resources (14%), and technological resources (11%). The results presented in figure 6 also reveal some notable deviation from what was previously established in the literature review. First, instead of being a driver, policy failure by the national government or international organizations actually appears as the second most experienced major barrier for catalytic impact. Second, it is notable that varying degrees of capacity and authority to act among participating actors in an initiative (see chapter 4.2) is indicated to be the fifth most experienced major barrier (9%) but overall is slightly more often experienced by Lighthouse Activities as a major driver (12%). According to the literature review, the latter is only expected to occur as a barrier.

Going beyond what is found in literature, some Lighthouse Activities in the survey sample list additional drivers and barriers for catalytic impact. Across these instances, local leadership, education, and active participation of stakeholders and local communities are mentioned as a major driver more than once. Specifically, these type of drivers help the Lighthouse Activities with implementation on a local level for new locations and ensuring its maintenance on a longer term. For barriers, both a lack of awareness about either the issue addressed by the initiative or the benefits of participating in climate action is mentioned more than once, as well as a lack of willingness among parties to an initiative to comply. This also relates to another additional barrier, namely the inability to present initial or short-term results of an initiative, which hampers the ability to convince new partners to join the effort.

6.2.3 Empirical ambiguity of drivers and barriers for catalytic impact

Adding to what has already been discussed about the ambiguous nature of some factors under section 6.2.2, the survey results presented in figure 6 appear to confirm the ambiguous nature some factors as observed in the literature review (see chapter 4.6). Mainly, absence and presence of legislation supportive of non-state climate action are indicated to be equally experienced as a barrier or driver (18%). The same appears to be true for competition, sanctioning and conflict resolution. With regard to the latter two, missing these functions can be considered as much of a barrier as having them is a driver. In both cases however these functions appear as less relevant for affecting catalytic impact, as less than 10 percent of the Lighthouse Activities in the survey sample experience these functions as either a driver or barrier. In contrast, the functions monitoring and communication are significantly less ambiguous, as the survey results indicate that these functions can be considered significant major drivers for catalytic impact. Similarly, a lack of resources is more strongly prevalent as a barrier than a driver. The implications of these findings will be further discussed under chapter 7.

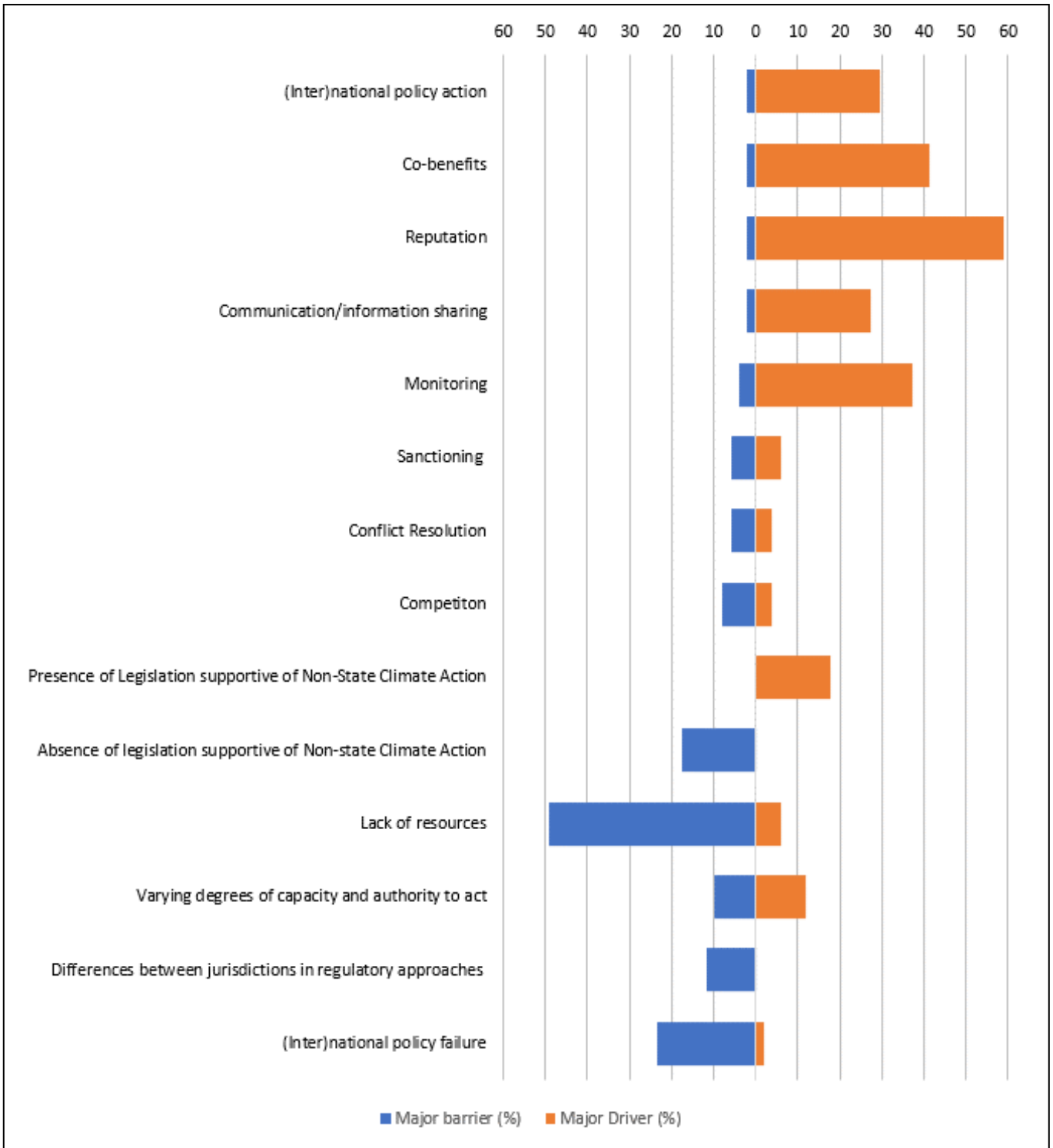


Figure 6: Frequency of literature-identified drivers and barriers for catalytic impact experienced by Lighthouse Activities expressed as percentages of the survey sample population

6.2.4 Linkages

As mentioned in the literature review, one can raise the question whether major barriers or drivers for catalytic impact are somehow interlinked (see chapter 4.6), and that the presence of one particular driver or barrier can predict the occurrence of another. Using Pearson’s R to test the survey data on the five most frequently experienced major barriers and major drivers for catalytic impact for statistically significant correlations, results seem to indicate that some linkages do occur, as shown in table 4 and 5. At the same time, no significant negative correlations were found between major drivers and major barriers, possibly indicating that the presence of particular drivers in Lighthouse Activities does not imply decreased likeliness of the presence of certain barriers and vice versa.

Correlating Major Drivers	Pearson’s R
(Inter)National Policy Action – Co-Benefits	0.3*
(Inter)National Policy Action – Reputation	0.3*
Co-Benefits – Monitoring	0.4**
Communication/Information Sharing – Reputation	0.4**
Communication/Information Sharing – Monitoring	0.3*
Reputation – Monitoring	0.3*
* Correlation is significant at the 0.05 level (2-tailed)	
** Correlation is significant at the 0.01 level (2-tailed)	

Table 4: Correlating major drivers for catalytic impact

Considering linkages between major drivers for catalytic impact, the results as presented in table 4 show only weak correlations, all the coefficients being lower than 0.5. Arguably, these results suggest that there is some coherency in what groupings or combinations of major drivers are simultaneously experienced by Lighthouse Activities in the survey sample, but that this coherency is not highly consistent. Moreover, the found correlations do not reveal much about the direction of correlation, as well as what explanation can be given for the correlations to occur. For instance, there is for now no direct hypothesis or indication from literature that would explain how co-benefits and monitoring are connected as major drivers for catalytic impact.

In contrast, the correlations between major barriers for catalytic impact arguably do provide some more insight into how these factors might be connected. First, as shown in table 5, three medium to strong correlations are present, with a coefficient equal to or higher than 0.5. Second, when looking at these stronger correlations, plausible explanations for these linkages can be provided. It can be argued that national or international policy failure can result in the absence of legislation supportive of non-state climate action, as governments lacking an ambitious perspective on the need to address climate change might also subsequently fail to recognise the important role. Likewise, both policy failure and the absence of the aforementioned type of legislation could trickle down to initiatives facing difficulties to connect with new parties or actors. In this instance, initiatives might be limited by their

governmental and legislative context to find synergies or develop a mutual framework for cooperation. In this way the correlations resulting from the survey data analysis for the major barriers arguably provide a stronger indication and higher likeliness of linkages and coherency. Arguably, this apparent coherency may also reflect some of the difficulty for addressing particular barriers, as they may require a more holistic approach that includes other factors as well.

Correlating Major Barriers	Pearson’s R
(Inter)National Policy Failure – Lack of Resources	0.3*
(Inter)National Policy Failure – Absence of Legislation Supportive of Non-State Climate Action	0.7**
(Inter)National Policy Failure – Differences Between Jurisdictions in Regulatory Approaches	0.5**
Absence of Legislation Supportive of Non-State Climate Action – Differences Between Jurisdiction in Regulatory Approaches	0.6**
Varying Degrees of Capacity and Authority to Act – Differences Between Jurisdictions in Regulatory Approaches	0.3*
* Correlation is significant at the 0.05 level (2-tailed)	
** Correlation is significant at the 0.01 level (2-tailed)	

Table 5: Correlating major barriers for catalytic impact

6.3 Momentum for Change’s catalytic potential

6.3.1 Addressing drivers and barriers: actual outcomes of Momentum for Change’s award mechanism as perceived by Lighthouse Activities

Considering the five most significant major drivers for catalytic impact experienced by Lighthouse Activities, reputation is notably more often mentioned by survey participants as being supported after becoming a Lighthouse Activity compared to the others (see Figure 7). Additionally, when asked in the survey to distinguish between major drivers that are somewhat or strongly supported by winning the MfC award, the results show that reputation is the only major driver that is considered more often to be strongly supported than somewhat supported. Nevertheless, winning the award overall appears significantly more relevant for addressing drivers than addressing barriers for catalytic impact. Comparing the survey results shown in figure 7 and 8, only a lack of resources as an experienced major barrier was addressed in more than 10 percent of the cases in the survey sample, and in less than half of this cases it was indicated that the barrier was strongly alleviated. It should be noted here that national or international policy failure as a major barrier is not considered in these results, as in the development of the survey it was not considered that the former would appear as a major barrier. Furthermore, while competition was indicated in table 5 as a driver or barrier potentially addressed through MfC, its lower significance within the total array of drivers and barriers found within the survey results arguably implies that it is less relevant to discuss in light of the actual outcomes of the MfC award.

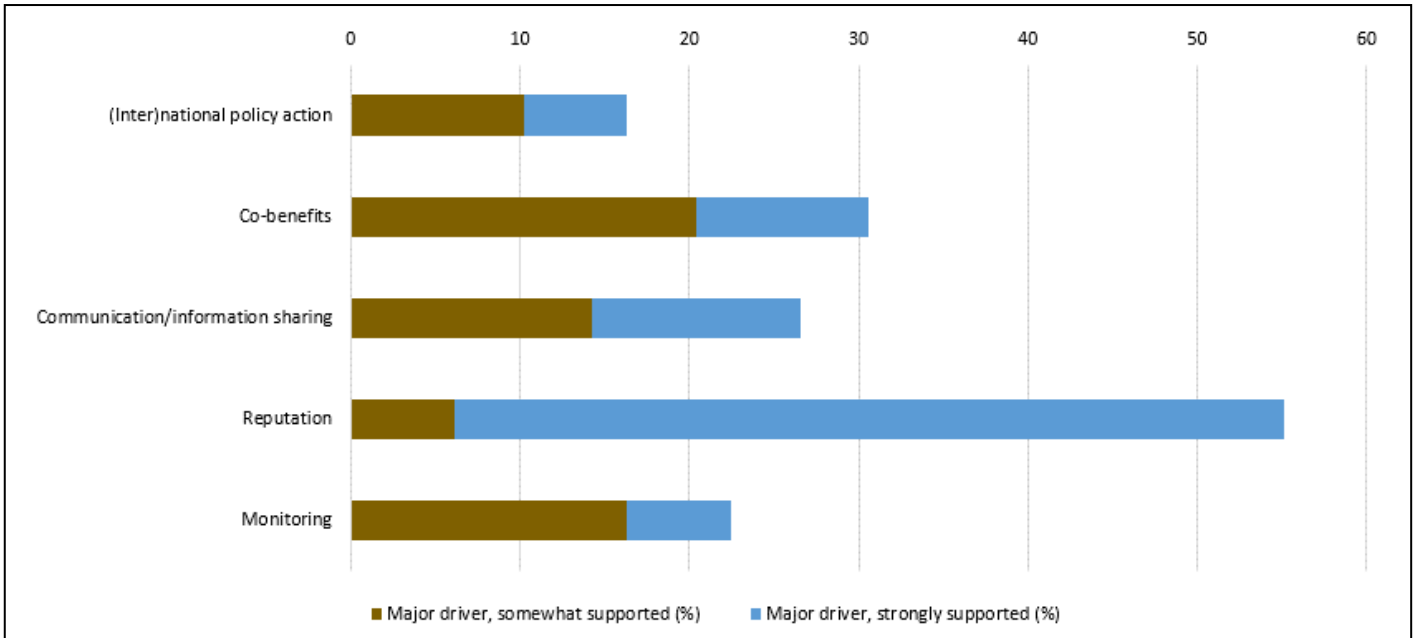


Figure 7: frequency of the five most experienced major drivers for catalytic impact being supported by winning MfC, survey sample

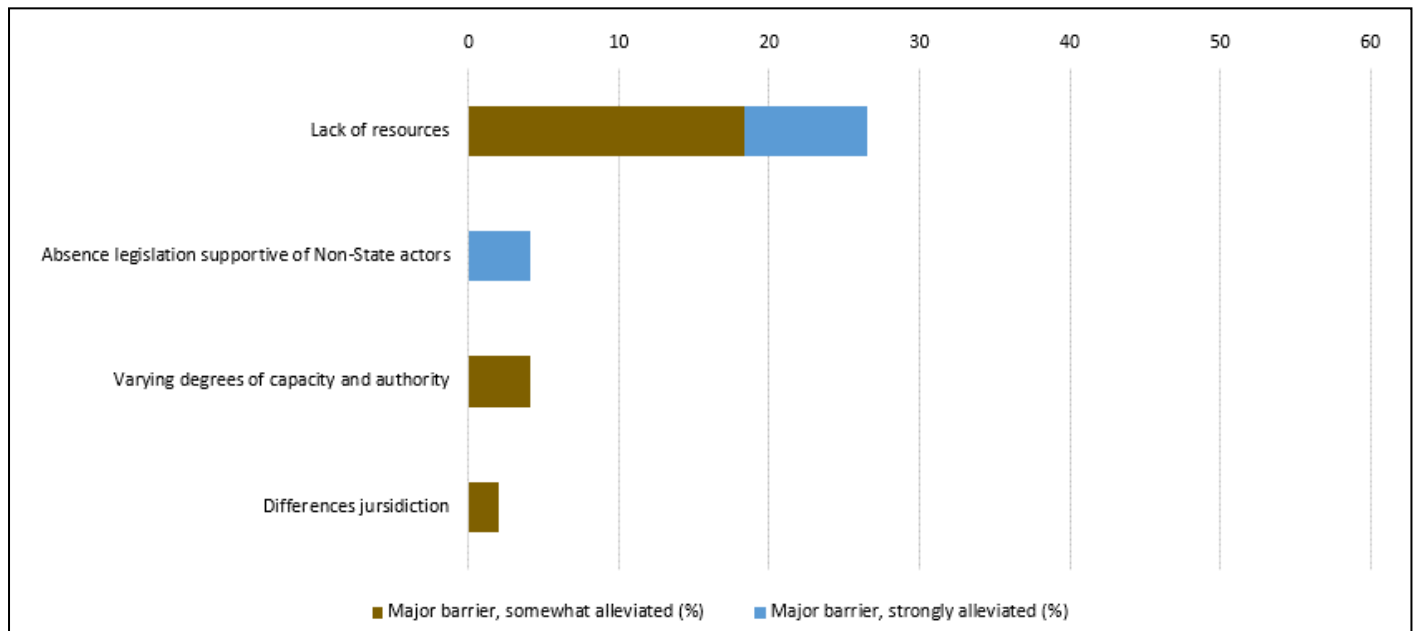


Figure 8: frequency of the four experienced major barriers for catalytic impact being alleviated by winning MfC, survey sample

These results provide a first indication of the actual outcomes of the MfC award in terms of addressing drivers and barriers for catalytic impact. Compared to the intended outcomes (see chapter 5.2 and 5.3), one can argue that these results follow previously formulated expectations: the relatively strong support of reputation as a driver for catalytic impact as shown in figure 7 arguably reflect the attempt of MfC to foster catalytic impact by means of improving visibility through UNFCCC recognition and PR support. Additionally, the results for the major barriers in figure 8 to some extent also reflect the premise of MfC that providing opportunities for new partnerships can lead to additional resources. Considering that a lack of resources as a barrier for catalytic impact is most frequently alleviated within the survey sample, it can be argued that acquiring new resources through partnerships has occurred

to some extent. However, only a small fraction of these cases indicates this major barrier to be *strongly* alleviated by becoming a Lighthouse Activity, which can indicate that the effect of winning the award is here less significant than is expected. Moreover, especially the results for the frequency of alleviated major barriers also appear to confirm the limits of the MfC award for addressing barriers for catalytic impact. The remaining major barriers that are only seldom alleviated are mostly related to local government structures and political contexts, which are arguably difficult to address through means of an award.

