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From agenda-setting to implementation - the role of Multi-Sectoral Partnerships in addressing urban climate risks

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Abstract

Multi-sectoral partnerships (MSPs) form an increasingly popular and important part of the global climate and disaster risk governance landscape, but literature offers little critical investigation of this phenomenon. In particular it remains unclear how MSPs can support the transition from agenda-setting to implementation in response to multiple current and future pressures threatening the resilience of cities. Through the lens of the London Climate Change Partnership (LCCP) and drawing from other MSP examples, this paper investigates the scope for MSPs to enhance climate adaptation in an urban context. Our paper has two main aims: to expand understanding of the role of MSPs in the adaptation decision process in the context of the wider governance literature, and to shed some light on the complexities of transitioning through that process. To clarify the role of a MSP we propose a distinction between ‘first generation’ and ‘second generation’ MSPs, illustrating the progression from agenda-setting to implementation: ‘first generation’ MSPs are focused on agenda-setting and knowledge sharing in order to support decision-makers, while ‘second generation’ partnerships are aimed at implementing solutions. We consider this distinction from the perspective of the individual members and their perceptions, motivations and expectations. We find that the dynamic nature of urban adaptation with a shifting focus from initial agenda setting towards the implementation of actions presents challenges for existing MSPs, particularly such long-established ones like the LCCP. Our investigation shows that ‘first generation’ MSPs can play important roles in agenda-setting, but finds little evidence of ‘second generation’ MSPs achieving implementation.

Key Points

Please state the three main points of the article.

Main point #1:

MSPs are fulfilling important roles in setting urban adaptation agendas, while implementation often rests with MSP members or other actors.

Main point #2:

The dynamic nature of urban adaptation presents challenges to MSPs for progressing from agenda-setting to implementation.

Main point #3:

Using an adaptation decision process framework can help clarify actual and potential roles within urban adaptation.

1. Introduction

Climate risks cannot be addressed successfully at any single institutional level (e.g. national vs local) or spatial scale or by any one category of actor. Measures to reduce and manage risk levels are determined at multiple scales and involve a broad range of stakeholders, including public and private sector actors, who take decisions that determine current and future risks. These decisions include (but are not limited to) where to build a house, how to design new flood barriers, what materials to use for new roads, and how to manage heatwaves. These decisions require risk information and an ability to translate that information into action, despite uncertainty about the precise changes in weather patterns that can be expected under climate change (Stainforth et al., 2007; Millner et al., 2012). However, uncertainty need not lead to policy paralysis (Mahlman, 1992; Willows and Connell, 2003; Heal and Millner, 2013; and McDermott, 2016), and adaptation priorities can be identified using suitable decision-frameworks (Willows and Connell, 2003; and Watkiss and Cimato, 2016) with a view to helping local decision makers in urban areas to incorporate climate adaptation into economic development and spatial planning policies and to avoid locking-in future vulnerability (Fankhauser & McDermott, 2016). This transition from agenda-setting to implementation is at the heart of a growing adaptation and urban resilience discourse, where after a period of agenda-setting actors are facing the challenge of implementing solutions. This has led to growing interest in more innovative ways of supporting implementation, with an emphasis on collaboration and communication between multiple actors to foster the development of solutions and plans beyond formal arrangements (Bulkeley and Castán Broto, 2013a, 2013b). One example of this is the increasing attention towards the use of multi-sectoral partnerships (MSPs) as mechanisms for engaging actors from various sectors with diverse perspectives and expertise to help tackle complex climate problems (Carmona et al., 2014; Máñez Costa et al., 2013).

Building on recent developments in the field of disaster risk management and climate adaptation (e.g. Máñez Costa et al., 2013) we understand MSPs as ‘voluntary but enforceable commitments between

partners from different sectors (public authorities, private services/enterprises and civil society), which can be temporary or long-lasting. They are based on the common goals of gaining mutual benefit, reducing current and future climate risk and increasing climate resilience' (Máñez Costa et al., 2013). The concept of MSPs is anchored in the ideas of networks and coalitions, offering support and facilitation for decision-making processes: they 'fulfil important roles in solving societal problems, inter alia by producing and/or disseminating knowledge, building capacities, setting norms, lobbying, or by making public management more participatory' (Pattberg et al., 2012). Furthermore, it has been suggested that MSPs can offer flexible, creative and innovative responses to climate risk (McQuaid, 2000; Van Huijstee et al., 2007).