Overall, the survey results discussed above provide the first step in grasping the actual outcomes of winning the MfC award. Further elaboration on these results will be provided through case studies (see chapter 6.3.3). Furthermore, it should be noted that these findings on the support or alleviation of particular drivers and barriers do not directly imply how valuable the MfC award actually is for fostering catalytic impact, which will be the focus of the remainder of this chapter.

6.3.2 Perceived value of Momentum for Change

Results from the survey suggest notable variation in how Lighthouse Activities value the MfC award for fostering catalytic impact. First, not all Lighthouse Activities in the survey sample agree that being laureated by MfC has been instrumental for their success in scaling and replication. Additionally, although the majority of survey respondents still agree on the former statement (76%) not all do so strongly. Second, even more nuance can be put on the perceived value of MfC for fostering catalytic when considering initiatives' main reasons to participate and their additional statements regarding the award mechanism. In this regard, Lighthouse Activities in the survey most often indicate that they participated in MfC in order to acquire new opportunities to foster scaling and replication for their initiative. However, at the same time respondents acknowledge that their initiatives were already doing well in terms of scaling and replication prior to becoming a Lighthouse Activity and that the latter allegedly further supported this process. By contrast, survey respondents more seldom indicate to have participated in MfC mainly as a means to address challenges faced by their initiative. The complete scope of reasons to participate and their relevance can be found in figure 9. Statements on actual participation are shown in figure 10.

The latter findings would arguably confirm the alternative explanation as discussed under chapter 1.1 and 5.2 that the relative success of the Lighthouse Activities to foster catalytic impacts is a result from MfC's selection criteria. However, this does not explain the majority agreeance of laureates in the survey sample with the importance of winning MfC for success in scaling and replication. This may well suggest that even when initiatives were already successfully scaling and replicating prior to MfC, winning the award can still be of significant value for continuing this success in multiple instances.

One can base the latter argument first on the survey findings on the additional statements Lighthouse Activities have offered beyond what is already mentioned on their performance in catalytic impact previous to MfC. Namely and additional to the latter, survey respondents fairly frequently indicate that participating in MfC and becoming a winner has helped them strengthen their commitment to climate action and increase their ambitions and efforts within their initiative (see Figure 10). Arguably, this increased commitment to efforts could have well translated to additional effort to realise scaling or replication.

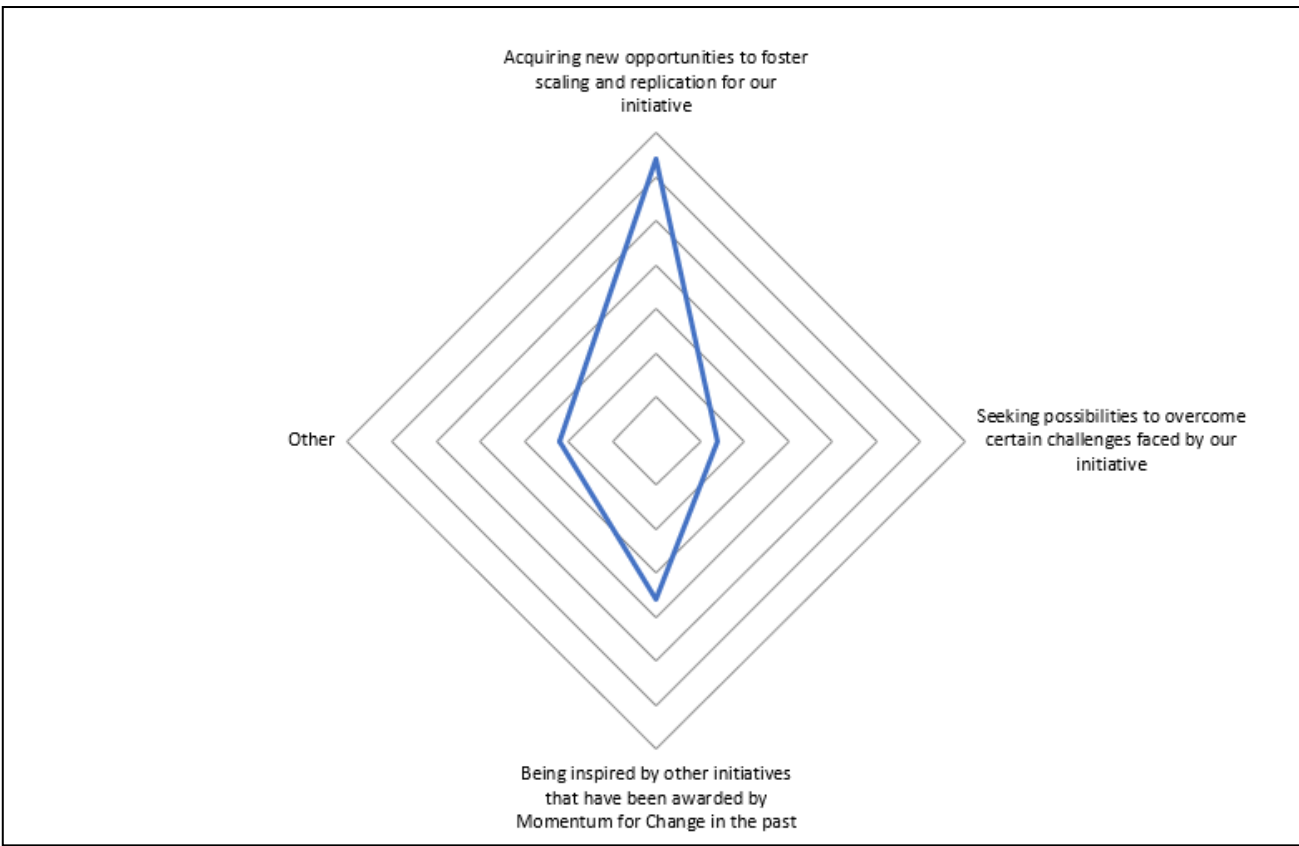


Figure 9: Spread of survey respondent's main reasons to participate in MfC (not mutually exclusive). Shorter distance of the coloured line towards one edge reflects higher frequency of a particular reason for participation.

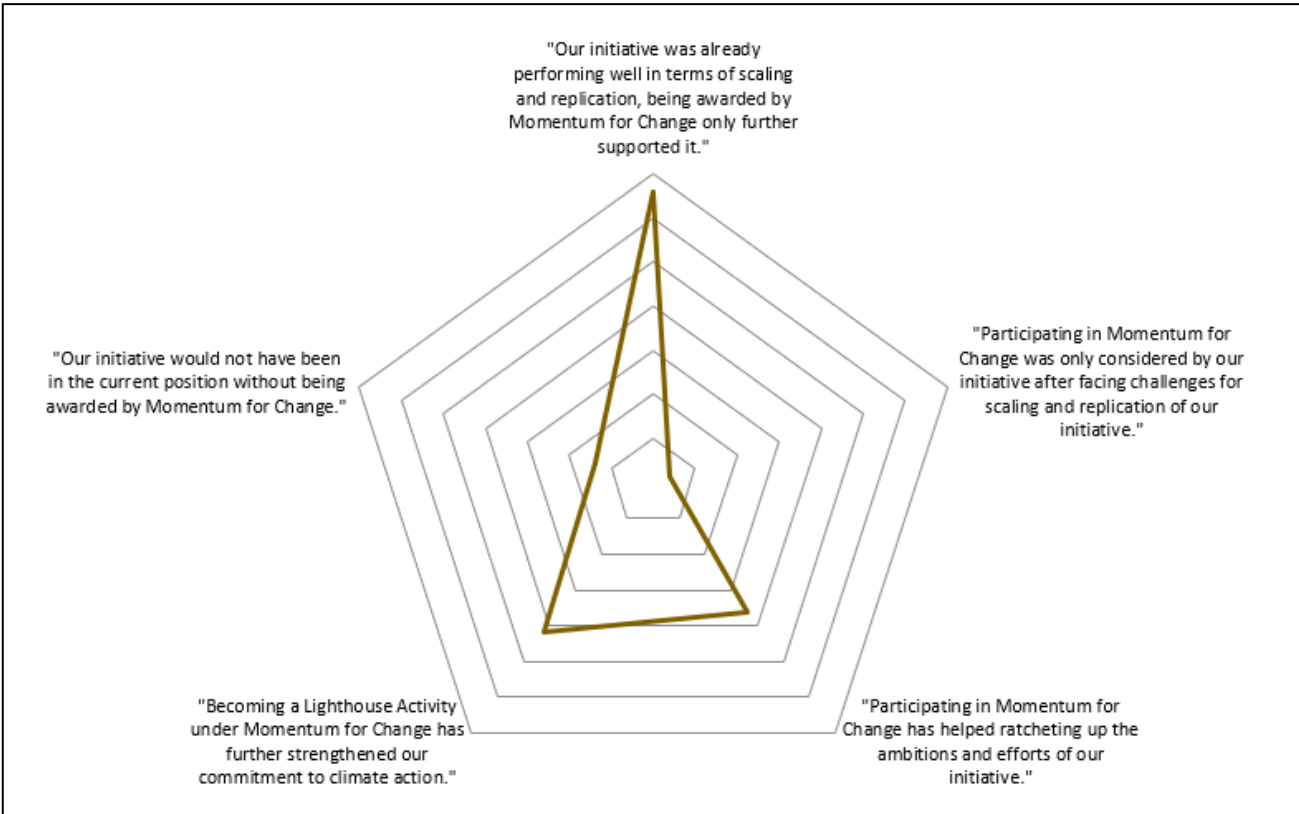


Figure 10: Positions of survey respondents on additional statements with regard to participating in and being laureated by MfC (not mutually exclusive). Shorter distance of the coloured line towards one edge reflects more frequent agreement with that particular statement.

Additionally, closing testimonies by survey respondents on the importance of MfC for their initiative (see Appendix III) provide further indication that winning the award is still valuable, even when most initiatives were already able to foster catalytic impact prior to participation. Mainly, the majority of MfC-laureates in the survey sample highly appreciate the recognition and credibility for their initiative that follows from winning the award. It is argued that this supports their efforts in various ways. First, survey respondents often mention that gaining recognition and credibility strengthens the motivation and confidence of initiatives and reassures participating actors that they are on the right track. As put by one representative of a Lighthouse Activity in the survey: “The MfC award has provided an assurance and level of authenticity that our project has significant global impact. Internally and externally, staff and clients exhibit and share the pride of being MfC award recipients.”. Second, subsequent to the recognition, Lighthouse Activities see their initiatives enjoy improved visibility and confidence. Being a Lighthouse Activity therefore became in many cases important tool for gaining additional partners to realise scaling and replication, and hence catalytic impacts. These observations are also supported by survey outputs: when asked what aspects of becoming a Lighthouse Activity were most valuable for laureates, UNFCCC recognition is most often mentioned by respondents (86% of all cases), followed by improved visibility and PR support (73% of all cases).

Notably however, a fair number of Lighthouse Activities in the survey sample do not directly mention or indicate that catalytic impact has followed from becoming a Lighthouse Activity, but still express their appreciation of the award it for its validating effect, as exemplary in the following case: “[The effect of winning the MfC award] is not measurable, but we very much value the ability to share that we are a Momentum for Change named activity (...)”. Only in a few instances, survey participants indicated that the MfC award has had little value for them in terms of catalytic impact. It has to be noted however that not all participants in the survey provided a testimony, also including part of the respondents that indicated to neither agree nor disagree or somewhat disagree with MfC as a key factor for success in scaling and replication, and as such the perspective on the perceived value drawn here might lack some nuance.

Overall, combining the results on main reasons for participation, additional statements on participation, and the provided testimonies, a more complex characterisation of the value of MfC’s awarding mechanism arguably arises. This characterisation suggest that MfC is neither a silver bullet for fostering catalytic impacts in all instances, nor a platform that only appears successful due to participant’s earlier success. To expand and develop this characterisation, the following case studies will be used to further contextualize the discussed results and gain more insight.

6.3.3 Case studies

Building on the results of the survey, different case studies have been conducted to contextualize previous findings on drivers and barriers for catalytic impact, actual outcomes of winning the MfC award, and the perceived value of the latter for laureates. As can be seen in table 6, the case studies represent a diversity of initiatives and projects addressing both similar and very different issues related to climate change mitigation and adaptation. While these case studies arguably give valuable insights, not all drivers and barriers for catalytic impact as well as the different perspectives on the value of MfC are addressed by them.

Name	Year of winning award	Area of Focus	Climate aspect addressed	Themes addressed*	Countries/regions of implementation
Community-Based Flood Early-Warning System	2014	ICT Solutions	Adaptation	Water, Resilience	Afghanistan, India, Nepal, Pakistan, Malawi, South Africa
Rural Community Leaders Combating Climate Change	2016	Women for Results	Adaptation	Energy, Resilience	India
IIX's Women's Livelihood Bond Series	2019	Financing Climate-Friendly Investments	Adaptation	Resilience, Sustainable Agriculture	Asia-Pacific
National Resettlement Plan	2014	Urban Poor	Adaptation	Human Settlements, Resilience	Uruguay
Connected Mangroves	2016	ICT Solutions	Adaptation	Human Settlements, Land use, Ocean and Coastal Zones, Water	Malaysia, The Philippines, Kenya**
Plastic Bank	2017	Planetary Health	Other: (Ocean) Pollution Reduction	Ocean and Coastal Zones	Haiti, The Philippines, Indonesia
MAIS Program	2018	Financing Climate-Friendly Investment	Adaptation & Mitigation	Human Settlements, Land Use, Water, Resilience	Brazil
The W+ Standard	2016	Women for Results	Adaptation & Mitigation	Energy, Land use, Transport, Water, Resilience, Forest Management	Nepal (Pilot)

Table 6: Overview of Lighthouse Activities in case studies.

*The themes referred to are those established at the Marrakech Partnership for Global Action as Climate Action Pathways, see: <https://unfccc.int/climate-action/marrakech-partnership/reporting-and-tracking/climate-action-pathways>

**Locations for potential/planned implementation

Community-Based Flood Early Warning System

The Community-Based Flood Early Warning System (CBFEWS) was piloted in 2010 and is mainly managed by the International Centre for Integrated Mountain Development (ICIMOD)⁵, an intergovernmental institution active in the Hindu Kush Himalaya region (ICIMOD, n.d.). Seeing that local communities were often hit hardest by floods and flash floods, ICIMOD recognized the need to develop an early-warning systems that operates on a local level, as most existing early-warning systems often operate on a national- or regional-wide scale⁵. As such, CBFEWS is an early-warning ICT system installed locally at upstream river-area communities to manage and prevent flood or flash flood risk in order to enhance the resilience of vulnerable communities. By means of a transmitter and

⁵ Dr. N.S. Pradhan, CBFEWS main coordinator and Senior Water and Adaptation Specialist at ICIMOD, personal communication, November 6, 2020

receiver, upstream river communities can detect potential flood risks, and information can then be quickly sent to downstream communities, so to ensure timely preparation or evacuation (UNFCCC n.d.-b). What sets CBFEWS apart from other early-warning systems however is that it not only provides detailed information on the potential flood, it also provides information to the downstream communities to support proper preparations⁶.

Piloted in India, the CBFEWS was installed in two different areas. To implement the system, local municipalities, disaster management entities, communities and non-governmental organisations are involved, as well as a private sector partner to manufacture the instruments. Through this participatory approach, ICIMOD aims to create local ownership of the CBFEWS in order to ensure long-term sustainability in maintenance of the system. Moreover, especially the engagement of local communities is also meant as adding a social dimension to the CBFEWS, empowering community members who bear responsibility for operating the system. This participatory engagement approach has also been an important factor that helped drive the scaling of the system locally. An initial challenge however was to secure long-term funding, as the financial costs for manufacturing and maintenance of the instruments for the long term are significant. In this regard, the challenge was to convince donors or investors to contribute to the initiative: the impacts of CBFEWS were logically local, but investors wanted to see impacts on a larger scale before making commitments⁶.

Becoming a Lighthouse Activity in 2014 brought a significant change to the initiative. The decision to participate followed a major flood in 2013 in the Assam region in India, where the previously installed CBFEWS' were vital for preventing significant disaster impacts and saved around 3,000 USD worth of livestock and livelihoods. Seeing that this impact came from an initial small investment, ICIMOD considered the system to be a very good showcase at UNFCCC's MfC awards. Following the award ceremony at the COP20 and receiving recognition, ICIMOD was approached by multiple new parties and organisations. First, a collaboration was initiated with the United Nations Development Programme's Global Environmental Finance Unit (UNDP/GEF) and the Nepalese national department of hydrology and meteorology to scale the CBFEWS to include local communities in Nepal. Additionally, multiple like-minded organisations reached out to replicate the system, enabling ICIMOD to further scale and implement the system in additional river tributaries located in India, Nepal, Pakistan and Afghanistan. Most Recently, the CBFEWS' scope of implementation and use expanded to include Malawi and South Africa⁶.

As already becoming implicit from these results, ICIMOD contends that becoming a Lighthouse Activity has been invaluable for raising their profile. Moreover, it also raises the motivation to further improve the CBFEWS year after year, as for instance recently it has included the aspect of gender when installing and implementing the system at local communities. Technically, ICIMOD has also been able to significantly improve the system since the first pilot projects in India. Until now, winning the award is still used for profiling the system, and helps convincing new partners to participate. From the viewpoint the CBFEWS' lead, participating in MfC is highly recommendable to other initiatives seeking to gain global visibility, also because it engages a learning process in which initiatives can 'outreach' the work they have already done⁵. At the same time however, it is noted that the MfC process could improve to include a tracking process after winning the award: "The award should not be about a one-time success, it should be more focused on what comes after the award."⁶.

⁶ Dr. N.S. Pradhan, CBFEWS main coordinator and Senior Water and Adaptation Specialist at ICIMOD, personal communication, November 6, 2020

Rural Community Leaders Combating Climate Change

Rural Community Leaders Combating Climate Change is a project located in India and managed by the Indian NGO Swayam Shiksan Prayog (SSP) (UNFCCC n.d.-i). Recognising the role women can have in combating climate change in their local communities, SSP launched the project in 2004 with the aim of promoting women empowerment⁷ (UNFCCC n.d.-i). As such, the project offers training for women in entrepreneurship to develop local businesses that promote and sell clean-energy projects and products within rural communities. Products include for instance clean cookstoves or solar-charged lighting. Through these trainings in entrepreneurship, women become pivotal leaders and support their communities in adopting energy-efficient and climate-resilience practices (UNFCCC n.d.-i). Simultaneously, the approach allows SSP to create an entrepreneurial network that allows them to both sell climate-friendly products and tools into rural areas, as well as buying products from the local women entrepreneurs and enter them into the urban market. The overall aim of the project is to build a network with more than 2000 women entrepreneurs by 2024⁷. Around 2016, SSP reached over 1000 women to be trained in entrepreneurship (UNFCCC n.d.-i).

Following its launch, the project had to address several challenges within its activities. First, the manufacturers that provided SSP with the clean-energy products to be sold by women entrepreneurs were not necessarily geared towards the rural market, demanding effort by the NGO to ensure these manufacturers produced products that were in demand for rural communities. Related to this, a continuing challenge for SSP is their role as a conduit between manufacturers, women entrepreneurs, and the rural market, which demands continuous evaluation of logistics and opportunities to make the process more cost-effective. Third, creating awareness among rural communities for the use and value of clean-energy products has appeared as a costly process in terms of resources. With regard to resources however, no significant problems have ever arisen from lacking funding or support, nor are there any challenges arising from competition, as most companies selling clean-energy products are not interested in the rural market⁷.

Turning to factors that drive the success of SSP's project, an important factor is the NGO's long-sustained consistency over several decades in which it has continuously worked towards realising its goals and projects. This significantly helps for improving visibility and attracting new partners. Second, increasing the portfolio of clean-energy products that are sold through the project can lead to an increasing number of customers and partners. With regard to selling the products, SSP deems the women entrepreneurs involved in the project as another essential factor for expanding the scope of implementation of the project. Third, the co-benefits that are generated through the project have made Rural Community Leaders Combating Climate Change further attractive for new partners or have helped acquiring new funds. These co-benefits include environmental protection, energy efficiency, sustainable agriculture, and local economic development. Lastly, for its resources the project benefits from a supportive policy environment at the national level, as the Indian government subsidizes environmental products, making them easier to sell⁷.

While already benefiting from the different factors discussed above, winning the MfC award in 2016 has been vital for the project's success in scaling. Seeking possibilities to improve the project's visibility, SSP was able to gain valuable new publicity and contract new product partners for the project's product portfolio. To illustrate, prior to becoming a Lighthouse Activity SSP was able to sell four different products to rural communities through its women entrepreneurs, while after the award SSP was able to expand the project's portfolio to 16 products. Moreover, the project's outreach has expanded to include not only rural markets where women entrepreneurs can sell clean-energy

⁷ U. Patil, Director Programs SSP, personal communication, November 14, 2020

products, but urban markets have been accessed now as well. An additional 215 women have also been engaged since winning the MfC award and in terms of geography, SSP has been able to scale up the project's scope beyond it's the two states in India where the project was first implemented⁸.

Unsurprisingly therefore, SSP recommends other initiatives to participate in MfC as well. Whether you win the award or not, participation is always valuable for evaluating what can be improved about a project, and it also allows for learning about other initiatives. With regard to the latter, one recommendation that is made for improving the MfC process is to facilitate cross-learning among Lighthouse Activities, for instance on how to address certain challenges or what strategies can be used to gain additional funding⁸.

IIX's Women's Livelihood Bond Series

The Women's Livelihood Bond Series (WLB Series) is a capital market investment instrument managed by the women-owned and led organisation Impact Investment Exchange (IIX)⁹ (UNFCCC n.d.-k). For the past decade, IIX has been driving progress on women empowerment, climate action, and resilient communities, with a particularly strong focus on underserved women. Having worked with enterprises across 46 countries, with a strong focus on the Asia-Pacific region, IIX recognised that despite the potential for women to drive economic growth and sustainable development, they are still systematically excluded from financial markets and disproportionately affected by climate change. Simultaneously, IIX saw how closing the gender gap in women's economic empowerment globally would generate enough revenue to actually close the SDG finance gap, and more broadly the entire climate finance gap⁹. As such, the organisation created the 150 million USD Women's Livelihood Bond Series, with the first (WLB1) was launched in 2017, followed by the second bond (WLB2), which won the MfC award in 2019⁹ (UNFCCC n.d.-k). Essentially, the WLB Series debt securities, which pool together a basket of borrowers that are helping women access affordable credit, micro savings and insurance, agricultural inputs, and clean and affordable energy (UNFCCC n.d.-k). WLB1 unlocked 8.5 million USD of private capital, while WLB2 unlocked 12 million USD (IIX n.d.; UNFCCC n.d.-k). Most recently, WLB3 has unlocked 27.7 million USD⁹. To enlarge the WLB Series' impact, the aim is to expand the sectors with each new bond and secure additional sustainable livelihoods for women⁹.

While working on WLB1, IIX faced systemic challenges stemming from a lack of awareness among investors about financial instruments addressing the intersect between women's empowerment and climate investment. When initially selling the bonds, banking partners of IIX struggled with selling it to their clients, suggesting to drop the word 'women' from its description. Refusing the latter, IIX was eventually able to 'de-risk' the fund by adding a layer of first loss capital, and succeeded to sell the bonds. As such, early support by foundations for the latter has been an important initial driver to enable access for the WLBs on the capital market⁹.

Winning the MfC award in 2019 has been significant for the WLB2 in raising awareness about the need for gender empowered climate finance in the market. The decision to enter WLB2 into the MfC process partially came from a need bring credibility to IIX's innovative financial instrument that was previously unknown to investors. Becoming a Lighthouse Activity offered this needed credibility, but more importantly, opened a significant gateway to new partners and opportunities. Through the explicit recognition of the UNFCCC, the WLB gained significant credibility, providing investors with confidence to invest in the instrument. Moreover, winning the MfC award has enabled IIX to engage new

⁸ U. Patil, Director Programs SSP, personal communication, November 14, 2020

⁹ WLB Series/IIX lead representative, personal communication, November 26, 2020

‘mainstream’ partners within the capital market that are willing to contribute to gender responsive climate finance. It has also helped IIX win additional awards on other international forums and being assigned to new grants and funds to develop the WLB3. With regard to the latter and to illustrate the impact of becoming a MfC laureate, the WLB3 successfully closed at double the size of the WLB1 and will expand into new sectors compared to the WLB2¹⁰.

In short, since winning the MfC, increased market credibility for the WLB has become an important driver for further expanding the impact of the bond series, as put by the WLB and IIX lead: “[WLB] is really about mainstreaming something innovative [a financial instrument putting women at the center of climate action], and the [MfC] award helps us in doing that.”¹⁰. At the same time however, the normative novelty of gender- and climate related finance still remains challenging, as multiple investors engaged in climate finance are still unaware. Moreover, while IIX deems the MfC award invaluable for improving and expanding their work, it is suggested that it would be great in the years following the MfC award to remain included in the UNFCCC process at the COPs, and that, as already done by other award schemes IIX previously participated in, MfC would be able to connect winning the award to endorsements of local or national governments to create additional ripple effects for scaling and replication¹⁰.

National Resettlement Plan

Launched in 2010, the National Resettlement Plan is a nation-wide relocation effort in Uruguay to resettle families from flood-prone and polluted areas¹¹ (UNFCCC n.d.-h). Its launch followed a major flood in Uruguay in 2007, when the country was not prepared and the impacts were severe. The reconstruction process after the flood gave rise to opportunities to do more than just recovery, developing a plan that would not only focus on disaster risk management but also integrate a climate change perspective. As such, the process of rehabilitation eventually lay the groundwork for what became the National Resettlement Plan¹¹. At its core, the approach of the plan involves relocating the poorest, flood-prone urban communities to new houses located in urban areas with access to transportation, sanitation, energy, and education services. Next, the flood-prone areas are transformed into public recreational places, which can be flooded if necessary and prevent new occupation in the future by informal settlements. Additionally, adult family members are provided with job training in order to include them in formal employment networks and improve their income and quality of life. Between 2014 and 2015, more than 1500 families were in the process of being resettled (UNFCCC n.d.-h).

The development and implementation of the National Resettlement Plan has greatly benefited from a favourable policy environment. After the flood of 2007, a new governance framework for disaster risk management was established that included new laws for territorial planning, new management systems, and a new policy plan to address climate change. This greatly enabled the development of an integral perspective for climate change and disaster risk management. Nevertheless, a significant challenge for the National Resettlement Plan is ensuring its continuity. Initially, coordinators of the plan had to emphasize to the national government that their plan was not a project but intended as long-term policy that should extend beyond a single government-term. Additionally, there was little awareness, even among those participating in the implementation of the National Resettlement Plan,

¹⁰ WLB Series/IIX lead representative, personal communication, November 26, 2020

¹¹ R. Lejtregger, Political & Technical Leader National Resettlement Plan, personal communication, November 4, 2020

that the latter had a climate change perspective as well. Instead it was mainly considered as a housing plan rather than an approach for addressing climate change adaptation¹².

Winning the MfC award in 2014 has been supportive of addressing the aforementioned challenges. First, the recognition of the UNFCCC for the National Resettlement Plan has helped maintaining its momentum and relevance among both participants and the national government. Second, winning the MfC award and being validated by the UNFCCC also helped the National Resettlement Plan to more strongly identify as a climate change adaptation approach. Furthermore, by becoming a Lighthouse Activity the National Resettlement Plan gained more visibility, which has opened up opportunities for the plan's main coordinators to engage with additional ministries to improve its scope and activities. Moreover, following the award, the plan's main coordinator has been approached by new parties and stakeholders beyond Uruguay looking to design similar relocation strategies. Not only has this allowed for replication of the National Resettlement Plan, it has also resulted in a learning process to see what layers or perspectives were missing in the latter and what could be improved¹².

From the perspective of the plan's main coordinator, participating in MfC is highly recommendable as it offers an important learning process for participating initiatives and can also be an important opportunity for internal evaluation. MfC could improve however by maintaining contact with its former winners in order to let the latter show current progress after becoming a Lighthouse Activity¹².

Connected Mangroves

Connected Mangroves is an initiative under the management of the ICT company Ericsson, and initially under Ericsson Malaysia (Ericsson 2016; UNFCCC n.d.-c). Starting out in Selangor, Malaysia, the initiative involved the use of sensors on newly-planted mangrove saplings and mobile communications technology to provide real-time information to local communities on mangrove plantation conditions in order better manage the growth of the new saplings (UNFCCC n.d.-c). The motivation for the initiative came out of Ericsson's ambition as a global company to be a nation-builder in the countries they work. Seeing the human-caused degradation of land in the Malaysian state Selangor and the risks of flooding, the lead of Ericsson Malaysia decided to do a series of mangrove-sapling plantations. Out of the latter effort rose the idea to apply technology for sapling-plantations and enhance agricultural development while reducing carbon footprint.¹³ Working with local tech companies to develop the instruments and regional NGOs for implementation¹² (UNFCCC n.d.-c), Connected Mangroves became an active initiative in 2015 with ten initial plantations and the goal to empower local communities and show how technology can support local development and environmental restoration. Over time, the initial plantations combined with the applied technology resulted in significant local land recovery¹³.