While the value of enhanced collaboration is well established (ENHANCE, 2012) the role of climate partnerships in supporting concrete adaptation and disaster risk reduction action remains somewhat unclear. A review of recent case studies conducted for this paper identified a gap in the analytical understanding of the role of MSPs throughout the urban adaptation decision-making process: Literature offers little critical investigation of climate-focused MSPs for influencing adaptation at various scales and the key opportunities and challenges thereto. In particular there is a lack of reflection on the impact that a MSP can have in progressing urban adaptation from agenda-setting to implementation (Harman et al., 2015). This is somewhat surprising since some MSPs have been in existence for several years and therefore offer interesting insights into the complexities of collaboration for adaptation. Our paper has two main aims: to expand our understanding of the role of MSPs in urban adaptation decision making in the context of the wider governance literature, and to share some light on the complexities of moving from agenda-setting to implementation for urban adaptation. The broader term 'urban adaptation' (i.e. climate adaptation in urban areas), where used in this paper, encompasses both of these roles, as both are crucial to achieving urban adaptation.

To explore this further we propose a distinction between 'first generation' and 'second generation' MSPs, acknowledging the progression from agenda-setting to implementation. 'First generation' MSPs are focused on agenda-setting and knowledge sharing in order to support other actors both within and beyond the MSP, while 'second generation' MSPs are more aimed at the implementation of solutions.

We investigate this in the context of urban adaptation decision making (which consists of both agenda-setting and implementation) – noticing that cities appear to be particularly fertile ground for collaboration and networks (Tanner et al., 2008; Bulkeley and Castán-Broto, 2013b; Carmin et al., 2013; Harman et al., 2015).

For our investigation we are using the example of the London Climate Change Partnership (LCCP), which has been in existence since 2001 and was launched by the then Mayor to support climate risk reduction and climate change adaptation across London. As a large city with complex cross boundary environmental risks, collaborative management of climate risks across spatial, political and organisational boundaries is critical for London. As such LCCP's approach has focused on harnessing the understanding and expertise of local, national and London specific organisations and representatives, including a range of public and private bodies. This strategy has facilitated the delivery of advice, research and understanding of how London can become a climate resilient city. We investigate LCCP as an example of a long-established effort to bring together public and private sector players within an urban context. We explore how a partnership can adjust and respond to changing needs and expectations from within and outside the MSP – such as new scientific evidence, shifting policy directions and changing member priorities. While London is the core focus of our analysis we also draw in experiences from other regions and localities, recognizing the diverse nature of MSPs. In particular we use recent MSPs developed in the cities of Durban and Rotterdam to discuss our findings.

2. MSPs and urban risk governance: talking-shops or hubs for innovation?

2.1 The concept of partnerships in urban risk and adaptation governance

Since the mid-1990s there has been a proliferation of partnerships between public authorities, business and civil society actors focused on sustainability and environmental governance, with the idea of partnerships becoming a normative goal in environmental policy (McAllister and Taylor, 2015; Schaaf, 2015). Importantly, the emergence of MSPs has not taken place in a political, economic or social vacuum. Trends in globalisation, neo-liberalism and political ideologies have been central to the means and rationale for their development (Bulkeley and Newell, 2010; McAllister and Taylor, 2015). The formation of MSPs has been directly supported through inter-institutional and cross-border co-operation and indirectly encouraged through a growing culture of consultation and dialogue (for the EU see Mysiak et al., 2014), particularly at the municipal or local authority level. The 2002 World