From the onset, the initiative saw substantial challenges to maintain itself, mainly stemming from an initial lack of faith of the global Ericsson company as well as the company's partners. As an indirect consequence, finding and convincing donors to contribute was difficult. Connected Mangroves therefore initially depended heavily on voluntary work by Ericsson employees and local community members willing to participate to realise and maintain the project. This personal motivation by individuals became a key driver to maintain the project locally. Additionally, motivation to show the Malaysian government and other stakeholders the intention to realise the initiative permanently and demonstrate the complementarity of improving the environment whilst making profit became an important driver as well. At the same time however, the dependency on personal motivation and local

¹² R. Lejtregger, Political & Technical Leader National Resettlement Plan, personal communication, November 4, 2020

¹³ Connected Mangroves lead representative, personal communication, November 20, 2020

engagement arguably created a potential barrier, as with absence of the former, it becomes increasingly challenging to maintain the initiative¹⁴.

Winning the MfC award in 2016 however alleviated the problems previously experienced. The main reason for Ericsson and the initiative's lead to enter the MfC process was to support the UN as a partner, both pragmatically as a means to gain competitive advantage as well as stemming from a belief in the importance of global forums for addressing world issues. Ultimately, becoming a Lighthouse Activity and being recognised by the UNFCCC came as a strong validation of the initiative's work and raised its profile. Both internal and external scepticism or resistance towards Connected Mangroves disappeared and the award gave the initiative's lead more confidence to reach out or bring up the project among partners: "Confidence and competence are related: getting the validation that you are doing something meaningful gives you more confidence, which in turn gives you more competence."¹³ Following the year after becoming a Lighthouse Activity, Connected Mangroves was replicated in the Philippines, and in most recent developments opportunities are sought to implement the initiative in Kenya. For both developments however, the initiative's lead indicates that it is difficult to determine how much of a factor the MfC has been, and also acknowledges that until now, the latter has not directly resulted in newly engaged parties or resources. Furthermore, while the validation that Connected Mangroves received through the MfC award is deemed very valuable, the initiative's lead emphasizes that the project would have been continued regardless of winning the award, though it would possibly have been more challenging and reliant on voluntary commitment¹⁴.

While the validation that follows from becoming a Lighthouse Activity is still highly appreciated by the initiative, there are multiple ways in which MfC could improve from the perspective of Connected Mangroves. First of all, it would be helpful if Momentum for Change could assign Lighthouse Activities to contacts or individuals within the UNFCCC that could support them in reaching out to or convince potential new partners on new locations. Additionally, it would be important to track the progress of Lighthouse Activities following the years after the award as well. Tracking could work not only as additional PR for the MfC laureates, but also creates an obligation: "[MfC] gave us the award, but how do they know it was not just a marketing tool for us? (...) When you get that type of award, you should feel an obligation to make [your initiative] work somehow."¹⁴

Plastic Bank

Plastic Bank is a Canadian-found social enterprise established in 2013 that has implemented a market-based solution to tackle health and environmental issues caused by plastic pollution (Plastic Bank n.d.; UNFCCC n.d.-a). Seeing how modern technologies can turn low-value plastic bottles or items into high-value parts for machines, the founders of Plastic Bank aimed to create a system that could transform plastic into a currency¹⁵. As such, the enterprise has implemented a recycling ecosystem in Haiti, the Philippines, and Indonesia where individual waste collectors can collect plastic waste and sell it to one of Plastic Bank's local branches or certified partner companies¹⁵ (UNFCCC n.d.-a). The enterprise then recycles the plastic and sells it to large companies who use plastic for their products, as such preventing the need to produce new plastic materials (UNFCCC n.d.-a). Most important however, Plastic Bank seeks to dignify the work and lives of the waste collectors in its supply chain, with the aim of enabling them to earn a livelihood beyond recycling. It therefore approaches its waste collectors as members to the enterprise that are able to access increased earnings, health insurance, education, and pension funds through recycling. The ultimate goal for Plastic Bank is to be a billion-dollar company by 2025,

¹⁴ Connected Mangroves lead representative, personal communication, November 20, 2020

¹⁵ S. Frankson, Co-Founder Plastic Bank, personal communication, November 11, 2020

affecting a billion people, and removing a billion kilos of plastic from the environment¹⁶. Currently, almost 17 million kilos of plastic are removed and recycled and the enterprise has more than 22,000 registered members (Plastic Bank n.d.).

When initially starting out in Haiti, challenges for establishing the enterprise on the market arose from a lack of knowledge and awareness regarding plastic waste pollution and plastic waste management, making it more difficult to convince new partners to join. As an extension of the latter, the approach that Plastic Bank introduced for recycling was brand new, making efforts to attract partners additionally challenging as the enterprise could only offer promises on its potential profits. The biggest initial challenge for implementing the new approach however was to account for differences in regional and national legislation for building local facilities as foreign enterprise. Moreover, different taxations schemes for plastic waste management were further troubling, particular for transport or exporting plastic waste in certain forms, increasing the complexity for Plastic Bank to transfer plastic waste or recycled plastic to different locations or clients¹⁶.

In contrast, competition with similar organisations or marketing campaigns is seen as benefitting the enterprise: it strengthens the legitimacy of the industry and related market sector, and being a sole enterprise within the sector would raise the questions about credibility. Beyond competition, Plastic Bank also benefits from funding from a previously successful business run by Plastic Bank's founders. The most important driving force for scaling the enterprise and the current success of Plastic Bank however is the importance of scaling itself for the enterprise. From the onset, the intention with Plastic Bank was to grow exponentially within a short time and expand to new locations. Scaling was therefore strongly embedded in the approach of the enterprise: "[Plastic Bank] had to be something that could grow exponentially, otherwise it would be too slow to have any significant impact."¹⁶

As such, just before winning the MfC award 2017, Plastic Bank was about to expand to include a pilot project on locations in the Philippines, and the enterprise on itself was already well functioning. Participating in MfC was therefore mainly seen as an opportunity to present the enterprise's work. Nevertheless, becoming a Lighthouse Activity had value to Plastic Bank: the recognition by the UNFCCC provided validation of enterprise's work as being in line with the SDGs and further legitimized its market. Subsequently, being able to legitimately claim the enterprise's approach contributed to realising the SDGs became additional factor to attract new clients who are looking to address the SDGs within their supply chain. Until now however, no concrete new partnerships came out of winning the MfC award. It was therefore most valuable as a motivator: having the endorsement of the UNFCCC spurred additional commitment and effort for further developing the enterprise. Nevertheless, MfC as an award mechanism could well be improved by offering Lighthouse Activities some type of membership to the UNFCCC through which they can be introduced to divisions and people within the organization that can be helpful for the scaling process of the initiatives. Furthermore, to gain even more credibility among potential new partners, MfC could also specify what specific SDG targets are met by its Lighthouse Activities, and highlight how they currently contribute to the latter¹⁶.

MAIS Program

The MAIS (Modulo Agroclimático Inteligente e Sustentável) Program is an impact business solution under supervision of the Brazilian company Adapta Group (Adapta Group n.d.). The program became active in 2006 and was formally established as a start-up business in 2018. The main motivation for the program is the need to help small- and medium-sized farmers become climate resilient as well as

¹⁶ S. Frankson, Co-Founder Plastic Bank, personal communication, November 11, 2020

profiling them as an asset for the private sector¹⁷. The goal therefore is to implement climate-resilient and sustainable agricultural practices in diverse agricultural value chains in Brazil and other world regions (Adapta Group n.d.; UNFCCC n.d.-e). To realise this, the MAIS Program engages with food- and beverage companies as well as global suppliers and offers them the opportunity to transform their supply chain to include regenerative and climate resilient practices. This approach includes three aspects. First, for its clients the MAIS Program analyses the climate-resilient and regenerative potential of their supply chain using pre-developed indicators. Second, based on the analysis, the program develops specific interventions at farm-level to transform the supply chain, which for instance can include the use of enhanced types of seeds or particular water management systems. Third, for supply chain management, the program identifies additional actors, for instance financial institutions or credit programs, to create the enabling conditions that are needed to implement the earlier identified solutions and scale up¹⁷. Since its launch, the MAIS Program has been able to engage over 650 farmers in Brazil through its approach, resulting in significant improvements in agricultural production and greenhouse gas reduction (UNFCCC n.d.-e).

An ongoing challenge however for the MAIS Program is lacking resources, specifically technical resources and funding, in order to further scale its activities globally. Partially, this challenge stemmed from framing the program initially as a form of public policy instead of a business. Additionally, the MAIS Program was first mainly oriented towards NGOs, who often base their revenues on non-reimbursable funding, implying they are unable to make large investments. The program therefore needed a transition period to focus more on the private sector, which took a significant amount of time and effort. Nevertheless, by means of a business accelerator, scaling could still be realised to some degree. The latter involved participating with other companies in a three- to six-month period of workshops and presentations with experts providing information on how to improve the enterprise. This greatly supported the MAIS Program, additional expertise and investments are still required¹⁷.

While winning the MfC award in 2018 was valuable to the extent that it provided the MAIS Program with UNFCCC recognition, it did not lead to any significant impacts in terms of opportunities to build new connections and scale the enterprise. It is indicated by the program's lead that international recognition can be useful for raising the interest of potential new partners. Actually convincing new investors however requires a well organised business structure and a proven solid business plan, which can take time to implement especially without external support. As the MAIS Program was only established as a start-up business in the same year it won the award, recognition was not yet sufficient enough to gain new partners: "Businesses do not look for recognition, they look for results (...), having recognition [by the UNFCCC] does not mean you are going to grow [as a business]."¹⁷ Additionally, the value of recognition for scaling an enterprise or initiative may be also dependent on earlier success or support: together with the MAIS Program, two other business initiatives were awarded as Lighthouse Activity who already had substantial resources, investments and successes prior to participating in MfC. In those cases, having recognition might be an extra component that can contribute to further scale the initiatives¹⁷.

Subsequently, from the perspective of the MAIS Program, the MfC could have a stronger focus on facilitating partnerships with investors or technical support for MfC-awarded start-ups. Moreover, in selecting winners, MfC could make a distinction between Lighthouse Activities based on their novelty. 'Winner packages' could then be differentiated between newly-established initiatives that still need substantial support and initiatives that are already thriving as a business or organisation. Third, MfC could develop partnerships with business accelerators, and let winning initiatives automatically enter

¹⁷ MAIS Program/Adapta Group lead representative, personal communication, November 16, 2020

such a platform. In these ways, the potential of MfC laureates could be better translated into actual impacts: “[Currently,] the [MfC award still] shows the distance between the political agenda [of the UNFCCC] and real action.”¹⁸.

The W+ Standard

The W+ Standard is a certification scheme developed by the international women’s organisation Women Organizing for Change in Agriculture and Natural Resource Management (WOCAN). Launched in 2015 with a pilot project in Nepal, the W+ Standard measures women’s social and economic empowerment by companies, governments, and individuals and uses a label to endorse those projects that either create or invest in opportunities for women’s development. Once organisations or projects are certified by the standard, they are issued a specific number of W+ units which can be sold to corporations, investors, and individual buyers (WOCAN n.d.; UNFCCC n.d.-j). Women’s empowerment is measured in six different domains: time saving, food security, health, income and assets, education and knowledge, and leadership¹⁹ (UNFCCC n.d.-j). Recognising that projects and approaches to addressing climate change are still largely male-dominated and neglect gender, the goal of the W+ standard is to provide an incentive structure for developers to bring about more engagement and benefits to women. Second, the standard also explicitly aims to bring a source of revenue to women and women’s groups. This is a distinctive feature from other standards or schemes in the carbon market, such as with forest management, as the majority of those bring no revenue back to local communities from the profits made by selling units. Third, seeing what women and women’s organisations can do for climate change, the W+ standard aims to increase investment in women and climate and more actively integrate the latter two¹⁹. Currently, the standard has been able through its certification scheme to improve the lives of more than 14,000 women (Wplus n.d.).

Despite the aforementioned results and gradually increasing market demand, the W+ standard faces ongoing challenges for its certification scheme to scale since its initial launch. First, when starting out, there was no existing market for the standard’s social impact certification scheme and units, making it difficult to create understanding among potential partners what it was. Currently, a lack of widespread awareness about the standard is still frustrating large uptake. In an extension of this, there has not yet been a large well-known brand or company that has decided to buy units, which partially follows from companies and brands developing these standards internally. Even more, alternative standards that aim to address the same issue cause market confusion among projects or project developers as to which standard has to be chosen that is more profitable or fair. All these factors combined lead to a second barrier for scaling: lacking a history of substantial trades and sales, which prevents WOCAN from showing widespread impacts of the standard in order to attract new partners. Third, a lack of resources is still a persistent problem that prevents hiring new staff or experts, conducting impact analyses, and launch additional pilot projects. While the W+ standard was created with core funding from a donor, this funding was later on suspended. According to the standard’s lead, a lack of core funding and thereby sufficient resources hampers further development and innovation, as additional time needs to be spent on acquiring grants and partners¹⁹.

For addressing these barriers and challenges, winning the MfC award in 2016 has had little measurable effect. It is acknowledged however that the validation of the UNFCCC has some significance, and the marketing tools that MfC has provided for Lighthouse Activities are still actively been used for the

¹⁸ MAIS Program/Adapta Group lead representative, personal communication, November 16, 2020

¹⁹ Dr. J. Gurung, Executive Director WOCAN/Main Innovator W+ Standard, personal communication, November 11, 2020

standard when reaching out to new partners or applying for new grants. Nevertheless, from the perspective of the W+ standard's lead, MfC could benefit from making improvements. First, on a more general level, partnerships with private entities could be strengthened in order to better support business initiatives participating in MfC to gain new partners. In this regard, MfC could strive for profiling itself more as a platform that businesses and investors interested in climate-related investments can access. Second, MfC could facilitate internal conversations between Lighthouse Activities which could stimulate cross-sector engagement and learning processes for scaling. This could even be extended to include winners from other years. Third, tracking progress of past winners would be a helpful addition to the MfC process as well²⁰.

7. Discussion and Conclusion

While the previous chapters' findings already provide significant implications with regard to answering the questions raised in this research, here the aim will be to make explicit connections to earlier discussed and developed theorization and propositions in order to build towards a valid and satisfactory conclusion.

7.1 Drivers and barriers for catalytic impact

With regard to drivers and barriers for catalytic impact, empirical evidence discussed in chapter 6 does seem to largely resonate with what is previously found in literature. As such, it can be argued that the compatibility between literature and empirical data suggests that combining concepts and insights from polycentric governance theory and TCCG appears indeed as a fruitful exercise. Within this research, it has allowed for gaining insight into different relevant processes and characteristics related to the development of non-state climate actions. Second, from the compatibility between literature and empirical data it becomes apparent that these drivers and barriers can take very distinctive forms and as a consequence of that, do not mostly affect one particular mechanism of catalytic impact discussed under chapter 2.2. Third, the findings confirm to a certain extent the ambiguity of some factors as both a driver and barrier. This seems to indicate the rejection of the earlier argument made in chapter 4.6 that the ambiguity of some drivers and barriers may be the result of a lack of research and knowledge on drivers and barriers for catalytic impact. The persistent ambiguities for some factors however might not be relevant to the analysis of drivers and barriers in general, as this ambiguity is only found for those drivers and barriers that are less prevalent.

Beyond this compatibility between literature and empirical data, some additions and deviations come forward from this research's analysis as well. With regard to additional drivers, local leadership, education, and participatory engagement have appeared multiple as additional factors that can support scaling or replication. In terms of catalytic impact, local leadership and participatory engagement could well stimulate coalition and capacity building, while education to address lacking awareness could be relevant in the process of normalization. Conversely, a lack of awareness about issues or benefits addressed through climate actions or a lack willingness among parties to comply have appeared multiple times as additional barriers, as well as the inability to show short-term result as a means to convince new partners. Respectively, these barriers could well hamper normalisation

²⁰ Dr. J. Gurung, Executive Director WOCAN/Main Innovator W+ Standard, personal communication, November 11, 2020

and coalition building as catalytic mechanisms. Turning to deviations, most notably it has been observed that international or national policy failure has appeared much more evident as a barrier for catalytic impact rather than a driver. Returning to the expectation regarding this factor as discussed in chapter 4.1, the findings arguably suggest that instead of non-state actors finding motivation or determination for addressing climate change issues stemming from absence of governmental action, they are actually confronted with additional struggle to act on climate change themselves. Another interesting deviation is in regard to perceptions of varying degrees of authority and capacity to act as a barrier for catalytic impact. As discussed under chapter 6.2, the latter factor is surprisingly experienced more frequently as a driver for catalytic impact rather than a barrier. With no viable explanation readily available for this finding, future inquiry could be relevant in this regard.

Following the findings with regard to literature and empirical data discussed above, some important nuances however have to be made. First, not all combinations of concepts of polycentric governance and TCCG have generated insights for potential drivers and barriers for catalytic impact. The latter could however also very well be a consequence of the inevitable limitations of a literature review, as this can only be as extensive as a research's time span and the availability of data and studies allows it to be. At the same time, it also suggests that future inquires could attempt to further expand the scope of drivers and barriers when new studies or data become available. Furthermore, while all drivers and barriers that have been identified in literature are also empirically confirmed, they are not all covered by the case studies considered in this thesis. As such, this implies that for some drivers and barriers explanation for how exactly they occur empirically is still lacking beyond what can be deduced from literature. It is also important to note that, despite empirical confirmation, there are significant differences in the empirical relevance of some drivers and barriers. For both this finding and the observed ambiguities discussed earlier, the question can be raised towards what extent they are sample-specific, and if other patterns of experienced drivers and barriers for catalytic impact can be found in non-state climate actions other than Lighthouse Activities.

Elaborating on the latter, it is important to reflect the findings discussed above can be generalised beyond the scope of this research, or even before that can be generalised to the entirety of Lighthouse Activities. With regard to the latter, it can be argued, as shown in chapter 6.1, that the survey sample is fairly representative of the actual population, making the findings here arguably valid. With regard to broader generalisation however, it is important to acknowledge that this research has only featured non-state climate actions that might be unrepresentative of average non-state climate actions in that they potentially show more success or impact. This can be a consequence of these initiatives not only passing MfC's selection criteria, but also actually becoming Lighthouse Activities. As such, caution should be taken with the findings from this research that would suggest that drivers for catalytic impact are more prevalent than barriers among non-state climate actions. Additionally and as a further limitation on this research, the representation of the occurrence of drivers and barriers established here is strongly based in survey participants' perceptions. While respondents can indicate that they experience certain factors as a major driver or barrier, it is for instance not necessarily supported by any data on growth in actors or profits. In this way, this research is not able to reveal the 'power' of each driver and barrier for affecting scaling and replication which together reflect catalytic impact. It can thus not be determined here how a perceived important driver such as reputation quantitatively translates into processes of growth and expansion of an initiative.

However, the foregoing nuances do not necessarily argue against the validity of the findings of this research, nor their value for building an approach to assess the value of awarding mechanisms for fostering catalytic impact. Rather, these observations suggest the need to expand on current findings and more broadly investigate the occurrence of identified drivers and barriers in non-state climate

actions beyond Lighthouse Activities or even MfC. In addition, the observations also imply a need for collecting further empirical cases to explain how the drivers and barriers actually work. Furthermore, data on perceived major drivers or barriers could also be combined with quantitative data to reveal their power. In the latter regard, further investigating the correlations between and across major drivers and barriers as briefly touched upon in this research (see chapter 6.2) may be a fruitful addition for determining the power of drivers and barriers.

7.2 Actual Outcomes of the MfC Awarding Mechanism and Perceived Value

Comparing intended outcomes of winning the MfC award with the actual outcomes, the findings of this research do seem to resonate with what is broadly considered to be the intention of the awarding mechanism. However, when specifically translating the findings for actual outcomes into addressed drivers and barriers for catalytic impact, notable deviations can be observed. First, the alleged degree of support and alleviation that winning the MfC award respectively provides for drivers and barriers (see Figure 7 and 8) indicates that actual outcomes broadly fall in line with the proposed intentions of MfC to capitalize on an initiative's reputation. Simultaneously however, it also shows that the actual outcomes are more heavily skewed towards addressing reputation as a driver than addressing resources as a barrier. More broadly, the same results also suggest that the actual outcomes are more profound for supporting drivers than alleviating barriers. The latter however is in line with earlier expectations, as most of the persistent barriers may be difficult to address through means of an award. This difficulty may even have become visible through the correlation analysis (see chapter 6.2.4) indicating the notable coherency between major barriers for catalytic impact. Nevertheless, considering the proposed intention of MfC to create opportunity for gaining more resources, one could expect less of a discrepancy between the perceived extent to which major drivers are addressed through winning the MfC award compared to major barriers. Considering the catalytic mechanisms linked to the different drivers and barriers, one can draw from the latter that the actual outcomes of the MfC award are better for supporting processes of coalition building and normalization than relieving problems for capacity building.

Second, adding findings on the perceived value of the MfC award drawn from the survey as well as the case studies further confirms and nuances the latter representation of actual outcomes. They suggest that the appreciation of becoming a Lighthouse Activity, and thereby arguably the primary outcome, is mainly related to the received recognition by the UNFCCC. Whether laureates did or did not successfully scale or replicate their initiative as a consequence of the MfC award, in all cases the legitimization of their work is deemed valuable. With this added perspective, it arguably becomes clear that in terms of catalytic impact, MfC's awarding mechanism primarily works to support the process of normalization, sending a signal to external audiences that the initiatives winning the award are pursuing something that is right as they are endorsed by the UNFCCC. Whether this normalization effect actually translates into actual catalytic impact however, appears conditional upon an individual initiative's context. As illustrated by the case studies, it appears that initiatives that ascribe their success for scaling and replication to winning the MfC award had already clear indications of previous actual success of their approach rather than potential. This is most strongly visible in the cases of CBEWS and the WLB Series. The former had already proven to be successful based on how it contributed to preventing massive losses from floods, while with the latter, IIX had already successfully closed WLB1 prior to applying for MfC with WLB2. In contrast, the cases of the MAIS Program and the W+ Standard show that attracting new partners remained challenging despite UNFCCC recognition, and both indicated that showing results or impacts of their initiative were needed as well. Considering the latter two won the MfC award briefly after being established as an initiative, novelty might be an

important factor that makes success in scaling and replication after becoming a Lighthouse Activity less self-evident. Furthermore, adding the suggestions made for improving the MfC awarding mechanism by putting more focus on facilitating new partnerships and learning processes, the case studies arguably provide indications of the earlier posed limitation of MfC that its premise optimistically assumes that an improved reputation and enhanced visibility will always translate into catalytic impacts. Combined with the latter critique, the aforementioned findings are also in line with the argument that MfC's awarding mechanism supports the catalytic mechanism of normalization by bolstering an initiative's reputation, while facilitating other catalytic mechanism remains arguably conditional.

Again, the findings above and the argumentation build from it strongly rely on perceptions: while Lighthouse Activities can indicate that a driver such as reputation is strongly supported through MfC, it is difficult, as also admitted in some of the case studies, to actually measure or quantify this support. Still, the case studies complemented by the survey's final testimonies do appear to confirm the effect of the MfC award for addressing particular drivers and barriers, and most profoundly the award's impact on an initiative's reputational benefit. These findings could however be consolidated by additional case studies, as well as complement them with quantifiable data. The latter would in this regard again be fruitful to develop further understanding on how precisely the drivers and barriers for catalytic impact translate into quantifiable catalytic impacts.

7.4 Synthesis: Conclusion and Recommendations

7.4.1 Conclusion

Finally, building a characterisation on enabling power of the MfC mechanism and thereby determining the extent to which it can address drivers and barriers for catalytic impact, the earlier hypothesis on the enabling power of the MfC awarding mechanism needs to be revised. It was hypothesized that the awarding mechanism reflects 'power with' in the sense that it relies on the UNFCCC's members and partners to cooperatively create opportunity for Lighthouse Activities to find new partnerships and resources. This subsequently provided Lighthouse Activities with 'power to', as they become arguably better enabled to independently pursue their climate actions. Following the findings of the analysis however, the 'power with' of the MfC awarding mechanism can better be perceived as being embedded within the legitimacy and authority that the UNFCCC enjoys relative to its partners and environment, which then translates into 'power to' when mobilised to support non-state climate actions through means of endorsing individual initiatives. This conceptualisation of MfC's enabling power arguably better reflects the current outcomes and perceived value of the MfC awarding mechanism as mainly being a means to significantly strengthen reputation and recognition, and refrains from posing that winning the MfC will result in catalytic impacts in every instance. Moreover, it also reflects earlier made arguments that traditional governance actors are still relevant within polycentric governance settings due to their significant power (see chapter 2.1).

Building on this final characterisation for enabling power in MfC's awarding mechanism, it can be concluded that the extent to which the award addresses experienced drivers and barriers for catalytic impact is dependent to the extent to which non-state climate actions are able to capitalize on this enhanced reputation. Drawing on the experiences of most Lighthouse Activities in this research, the latter has meant that the MfC award has frequently been of significant value for supporting drivers and overcoming barriers for catalytic impact, although this balance between these two processes

appears to be skewed towards the former. Most often, the award is highly effective for addressing reputation as a driver for catalytic impact.

Putting this conclusion for the MfC award and its discussed outcomes in a broader context, it can be argued that international awards can indeed be an useful tool within global and transnational climate change governance to strengthen non-state climate actions. Simultaneously however, it has also become evident that the actual outcomes of winning award can only be as good as its design and the initiatives that are nominated by it. Based on MfC, it appears crucial that in order to build an effective awarding mechanism, it must not only rely on strengthening reputation as a means to increase an individual initiative's impact. What is furthermore important to note however, considering both the limitations of this research as well as the particular awarding mechanism that is considered here, is that caution is still needed with the claim that awarding mechanisms are an effective tool to stimulate catalytic impact. As has been seen in this research, the effectiveness of MfC and its enabling power heavily resides on the UNFCCC's authority and legitimacy used to validate non-state climate action. Endorsements as a means to stimulate catalytic impact could as such be specific to the UNFCCC, and other award mechanism tied to other organisations or international institutions may not be able to rely on this particular form of enabling power. It would therefore be fruitful to investigate how important recognition as an aspect of an award appears in other schemes.

7.4.1 Future Research and Policy Recommendations

To develop broader knowledge on the value of award mechanisms for strengthening non-state climate action, further research could be done examining other awarding mechanisms that are present within the global governance landscape for TCCG, such as those mentioned under chapter 1. Complementary to this is a need to further develop knowledge on drivers and barriers for catalytic impact, and take on earlier mentioned suggestions for additional research. Briefly, these include investigating drivers and barriers for catalytic impact beyond MfC, further investigating the relevance and 'power' of each driver or barrier, and develop more sophisticated indicators for each to improve future measurements.

Additionally, to improve awarding mechanisms that aim to support non-state climate actions, a recommendation to both MfC and other awarding schemes would be to develop a structure around the award that more closely ensures its nominees to attract new partners and resources. Specifically for the case of MfC, this could be realised by building closer ties between the UNFCCC and the private sector, and create more awareness about its platform among investors or businesses interested in financing climate-related projects. Additionally to this, MfC could consider to makes distinctions between Lighthouse Activities based on their novelty, past successes, or currently received funding, and subsequently offer different types of 'winner packages'. Finally, another helpful improvement would be to hold closer ties with past winners to evaluate whether additional support can be helpful, but also to allow MfC-laureates to show their current progress. In this regard, facilitating learning processes between past winners could further help the progress of these non-state climate actions.

Bibliography

Abbott, K. W. (2012). The transnational regime complex for climate change. *Environment and Planning C: Government and Policy*, 30(4), 571-590.

Adapta Group (n.d.). About Us. Retrieved on 10 December 2020 from <https://adaptagroup.com/about-us/>.

Africities (n.d.). Climate Initiatives Awards 2018. Retrieved on 13 May 2020 from <https://www.africities.org/climate-initiative-awards/>.

Andonova, L., Hale, T., & Roger, C. (2014). How do domestic politics condition participation in transnational climate governance, Political Economy of International Organizations conference, Princeton, January 2014.

van Asselt, H., Zelli, F. (2018). International Governance: Polycentric governance beyond the UNFCCC. In: Jordan, A., Huitema, D., Van Asselt, H., Forster, J. (Eds.), *Governing Climate Change: Polycentricity in Action?* (pp. 28-46). Cambridge: Cambridge University Press.

Bernstein, S., Hoffmann, M. (2018a). Decarbonisation: The politics of transformation. In: Jordan, A., Huitema, D., Van Asselt, H., Forster, J. (eds.), *Governing Climate Change: Polycentricity in Action?* (pp. 248-265). Cambridge, UK: Cambridge University Press.

Bernstein, S., Hoffmann, M. (2018b). The politics of decarbonization and the catalytic impact of subnational climate experiments. *Policy Sciences*, 51(2), 189-211.

Betsill, M., Dubash, N. K., Paterson, M., Van Asselt, H., Vihma, A., & Winkler, H. (2015). Building productive links between the UNFCCC and the broader global climate governance landscape. *Global Environmental Politics*, 15(2), 1-10.

Biesbroek, R., Lesnikowski, A. (2018). Adaptation: The Neglected Dimension of Polycentric Climate Governance?. In: Jordan, A., Huitema, D., Van Asselt, H., Forster, J. (Eds.), *Governing Climate Change: Polycentricity in Action?* (pp. 303-319). Cambridge, UK: Cambridge University Press.

Bruns, B. (2018). Practicing Polycentric Governance. In: Thiel, A., Blomquist, W.A., Garrick, D.E. (Eds.), *Governing Complexity: Analyzing and Applying Polycentricity* (pp. 237-255). Cambridge, UK: Cambridge University Press.

Bryman, A. (2012). E-research: Internet research methods, In: Bryman, A. (Ed.), *Social Research Methods* (pp. 654-682). Oxford: Oxford University Press.

Bulkeley, H., Betsill, M., Compagnon, D., Hale, T., Hoffmann, M., Newell, P., Paterson, M. (2018). Transnational Governance: Charting New Directions Post-Paris. In: Jordan, A., Huitema, D., Van Asselt, H., Forster, J. (eds.), *Governing Climate Change: Polycentricity in Action?* (pp. 63-80). Cambridge, UK: Cambridge University Press.

Bulkeley, H., Andonova, L. B., Betsill, M. M., Compagnon, D., Hale, T., Hoffmann, M. J., ... & Roger, C. (2014a). Introducing Transnational Climate Change Governance. In: Bulkeley, H., Andonova, L. B., Betsill, M. M., Compagnon, D., Hale, T., Hoffmann, M. J., ... & Roger, C. (Eds.). *Transnational climate change governance* (pp. 1-16). Cambridge, UK: Cambridge University Press.

Bulkeley, H., Andonova, L. B., Betsill, M. M., Compagnon, D., Hale, T., Hoffmann, M. J., ... & Roger, C. (2014b). Making a Difference? Tracing the Effects and Effectiveness of Transnational Climate

Change Governance. In: Bulkeley, H., Andonova, L. B., Betsill, M. M., Compagnon, D., Hale, T., Hoffmann, M. J., ... & Roger, C. (Eds.). *Transnational climate change governance* (pp. 158-177). Cambridge, UK: Cambridge University Press.

Bulkeley, H., Andonova, L. B., Betsill, M. M., Compagnon, D., Hale, T., Hoffmann, M. J., ... & Roger, C. (2014c). Theoretical perspectives on Transnational Climate Change Governance. In: Bulkeley, H., Andonova, L. B., Betsill, M. M., Compagnon, D., Hale, T., Hoffmann, M. J., ... & Roger, C. (Eds.). *Transnational climate change governance* (pp. 38-60). Cambridge, UK: Cambridge University Press.

Burch, S. (2010). Transforming barriers into enablers of action on climate change: Insights from three municipal case studies in British Columbia, Canada. *Global Environmental Change*, 20(2), 287-297.

Burnham, P., Gilland Lutz, K., Grant, W. & Layton-Henry, Z. (2008). Comparative Methods. In: Burnham, P., Gilland Lutz, K., Grant, W. & Layton-Henry, Z. (Eds.), *Research Methods in Politics* (pp. 69-95). Basingstoke, UK: Palgrave MacMillan.

Carlisle, K. M., & Gruby, R. L. (2018). Why the path to polycentricity matters: evidence from fisheries governance in Palau. *Environmental Policy and Governance*, 28(4), 223-235.

Chan, S., van Asselt, H. (2016). Transnational Climate Change Governance and the Global South. Retrieved from <https://refubium.fu-berlin.de/bitstream/handle/fub188/19267/ChanxvanxAsseltxBerlinxdraftx100516.pdf?sequence=1&isAllowed=y>.

Chan, S., van Asselt, H., Hale, T., Abbott, K. W., Beisheim, M., Hoffmann, M., ... & Pauw, P. (2015). Reinvigorating international climate policy: A comprehensive framework for effective nonstate action. *Global Policy*, 6(4), 466-473.

Chan, S., Boran, I., van Asselt, H., Iacobuta, G., Niles, N., Rietig, K., ... & Eichhorn, F. (2019). Promises and risks of nonstate action in climate and sustainability governance. *Wiley Interdisciplinary Reviews: Climate Change*, 10(3), e572.

Chan, S., Eichhorn, F., Biermann, F., Teunissen, A. (2020). *A Momentum for Change? Systemic Effects and Catalytic Impacts of Transnational Climate Action*. Manuscript submitted for publication.

Chan, S., & Pauw, P. (2014). *A global framework for climate action: orchestrating non-state and subnational initiatives for more effective global climate governance* (No. 34/2014). Discussion Paper.

Cole, D. H. (2015). Advantages of a polycentric approach to climate change policy. *Nature Climate Change*, 5(2), 114-118.

DeCaro, D. A., Chaffin, B. C., Schlager, E., Garmestani, A. S., & Ruhl, J. B. (2017). Legal and institutional foundations of adaptive environmental governance. *Ecology and society: a journal of integrative science for resilience and sustainability*, 22(1), 1-32.

Dorsch, M. J., & Flachsland, C. (2017). A polycentric approach to global climate governance. *Global Environmental Politics*, 17(2), 45-64.

Dzebo, A. (2019). Effective governance of transnational adaptation initiatives. *International Environmental Agreements: Politics, Law and Economics*, 19(4-5), 447-466.

EUSEW (European Union Sustainable Energy Week) (n.d.). About the Awards Competition. Retrieved on 28 June 2020 from <https://eusew.eu/about-awards>

[competition#:~:text=The%20EU%20Sustainable%20Energy%20Awards,clear%2C%20secure%20and%20efficient%20energy..](#)

Ericsson (2016). Connected Mangroves wins 2016 UN Momentum for Change Award. Retrieved on 9 December 2020 from <https://www.ericsson.com/en/blog/2016/9/connected-mangroves-wins-2016-un-momentum-for-change-award>.

Fan, W., & Yan, Z. (2010). Factors affecting response rates of the web survey: A systematic review. *Computers in human behavior*, 26(2), 132-139.

Fuhr, H., Hickmann, T., & Kern, K. (2018). The role of cities in multi-level climate governance: local climate policies and the 1.5 C target. *Current opinion in environmental sustainability*, 30, 1-6.

Fünfgeld, H. (2015). Facilitating local climate change adaptation through transnational municipal networks. *Current Opinion in Environmental Sustainability*, 12, 67-73.

Galaz, V., Crona, B., Österblom, H., Olsson, P., & Folke, C. (2012). Polycentric systems and interacting planetary boundaries—Emerging governance of climate change—ocean acidification—marine biodiversity. *Ecological Economics*, 81, 21-32.

Garrick, D.E., Villamayor-Tomás, S. (2019). Competition in Polycentric Governance Systems. In: Thiel, A., Blomquist, W.A., Garrick, D.E. (Eds.), *Governing Complexity: Analyzing and Applying Polycentricity* (pp. 152-172). Cambridge, UK: Cambridge University Press.

Gerring, J. (2004). What is a case study and what is it good for?. *American political science review*, 98(2), 341-354.

Gillard, R., Gouldson, A., Paavola, J., & Van Alstine, J. (2017). Can national policy blockages accelerate the development of polycentric governance? Evidence from climate change policy in the United Kingdom. *Global Environmental Change*, 45, 174-182.

Hale, T. (2020a). Catalytic cooperation. *Global Environmental Politics*, 20(4), 73-98.

Hale, T. (2020b). Transnational Actors and Transnational Governance in Global Environmental Politics. *Annual Review of Political Science*, 23, 203-220.

Hale, T. (2018). The Role of Sub-state and Non-state Actors in International Climate Processes. *Chatham House research paper*.

Hamilton, M. L., & Lubell, M. (2019). Climate change adaptation, social capital, and the performance of polycentric governance institutions. *Climatic Change*, 152(3-4), 307-326.

Heikkila, T. (2019). Conflict and Conflict Resolution in Polycentric Governance Systems. In: Thiel, A., Blomquist, W.A., Garrick, D.E. (Eds.), *Governing Complexity: Analyzing and Applying Polycentricity* (pp. 133-151). Cambridge, UK: Cambridge University Press.

Hermwille, L. (2018). Making initiatives resonate: how can non-state initiatives advance national contributions under the UNFCCC?. *International Environmental Agreements: Politics, Law and Economics*, 18(3), 447-466.

Homsy, G. C., & Warner, M. E. (2015). Cities and sustainability: polycentric action and multilevel governance. *Urban Affairs Review*, 51(1), 46-73.

Hsu, A., Widerberg, O., Chan, S., Roelfsema, M., Lütkehermöller, K., Weinfurter, A., & Bakhtiari, F. (2018). Bridging the GHG mitigation gap: Non-state and subnational actors, In: Olhoff, A., Christensen, J. (Eds.), *UNEP Emissions Gap Report 2018* (pp. 29–42). Nairobi, Kenya: United Nations Environmental Programme.

IIX (International Investment Exchange (n.d.). Women's Livelihood Bond Series. Retrieved on 9 November 2020 from <https://iixglobal.com/womens-livelihood-bond-series/>.

Jordan, A., Huitema, D., Schoenefeld, J., Van Asselt, H., Forster, J. (2018a). Governing Climate Change Polycentrically. In: Jordan, A., Huitema, D., Van Asselt, H., Forster, J. (Eds.), *Governing Climate Change: Polycentricity in Action?* (pp. 1-27). Cambridge, UK: Cambridge University Press.

Jordan, A., Huitema, D., Schoenefeld, J., Van Asselt, H., Forster, J. (2018b). Governing Climate Change: The Promise and Limits of Polycentric Governance. In: Jordan, A., Huitema, D., Van Asselt, H., Forster, J. (Eds.), *Governing Climate Change: Polycentricity in Action?* (pp. 359-383). Cambridge, UK: Cambridge University Press.

Kern, K. (2004). Global governance through transnational network organizations - the scope and limitations of civil society self-organization (WZB Discussion Paper No. 2004-102). Retrieved from <https://nbn-resolving.org/urn:nbn:de:0168-ssaoar-196706>.

Koontz, T.M. (2019). Cooperation in Polycentric Governance Systems. In: Thiel, A., Blomquist, W.A., Garrick, D.E. (Eds.), *Governing Complexity: Analyzing and Applying Polycentricity* (pp. 115-132). Cambridge, UK: Cambridge University Press.

Kuramochi, T., Roelfsema, M., Hsu, A., Lui, S., Weinfurter, A., Chan, S., ... & Höhne, N. (2020). Beyond national climate action: the impact of region, city, and business commitments on global greenhouse gas emissions. *Climate Policy*, 20(3), 275-291.

Martins, R. D. A., Ferreira, L. D. C. (2011). Opportunities and constraints for local and subnational climate change policy in urban areas: insights from diverse contexts. *International Journal of Global Environmental Issues*, 11(1), 37-53.

Momentum for Change (2020). Momentum for Change 2020. Retrieved on 28 September 2020 from <https://momentum.unfccc.int/>.

Morrison, T. H., Adger, W. N., Brown, K., Lemos, M. C., Huitema, D., & Hughes, T. P. (2017). Mitigation and adaptation in polycentric systems: sources of power in the pursuit of collective goals. *Wiley Interdisciplinary Reviews: Climate Change*, 8(5), e479.

Morrison, T. H., Adger, W. N., Brown, K., Lemos, M. C., Huitema, D., Phelps, J., ... & Quinn, T. (2019). The black box of power in polycentric environmental governance. *Global Environmental Change*, 57, 101934.

Ostrom, E. (2009). *A Polycentric Approach for Coping with Climate Change*. World Bank WP 5095.

Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge, UK: Cambridge University Press.

Ostrom, E. (2010). Polycentric Systems for Coping with Collective Action and Global Environmental Change. *Global Environmental Change*, 20: 550–557.

Ostrom, V., Tiebout, C.M., Warren, R. (1961). The Organization of Government in Metropolitan Areas: A Theoretical Inquiry. *American Political Science Review*, 55(4): 831–842.

- Partzsch, L. (2017). 'Power with' and 'power to' in environmental politics and the transition to sustainability. *Environmental Politics*, 26(2), 193-211.
- Roelfsema, M., Harmsen, M., Olivier, J. J., Hof, A. F., & van Vuuren, D. P. (2018). Integrated assessment of international climate mitigation commitments outside the UNFCCC. *Global Environmental Change*, 48, 67-75.
- Roger, C., Hale, T., & Andonova, L. (2017). The comparative politics of transnational climate governance. *International Interactions*, 43(1), 1-25.
- Rowley, J., & Slack, F. (2004). Conducting a literature review. *Management research news*.
- Royles, E., & McEwen, N. (2015). Empowered for action? Capacities and constraints in sub-state government climate action in Scotland and Wales. *Environmental Politics*, 24(6), 1034-1054.
- Salon, D., Murphy, S., & Sciara, G. C. (2014). Local climate action: motives, enabling factors and barriers. *Carbon Management*, 5(1), 67-79.
- Sippel, M., & Jenssen, T. (2009). What about local climate governance? A review of promise and problems. (MPRA Paper No. 20987). Retrieved from <https://mpra.ub.uni-muenchen.de/20987/>.
- Sunderlin, W. D., Sills, E. O., Duchelle, A. E., Ekaputri, A. D., Kweka, D., Toniolo, M. A., ... & Enright, A. (2015). REDD+ at a critical juncture: assessing the limits of polycentric governance for achieving climate change mitigation. *International Forestry Review*, 17(4), 400-413.
- Tosun, J. (2018). Diffusion: An Outcome of and an Opportunity for Polycentric Activity?. In: Jordan, A., Huitema, D., Van Asselt, H., Forster, J. (Eds.), *Governing Climate Change: Polycentricity in Action?* (pp. 152-168). Cambridge, UK: Cambridge University Press.
- Umbach, P. D. (2004). Web surveys: Best practices. *New directions for institutional research*, 121, 23-38.
- Van der Ven, H., Bernstein, S., & Hoffmann, M. (2017). Valuing the contributions of nonstate and subnational actors to climate governance. *Global Environmental Politics*, 17(1), 1-20.
- Van Selm, M., & Jankowski, N. W. (2006). Conducting online surveys. *Quality and quantity*, 40(3), 435-456.
- UNEP (United Nations Environmental Programme) (n.d.). Awards and Prizes. Retrieved on 13 May 2020 from <https://www.unenvironment.org/about-un-environment/awards-and-prizes>.
- UNFCCC (United Nations Framework Convention on Climate Change) (n.d.-a). Cleaning our Oceans of Plastic. Retrieved on 10 December 2020 from <https://unfccc.int/climate-action/momentum-for-change/planetary-health/cleaning-our-oceans-of-plastic-haiti>.
- UNFCCC (United Nations Framework Convention on Climate Change) (n.d.-b). Community-Based Flood Early-Warning System. Retrieved on 10 December 2020 from <https://unfccc.int/climate-action/momentum-for-change/activity-database/community-based-flood-early-warning-system-india>.
- UNFCCC (United Nations Framework Convention on Climate Change) (n.d.-c). Connected Mangroves. Retrieved on 10 December from <https://unfccc.int/climate-action/momentum-for-change/ict-solutions/connected-mangroves>.

UNFCCC (United Nations Framework Convention on Climate Change) (n.d.-d). Lighthouse Activities. Retrieved on 16 December 2020 from <https://unfccc.int/climate-action/momentum-for-change/lighthouse-activities>.

UNFCCC (United Nations Framework Convention on Climate Change) (n.d.-e). MAIS Program: Climate-Smart Agriculture. Retrieved on 10 December 2020 from <https://unfccc.int/climate-action/momentum-for-change/financing-for-climate-friendly-investment/mais-program-climate-smart-agriculture>.

UNFCCC (United Nations Framework Convention on Climate Change) (2013). *Momentum for Change Annual Report 2013*. UNFCCC. https://unfccc.int/files/secretariat/momentum_for_change/application/pdf/unfccc_mfc_annual_report_2013.pdf.

UNFCCC (United Nations Framework Convention on Climate Change) (2014). *Momentum for Change Annual Report 2014*. UNFCCC. <https://unfccc.int/mfc2014/>.

UNFCCC (United Nations Framework Convention on Climate Change) (2015). *Momentum for Change Annual Report 2015*. UNFCCC. <http://unfccc.int/mfc2015/>.

UNFCCC (United Nations Framework Convention on Climate Change) (2016). *Momentum for Change Annual Report 2016*. UNFCCC. <https://unfccc.int/mfc2016/>.

UNFCCC (United Nations Framework Convention on Climate Change) (2017). *Momentum for Change Annual Report 2017*. UNFCCC. <https://unfccc.int/mfc2017/>.

UNFCCC (United Nations Framework Convention on Climate Change) (2018). *Momentum for Change Annual Report 2018*. UNFCCC. <http://unfccc.int/mfc2018>.

UNFCCC (United Nations Framework Convention on Climate Change) (2019). *Momentum for Change Annual Report 2019*. UNFCCC. <https://www.momentumforchange.net/2019/>.

UNFCCC (United Nations Framework Convention on Climate Change) (n.d.-f). Momentum for Change. Retrieved on 1 May 2020 from <https://unfccc.int/climate-action/momentum-for-change>.

UNFCCC (United Nations Framework Convention on Climate Change) (n.d.-g). Momentum for Change Podcast. Retrieved on 2 October 2020 from <https://unfccc.int/climate-action/momentum-for-change/media/momentum-for-change-podcast>.

UNFCCC (United Nations Framework Convention on Climate Change) (2012). *Momentum for Change in 2012*. UNFCCC. https://unfccc.int/sites/default/files/resource/196466_02_UNFCCC_MFC_REPORT_2012_INT.pdf.

UNFCCC (United Nations Framework Convention on Climate Change) (2011). *Momentum for Change – Launch Report*. UNFCCC.

UNFCCC (United Nations Framework Convention on Climate Change) (n.d.-h). National Resettlement Plan. Retrieved on 17 December 2020 from <https://unfccc.int/climate-action/momentum-for-change/lighthouse-activities/national-resettlement-plan>.

UNFCCC (United Nations Framework Convention on Climate Change) (n.d.-i). Rural Community Leaders Combating Climate Change. Retrieved on 17 December 2020 from <https://unfccc.int/climate-action/momentum-for-change/women-for-results/rural-community-leaders-combatting-climate-change>.

UNFCCC (United Nations Framework Convention on Climate Change) (n.d.-j). The W+ Standard. Retrieved on 10 December 2020 from <https://unfccc.int/climate-action/momentum-for-change/women-for-results/the-w-standard>.

UNFCCC (United Nations Framework Convention on Climate Change) (n.d.-k). Women's Livelihood Bond Series. Retrieved on 10 December 2020 from <https://unfccc.int/climate-action/momentum-for-change/financing-for-climate-friendly-investment/women-livelihood-bond-2>.

WOCAN (Women Organizing for Change in Agriculture and Natural Resource Management) (n.d.). The W+ Standard. Retrieved on 10 December 2020 from <https://www.wocan.org/what-we-do/wstandard>.

Wplus (n.d.). The W+ Standard. Retrieved on 10 December 2020 from <https://www.wplus.org/>.

Yin, R. (1994). Introduction. In, Yin, R. (ed.), *Case study research. Design and methods* (pp. 1-17). Thousand Oaks CA, Sage publications.

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Strengthening Non-State Climate Action through Momentum for Change

Dear Participant,

The following survey is part of a research project on the extent to which awards for climate actions address drivers and barriers for the scaling and replication of local climate initiatives. This is a joint project by Utrecht University (UU), the Global Center for Adaptation (GCA) and UNFCCC's Momentum for Change.

The survey results will help better understand what drivers and barriers for scaling and replication of initiatives are actually experienced by actors who initiated and participate in non-state climate actions under Momentum for Change (MfC). Additionally, it will also help understand how important an award for best practices is considered to be for addressing these same drivers and barriers. The results will be useful to the Momentum for Change campaign as well as to climate actions themselves, as they could provide more insight in how to strengthen and support current and future climate actions. The aggregated results will be shared with both the supporting team for Momentum for Change as well as the survey participants. 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 under Momentum for Change. 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 a.a.teunissen@students.uu.nl.

There are 26 questions in this survey, divided into 3 different parts.

PART 1 - About your climate action

1. What is the name of your initiative as awarded under Momentum for Change?

Provide your answer here:

2. Since what year has your initiative been active?

Provide your answer here:

3. In what country or region was your initiative originally located?

Provide your answer here:

4. In which year were you nominated as a MfC Lighthouse Activity / awarded with the UN Global Climate Action Award?

Indicate the year in which your initiative was featured in Momentum for Change's Annual Report.

Provide your answer here:

5. Is your initiative still active?

Yes

No

6. What Area of Focus does your initiative address under Momentum for Change?

- Climate Neutral Now / Carbon Neutral Now
- Women for Results
- Financing for Climate Friendly Investment
- Planetary Health
- ICT Solutions
- Urban Poor

7. What main action areas does your initiative address?

Please choose all answers that apply

- Energy
- Human Settlements
- Industry
- Land use
- Ocean and Coastal Zones
- Transport
- Water
- Resilience
- Other (please specify): _____

8. 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)
- Benefits to both mitigation and adaptation
- Other (please specify): _____

9a. Has your initiative been successful in in terms of scaling?

Scaling is understood as an initiative's expansion in geographic scope, attraction of new members to its actor network, or the accumulation of additional resources (i.e. funding, knowledge).

Multiple answers are possible.

- Yes, our initiative has successfully expanded its geographic scope
- Yes, our initiative has or is attracting new members to our actor network
- Yes, our initiative has successfully accumulated more resources (i.e. funding, staff) over time
- No

9b. If so, what is the current scope of scaling of your initiative?

If the previous question was answered 'No' you may skip this question.

- Within-country: scaling has occurred in our initiative's respective country .
- Cross-country: scaling has occurred beyond borders to include other countries in the same world region (i.e. South-East Asia, Latin-America).
- Cross-region: scaling has occurred beyond borders to include other countries, both in the same and other world regions (i.e. South-East Asia, Latin-America).

10a. Has your initiative been successful in terms of replication?

Replication of an initiative refers to reproduction or adoption of an initiative's approach or activities in other contexts by other, independent actors.

- Yes
- No

10b. If so, where has your initiative been replicated?

If the previous question was answered 'No' you may skip this question.

- Within-country: the initiative has been replicated exclusively in the country it originates from.
- Cross-country: the initiative has been replicated in other countries in the same world region (i.e. South-East Asia, Latin-America).
- Cross-region: the initiative has been replicated in other countries both in the same and other world regions (i.e. South-East Asia, Latin-America).

11. Do you agree that being a Momentum for Change Laureate has been instrumental for the current success in scaling and replication of your initiative?

- Strongly Agree
- Somewhat agree
- Neither agree nor Disagree
- Somewhat disagree
- Strongly disagree
- No Answer

PART 2 - Drivers and barriers for scaling and replication

The second part of this survey aims at gaining understanding of the drivers and barriers for scaling and replication experienced in your initiative. The same definition of scaling and replication apply here: scaling is understood as an initiative's expansion in geographic scope, attraction of new members to its actor network, or the accumulation of additional resources (i.e. funding, knowledge). Replication of an initiative refers to reproduction or adoption of an initiative's approach and activities in other contexts by other, independent actors. This part commences with a series of statements on drivers and barriers for scaling and replication based on literature. Please indicate which statements are true for your initiative. In the latter section of this part, you can nuance your answers by indicating how significant each identified driver or barrier is in your case. Lastly, you are allowed to provide additional drivers or barriers for your initiative that are not prompted in the questions.

12. Which of the following two statements is true for your initiative?

- "The presence of clear and ambitious climate goals and policies by the national government or international organizations (i.e. UNFCCC) is one of the drivers for the scaling of our initiative and the adoption of our standards."
- "The absence of clear and ambitious climate goals and policies by the national government or international organizations (i.e. UNFCCC) is one of the drivers for the scaling of our initiative and the adoption of our standards."
- Neither is true

13. Which of the following two statements is true for your initiative? (2)

- "Competition with multiple similar climate actions drives our initiative to engage new actors and expand our impact and activities."
- "Competition with multiple similar climate actions hampers our initiative to engage new actors and expand our impact and activities."
- Neither is true

14a. Which of the following to statements is true for your initiative? (3)

- "A lack of resources (i.e. staff, funding, knowledge) drives our initiative to engage additional actors in order to meaningfully act on climate change."
- "A lack of resources (i.e. staff, funding, knowledge) hampers our initiative to engage additional actors in order to meaningfully act on climate change."
- Neither is true

14b. Following your previous answer, lacking what type of resources do you consider a driver/challenge for your initiative to engage additional actors?

Multiple answers are possible. If your previous answer was 'Neither is true', you may skip this question.

- Financial resources
- Human resources
- Technological resources
- Informational resources
- None

15. Which of the following four statements is true for your initiative?

- "(National) legislation supporting non-state climate actions is absent and challenges the ability of our initiative to maintain or increase capacity to act."
- "The absence of (national) legislation supporting non-state climate actions does not challenge the ability of our initiative to maintain or increase capacity to act."
- "(National) supporting non-state climate actions is present and drives the ability of our initiative to maintain or increase capacity to act."
- "The presence of (national) legislation supporting non-state climate actions does not drive the ability of our initiative to maintain or increase capacity to act."
- None of the above is true

16. Which of the following statements are true with regard to drivers for scaling and replication in your initiative?

Multiple answers are possible.

- "The co-benefits (i.e. cost savings, reduced air pollution, energy efficiency) present for our initiative motivates or convinces other (local) actors to join or replicate our climate action."
- "Frequent (face-to-face) communication to share information on norms, knowledge and activities strengthens linkages with newly participating actors in our initiative. "
- "Frequent (face-to-face) communication to share information on norms, knowledge and activities facilitates the adoption of standards and practices by newly participating actors when expanding."
- "Having a reputation for being trustworthy or providing best practices for addressing (local) climate issues has facilitated scaling and/or replication of our initiative."
- None are true

17. Which of the following two statements are true with regard to barriers for scaling and replication in your initiative?

Multiple answers are possible.

- "Varying degrees of capacity and authority to act among participants from different cities, countries, or regions challenges effective expansion, replication, or impact of our initiative."
- "Differences between cities, countries, or regions in regulatory approaches for climate action challenges effective scaling, replication, and impact of our initiative."
- None are true

18a. Which of the following functions does your initiative perform?

- Monitoring activities and impacts
- Sanctioning inaction by participants on pledged commitments
- Conflict resolution mechanism for disputes among participating actors
- None of the above

18b. Of the functions present in your initiative, which one(s) do you consider supportive for scaling and replication in your initiative, e.g. by ensuring adoption of set standards or maintaining linkages among actors?

Note that this question is only applicable for those functions selected in question 18a.

- Monitoring activities and impacts
- Sanctioning inaction by participants on pledged commitments
- Conflict resolution mechanism for disputes among participating actors
- None of the above

18c. Of the functions missing in your initiative, which one(s) do you consider to be a barrier for scaling and replication in your initiative, e.g. by not being able to ensure implementation of standards or maintaining the coalition?

Note that this question is only applicable for those functions not selected in question 18a.

- Monitoring activities and impacts
- Sanctioning inaction on pledged commitments
- Conflict resolution mechanism for disputes among participating actors
- None of the above

19. Based on the answers given above, please indicate how strongly each of the identified drivers or barriers is or was experienced in your initiative.

The drivers/barriers listed here directly refer to the statements posed in previous question, as indicated by the question number in brackets.

For those factors that are only described above in statements as a driver, please only use the values for driver.

For those factors that are only described above in statements as a challenge/barrier, please only use the values for barrier.

For each driver or barrier not applicable for your initiative, please choose 'No barrier/driver'.

[Matrix table on next page]

	Major barrier	Minor barrier	No barrier/driver	Minor driver	Major driver
The presence of clear and ambitious climate goals and policies by the national government or international organizations (Q12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The absence of clear and ambitious climate goals and policies by the national government or international organizations (Q12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competition with multiple similar climate actions (Q13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A lack of resources (Q14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presence of (national) legislation supporting non-state climate actions(Q15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence of (national) legislation supporting non-state climate actions (Q15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Present co-benefits (Q16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frequent communication to share information (Q16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reputation for being trustworthy/providing best practices (Q16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Varying degrees of capacity and authority to act among participating actors (Q17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Differences between jurisdictions in regulatory approaches (Q17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitoring activities and impacts (Q18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sanctioning inaction on pledged commitments (Q18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict resolution mechanism (Q18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. Do you experience any additional drivers and barriers for scaling and replication in your initiative?

Please use the text entry below for short descriptions, if possible accompanied by a value used in the scale above.

PART 3 - Momentum for Change

The final part of this survey focuses on the Momentum for Change campaign and how its award mechanism (becoming a lighthouse activity / being awarded with the UN Global Climate Action Award) has helped climate actions overcome barriers or strengthening drivers for scaling and replication. The questions focus on your experience with Momentum for Change and the perceived value of its award for your initiative. It contains both statements and a rating of the relevance of the award for different drivers and barriers that you have experienced in your initiative.

21. What was the main reason for your initiative to participate in Momentum for Change?

- Acquiring new opportunities to foster scaling and replication for our initiative
- Seeking possibilities to overcome certain challenges faced by our initiative
- Being inspired by other initiatives that have been awarded by Momentum for Change in the past
- Other: _____

22. What functions of the Momentum for Change award were deemed especially important for your initiative?

Multiple answers are possible.

- Financial sponsorship
- Offering opportunities for new partnerships and networking
- Our initiative being recognised by the UN secretariat for Climate Change
- Enjoying improved visibility and PR support
- Other: _____

23. Which of the following statements are true for your initiative?

- "Our initiative was already performing well in terms of scaling and replication, being awarded by Momentum for Change only further supported it."
- "Participating in Momentum for Change was only considered by our initiative after facing challenges for scaling and replication of our initiative."
- "Participating in Momentum for Change has helped ratcheting up the ambitions and efforts of our initiative."
- "Becoming a Lighthouse Activity under Momentum for Change has further strengthened our commitment to climate action."
- "Our initiative would not have been in the current position without being awarded by Momentum for Change."

24a. To what extent has being awarded by Momentum for Change helped your initiative address particular drivers for scaling and replication?

Please provide your answer by completing the statements and fill out the blanks. The listed statements are accompanied by a question number in brackets referring to the statements on drivers for growth and replication discussed in Part 2. Complete the statements in accordance with previously provided answers. For example, when you have previously indicated that a lack of resources hampers the scaling and growth of your initiative (Q13), only complete the statement that considers a lack of resources as a barrier and answer the counterfactual statement with 'Not applicable'.

	Not supported	Somewhat supported	Strongly supported	Not applicable
'Being awarded has _____ the presence of clear and ambitious climate goals and policies by the national government or international organizations as a driver for scaling and/or replication (Q12), as for example seeing our initiative being recognized by the UN as an innovative and effective approach to tackling climate change issues has inspired (inter)national government to take up more ambition and set improved standards for climate change action, in turn creating a more favorable regulatory environment for our initiative.'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
'Being awarded has _____ competition with multiple similar climate actions as a driver of scaling and/or replication (Q13), for example by giving our initiative an extra motivation for being the most ambitious and innovative climate action.'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
'Being awarded has _____ a lack of resources as a driver for scaling and/or replication (Q14), as for example being recognized by the UN as a promising initiative to tackle climate issues more than ever motivates our initiative to maintain its activities and seek more opportunities to ensure resources and leverage to act.'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
'Being awarded has _____ legislation supportive of non-state climate action as a driver for scaling and replication (Q15), as being an awarded initiative for example lead to further recognition by the national government for our initiative.'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
'Being awarded has _____ presence of Co-benefits as a driver for scaling and replication (Q16), for example by providing additional support that helps realizing these co-benefits in our initiative'.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

'Being awarded has _____ frequent communication as a driver for scaling and replication (Q16), for example by supporting additional means for networking and interaction with members of our initiative.'

'Being awarded has _____ our reputation for being trustworthy / providing best practices as a driver for scaling and replication (Q16) as it provided further recognition of this reputation.'

'Being awarded has _____ monitoring activities and impacts of our initiative as a driver for scaling and replication (Q18), i.e. as the award resulted in assistance for conducting this governance function.'

'Being awarded has _____ sanctioning inaction of pledged commitments as a driver for scaling and replication (Q18), i.e. as the award resulted in assistance for conducting this governance function.'

'Being awarded has _____ a conflict resolution mechanism as a driver for scaling and replication (Q18), i.e. as the award resulted in assistance for conducting this governance function.'

24b. To what extent has being awarded by Momentum for Change helped your initiative address particular barriers for scaling and replication?

Please provide your answer by completing the statements and filling out the blanks. The listed statements are accompanied by a question number in brackets referring to the statements on barriers for growth and replication discussed in Part 2. Complete the statements in accordance with previously provided answers. For example, when you have previously indicated that a lack of resources hampers the scaling and growth of your initiative (Q10), only complete the statement that considers a lack of resources as a barrier and answer the counterfactual statement with 'Not applicable'.

	Not alleviated	Somewhat alleviated	Strongly alleviated	Not applicable
'Being awarded has _____ competition as a barrier for scaling and replication (Q13), for example by separating our initiative more clearly from other competing initiatives or providing new means to cope with the costs engaging in a competitive environment.'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
'Being awarded has _____ a lack of resources as a barrier for scaling and replication (Q14), for example by providing opportunities to gain additional support and resources.'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
'Being awarded has _____ a lack of legislation supportive of non-state climate action as a barrier for scaling and replication (Q15), for example by resulting in our initiative finally being recognized by the national government as an important actor in tackling (local) climate change issues.'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
'Being awarded has _____ varying degrees of capacity and authority to act among participating actors as a barrier for scaling and replication (Q16), as for example the award has offered new means to support our initiative and thereby indirectly new means to support participating actors who lack authority or capacity.'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
'Being awarded has _____ differences between jurisdictions in regulatory approaches as a barrier for scaling and replication (Q17), for example the recognition of the award for our initiative as being innovative and scalable has convinced actors in climate action in other jurisdiction to adopt our regulatory approach.'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
'Being awarded has _____ the lack of monitoring activities and impacts of our initiative as a barrier for scaling and replication (Q18), as for example the award has provided our initiative with means to establish this function.'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

'Being awarded has _____ the lack of sanctioning inaction on pledged commitments in our initiative as a barrier for scaling and replication (Q18), as for example the award has provided our initiative with means to establish this function.'

'Being awarded has _____ the lack of a conflict resolution mechanism in our initiative as a barrier for scaling and replication (Q18), as for example the award has provided our initiative with means to establish this function.'

25. To what extent has being awarded by Momentum for Change helped your initiative address the additional experienced drivers and barriers for scaling and replication as provided under Q20?

Please list each of the drivers and barriers as described in Q20 and add between brackets to each of these drivers or barriers one of the following values:

Strongly alleviated - Somewhat alleviated - Did not alleviate / support - Somewhat supported - Strongly supported.

Provide your answer here:

26a. Finally, can you provide a (brief) testimonial on your experiences with participating in Momentum for Change and how becoming a Lighthouse Activity / winning the UN Global Climate Action Award has affected your initiative?

Provide your answer here:

26b. Would you be interested to have your testimonial featured on Momentum for Change's web-pages and media outlets?

If interested, you may add your own personal name to the testimonial. All other information provided in this survey will still be treated with confidentiality.

Yes

No

Thank you for your participation in this survey.

If you would be willing to participate in a follow-up interview focusing in more detail on the experienced drivers and barriers for scaling and replication in your initiative as well as the value of the Momentum for Change award, please leave your contact details in the entry field below:

Appendix II: Data Analysis Methodology

This section discusses methodologies used for data statistics and variables presented under chapter 6 that are not self-evident. These include:

- Distinction between Global North and Global South-led initiatives
- Testing for statistical significance of differences in results when accounting for different characteristics of the data base (Global North - Global South, Mitigation – Adaptation, Areas of Focus)
- Frequency of experienced drivers and barriers for catalytic impact across Lighthouse Activities (Figure 6)
- Frequency of major drivers and barriers being addressed after winning the MfC award (Figure 7 and 8)
- Correlations among drivers and barriers for catalytic impact (Table 3 and 4)

Distinguishing between Global North and Global South

Global South-led initiatives were identified within the survey sample using the current membership-list of Group 77 as a reference (see <https://www.g77.org/doc/members.html>). Using the latter, a manual web search was conducted for each of the Lighthouse Activities to determine where in what state its main actors' or coordinators' head-offices were located. Following this approach, a distinction between Global North and Global South-led Lighthouse Activities was made.

Testing for statistical significance

In the initial analysis of the survey data, Lighthouse Activities were distinguished in different rounds to look for differences in outputs between Global North and Global South-led initiatives, Mitigation or adaptation-focused initiatives, or initiatives classified under different areas of focus. Specifically, outputs were compared across the different groupings with regard to:

- Rates of scaling and replication
- Frequency of experienced major drivers and barriers for catalytic impact
- Frequency of experienced major drivers and barriers being addressed after winning the MfC award
- Main reason to apply for MfC
- Appreciation of different aspects of the MfC awarding mechanism
- Additional statements on participants' experiences becoming a Lighthouse Activity

When differences were found for all or one of the data outputs listed above, their statistical significance was calculated in excel using a t-test. As there is no assumption about the direction of differences between the different groupings of data outputs, a 2-tailed t-test was performed. Moreover, as it was unknown whether data variance between groupings of outputs were equal, the t-test was conducted as a type 3 t-test (two-sample, unequal variance). Conducting this t-test for the different groupings of samples within the survey database, none of the output differences found for the different sample groupings were statistically significant, having a p-value larger than 0.05.

Frequency of experienced major drivers and barriers for catalytic impact

Frequency of experienced drivers and barriers for catalytic impact is expressed as the percentage of Lighthouse Activities in the survey sample that indicate to have experienced particular drivers or barriers. These percentages were derived from answers on survey question 20 (see Appendix I), by counting the instances that factors were indicated as 'major driver' or 'major barrier' and dividing them by the total number of survey respondents that completed Part 1 and Part 2 of the survey (see Appendix I).

Frequency of experienced major drivers and barriers being addressed when winning the MfC award

As with the foregoing statistic, this frequency is expressed in percentages. For major drivers, all survey responses were counted where respondents indicated a particular factor as a major driver under question 20 and would state under question 24a that this same factor was either 'somewhat supported' or 'strongly supported'. For example, to determine the frequency of reputation as a major driver for catalytic impact being addressed when winning the MfC award, all survey responses were collected within the sample where participants indicated reputation as a major driver under question 20 and stated that reputation was either somewhat or strongly supported by winning MfC under question 24a. The total number of instances was then divided by the number of survey responses that had completed all three parts of the survey. The same approach was used to determine the frequency of major barriers being somewhat or strongly alleviated when winning the MfC award.

Correlations among major drivers and barriers for catalytic impact

The correlations between the five most occurrent major drivers and major barriers were calculated using SPSS statistical software. Initial output values for each driver or barrier listed under survey question 20 were recoded. To illustrate, initial values for the variable reputation included values 1 to 5, 1 being 'major barrier' and 5 being 'major driver'. For correlation analysis, the variable reputation was recoded to include only two values, 1 being 'Major driver' and 0 'Other'. This recoding was additionally done for (Inter)national policy action, co-benefits, communication/information sharing, and monitoring as major drivers for catalytic impact. Conversely, for the five major barriers (Inter)national policy failure, Lack of Resources, Absence of Legislation supporting non-state climate actions, varying degrees of capacity and authority to act, and Differences in regulatory approaches between jurisdictions, initial values were recoded only to include 1 (Major barrier) and 0 (Other). Following this recoding, a correlation analysis was conducted for the major drivers and major barriers separately, using Pearson's R to test for significant correlations. As there were no hypothesis established on directions of correlations between major barriers or major drivers, a bivariate, two-tailed Pearson's R test was conducted.

Appendix III: Survey Testimonies on Momentum for Change

This Annex provides an overview of the (brief) testimonies provided by survey respondents on their experiences with Momentum for Change and becoming a Lighthouse Activity. These testimonies are presented with consent from the authors.

“We engaged with the Lighthouse Activity process at the start of our journey to build community flood resilience to floods. Winning an award has helped to raise the credibility of our resilience approach and this has helped us to speak to other actors in the field. We have successfully transferred our approach to other organisations and expanded our own program to 20 plus countries across multiple regions. Our current work is ongoing until December 2024.”

- Zurich Flood Resilience Program

“Provided excellent recognition for our activity highlighting its impact among existing and potential partners”.

- Catalytic Finance Initiative

“This award has been great for both our project and our organization in general. We are small, lesser-known organization with big ambitions. Receiving this award has really put us in a new category, gaining new attention and new respect for our work. We feel like we've reached a new level with this award and are so grateful.”

- Sri Lanka Mangrove Conservation Project

“Winning the light house activity gave us the much-needed recognition and the authenticity to our work.”

- Women's Action Towards Climate Resilience for Urban Poor in South Asia

“Momentum for change has given us a very good visibility opportunity. It is considered by us as a “seal” for our MAIS methodology to expand climate action and we always use it as key highlight in our presentations to potential partners.”

- MAIS Program

“It was a proud moment to win the award in 2014, especially as a recognition of the impact we were able to showcase on the ground and save lives and livelihood of flood affected communities. It has enhanced our visibility and from one country, we were able to out scale it in 3 more countries. Also, we enhanced the CBFews instrument in the due course of time improvising our reach.”

- Community-Based Flood Early-Warning System

“Momentum for Change shines a spotlight on new innovative approaches to Climate Action and helps inspire both the winners and the wider public that solutions to this critical challenge do exist.”

- Azuri PayGo Energy

“Receiving the Award during the highly consequential Paris Conference was very significant. The Momentum for Change team did a great job in preparing communication materials in different formats based on site visits. The quality of the communication materials was excellent (we still make use of it) and it helped our project in garnering support from donors, media and the public. I have presented the outcomes of the initiative during multiple side-events during Conference of Parties starting 2016 all the way through to the Madrid Conference in 2019 -- and I believe, I had the opportunities to present because the Momentum for Change Award gave a lot of credibility to our work.”

- Enabling Farmers to Adapt to Climate Change

“The Award was very motivating and has helped us find funding sources because of the enhanced credibility of our organization and citing this award in every fundraising effort. It also was a powerful recognition and honour for the Guatemalan farmers that they are a part of a GLOBAL enterprise, not only a rural community effort.”

- Alliance for International Reforestation (AIR) Inc.

“The MfC award has provided an assurance and level of authenticity that our project has significant global impact. Internally and externally, staff and clients exhibit share the pride of being MfC award recipients.”

- Plastic Bank

“It was wonderful as our initiative on women and cleaner production in small and medium enterprises gained recognition.”

- Fostering Cleaner Production

“We had hoped that the publicity and the networks of the Momentum for Change team would lead to wider interests to both provide financial support to and use the W+ Standard to generate co-benefits, and specifically lead to buyers of our W+ units from the Nepal project. I don't think even a single buyer or donor resulted from our award, though the UNFCCC team did try to connect us to potential buyers. We do believe the award has value, and 'brag' about it to potential sponsors, share the video widely, etc. It is difficult to say whether any of this has had an impact, as almost no one mentions to us that they heard of us through the Momentum for Change initiative.”

- The W+ Standard

“Being recognized by The UN secretariat for Climate Change as best practice has facilitated scaling and replication of the Klimanjaro-initiative. We are using our purchasing power to create a climate neutral supply chain. Thanks to the UNFCC we believe Klimanjaro can be replicated by any company in any industry anywhere in the world.”

- Klimanjaro – Climate Neutral Supply Chain

“CAMFED was absolutely delighted to win the UN Global Climate Action Award because it shines a spotlight on the remarkable leadership for climate resilience by young African women and the powerful outcomes they are achieving in sub-Saharan Africa.”

- CAMFED: Young Women’s Grassroots Climate Action in Africa

“The award helped bring attention to a serious issue for coasts in tropical regions and the role that technology can play in enabling solutions that make a difference.”

- Connected Mangroves

“The global exposure and prestige of the Award has boosted confidence and motivation in our young team!”

- From Waste to Wow

“MfC award helped us on following ways- 1. UNFCCC film was superb, it is helping us till date as a great communication tool for any national and international meeting 2. Award ceremony could have been organized in a better way; But we were fortunate to get opportunity to interact with Ban Ki Moon, SG of UN, thru his own initiatives. And we learnt the scaling principles from him in that short interaction. 3. UNFCCC team developed podcast on our work. That was very well received by media houses. 4. In 2015 one of our team members got travel grant to attend COP summit in Paris. That was highly helpful to get new connections, 5. subsequently, UNFCCC published our success story in their Annual report. That was a satisfying experience as well.”

- BHUNGROO

“It's not measurable, but we very much value the ability to share that we are a Momentum for Change named activity. It feels like a great credibility booster and validation of our work for audiences that might not already know us.”

- EarthSpark International’s Feminist Electrification

“It was a real honour to received such an important award, which demonstrates that Quebec is a significant player, thanks to the actions it has carried out so far, inside and outside its borders. The UN Global Climate Action Award encourage us to keep up our actions to tackle climate change and support other regions to do the same.”

- Québec’s International Climate Cooperation Program (ICCP)

“Momentum for Change Award help creating faith and trust from Governments, investors and all the stakeholders to help expand more of the clean and green energy in order to make a better world for our next generation.”

- Solar Power Company Group

“The award has further motivated the country programme staff members as well as ActionAid Federation to emphasize on climate actions at federation level.”

- Climate Change Adaptation and Disaster Risk Reduction in Bangladesh

“For Solvatten to be recognized as a solution for the SDG's has helped us in our pursuit for purpose driven and lasting partnerships.”

- Solvatten Solar Safe Water Heater

“Participating in the initiative and having our project among the winners was incredible, it was a great experience and a unique opportunity professionally speaking, as it was an old dream to participate in a COP and it was only possible because of Momentum for Change. I strongly recommend other institutions and companies to register for the award, it is a unique experience of recognition and achievement. The coordination of the event was great, congratulations! I hope that they can reach more places and that they potentiate the UN Global Climate Action Award.”

- Natura's Carbon Neutral Programme

“The award provided incredible credibility to our movement and gave our members a morale boost at a time when it was much needed.”

- Mothers Out Front: Mobilizing for a Liveable Climate

“It was a before and after. The award helped us to convince the Public Administrations that mitigation and adaptation to climate change is absolutely and radically possible. Biofactories link the regeneration of natural ecosystems and the well-being. The award has been a great endorsement. The recognition of UN gave enormous credibility to help the extension of Biofactory principles around the world.”

- Santiago Biofactory

Appendix IV: Interviews

Interview questionnaire

Please note: interview questions were partially based on the survey response from the interviewee. The questionnaire below thus only provides one example or variation on the questions that were posed during interviews.

- 1. Can you broadly describe the [Lighthouse Activity] in terms of participating actors, activities, and goals?**
- 2. What initially motivated/inspired the initiation of your initiative?**
- 3. Did you run into any challenges when starting your initiative (i.e. lack of support, resources, willingness among participants)**
- 4. Were you already able to realize scaling or replication of your initiative before participating in Momentum for Change and if so, how did you manage to attract new members to your actor network?**
- 5. What has been key to the current success (in scaling and replication) of your initiative?**
- 6. Can you elaborate on how the absence of clear and ambitious climate goals by the national government or the international community hampered scaling and replication for your initiative?**
- 7. How was competition affecting your initiative?**
- 8. What challenges do you face for your initiative because of lacking resources?**
[Additional question: were government policies/legislations favourable for your initiative?]
- 9. Did you already enjoy reputational benefit prior to Momentum for Change?**
[Additional question: Does your initiative provide co-benefits? If so, does that help for attracting additional partners?]
- 10. What do you consider to be the most important driver for scaling in your initiative?**
- 11. What do you consider to be the most significant barrier for scaling in your initiative?**
- 12. Why did you decide to participate in Momentum for Change?**
 - a) Did the decision to participate in Momentum for Change affect your initiative in any way?
- 13. After winning the award/becoming a Lighthouse Activity, what has been the biggest change for your initiative?**
 - a) were you able to overcome certain challenges (for scaling) previously faced?
 - b) what aspect of winning the Momentum for Change Award do you feel has benefited your initiative the most?
 - c) overall, has participating in Momentum for Change lived up to your expectations?
- 14. Would you recommend other initiatives to participate in Momentum for Change?**
- 15. Is there anything you feel Momentum for Change could improve on? (i.e. should it keep stronger ties with previous winners?)**

Interview participants

The following person were approached for conducting in-depth interviews on their respective Lighthouse Activity. Names are only shown of those persons who explicitly gave their consent.

Dr. N.S. Pradhan – Senior Water and Adaptation Specialist at ICIMOD – CBWEFS

Mr. U. Patil – Director Programs at SSP – Rural Community Leaders Combating Climate Change

Ms. R. Lejtregger – Political and Technical Leader – National Resettlement Plan

Mr. S Frankson – Co-Founder – Plastic Bank

Dr. J. Gurung – Executive Director at WOCAN – The W+ Standard

Connected Mangroves lead representative

WLB Series lead representative

MAIS Program lead representative