Summit on Sustainable Development (WSSD) was a landmark for establishing the role of so called ‘Type II partnerships’ (between public and private actors) in delivering sustainability (Biermann et al., 2007). This was significant for the environmental arena as it epitomized the argument that responsibilities for governing global issues should be shared between public and private actors across all scales and governance levels (Bulkeley and Newell, 2010). This fits in with the concept of governance as a changing meaning of government (Bevir and Rhodes, 2003), with decision making spread across a range of actors at different levels (Costa et.al. 2013), characterized by multiple forms of governance, rather than a traditional regulatory understanding of governing: “Governance relates to mechanisms directed toward the coordination of multiple forms of state and non-state action” and diverse actors that influence and act directly or through hybrid/networked arrangements, including partnerships (Castán Broto, 2017). This appears to be particularly relevant for the urban level, with large cities such as London facing complex environmental and climate risks, which require collaborative management across spatial, political and organisational boundaries since they cannot be adequately dealt with by just one category of actor (Bulkeley and Newell; 2010). Carmin et al. (2013) present several examples of city based, stakeholder engagement partnerships aimed at adaptation to climate change and resilience in diverse contexts including large cities such as Toronto, Quito, London and smaller urban centres such as Walvis Bay in South Africa (Carmin et al., 2013). These have often been supported by numerous regional and international networks, such as the C40 City Climate Leadership Group, Cities and Climate Change Initiative (CCCI) and ICLEI – Local Governments for Sustainability.

While quite diverse in scope and character, all these initiatives highlight the importance of multi-sectoral engagement and buy-in across different stakeholders at local and city level for any progress with climate adaptation and disaster risk management (see for example UNISDR’s resilient cities toolkit (UNISDR, 2016).

However, the term ‘partnership’ remains very broad, and is often used interchangeably with co-operation, collaboration, network or alliance (Armistead et al., 2007), which presents a challenge to any investigations of partnership governance. It is therefore important to recognize that a wide range of categories exist, including public-private partnerships (PPPs), public-public partnerships (PuPs), as well as MSPs – mainly based on the composition of such partnerships and degree of formality: some

partnerships are contractual based, delivering a particular public service, while others are informal discussion forums. Recognizing these differences is important when exploring the role of partnerships in decision-making processes, as well as for wider governance implications of collaboration through partnerships (see Vangen et. al. 2015 for a wider discussion).

2.2 MSPs and the adaptation decision making context: from agenda-setting to implementation?

In the governance literature, MSPs are viewed as important because they extend state functions, particularly through agenda-setting and as a capacity building mechanism, facilitating the delivery of implementation measures by other actors (Bulkeley and Castán Broto, 2013b): “MSPs are expected to fulfil important roles in solving societal problems, inter alia by producing and/or disseminating knowledge, building capacities, setting norms, lobbying, or by making public management more participatory” (Pattberg et al., 2012). It is often assumed that collaborative arrangements such as partnerships are more adequate to produce flexible, responsive, creative and innovative solutions than hierarchical governance (for instance McQuaid, 2000; Van Huijstee et al., 2007). Following this line of thought and drawing from core political science notions partnerships can be understood as ‘substantive expertise’ – one of three pillars constituting a policy field: substantive authority, institutional order, and substantive expertise. Substantive expertise is “the manifestation of expert knowledge both inside and outside government by people and institutions with a vested interest in a set of particular issues (e.g., policy issue networks, NGOs, think tanks, etc)” (Massey and Huitema, 2013). This resonates with the way MSPs are described in the 2030 Agenda for Sustainable Development (UN, 2015), which highlights the role that MSPs can play in facilitating the delivery of implementation measures, particularly with regards to ‘sharing knowledge, expertise, technology and encouraging collaboration’.

In terms of the adaptation decision making process this suggests that MSPs play a key role in all the stages prior to but less so in achieving implementation.

The importance of this support role cannot be underestimated: Risk information and risk knowledge are widely considered as the key ingredients for any robust decisions in disaster risk management and climate change (Máñez Costa et al., 2013).

But as the adaptation and disaster risk reduction fields mature there is an increasing need for implementation of those solutions (Mimura et al., 2014). This ‘transition from agenda-setting to implementation’ is often driven through external shocks (for example a flood event), or through learning processes within the adaptation system, such as new policies following from new experience and incoming information (for example new flood risk maps), as suggested in the Advocacy Coalition Framework concept (Sabatier and Weible, 2007). These changes in the real world can include a government or regime change, a crisis or relevant change in socioeconomic conditions, which are capable of influencing the policy agenda and public opinion. Importantly, they can also influence the underlying aims, objectives, and member priorities of a MSP: Partnerships typically embrace common objective(s) and are predicated on a sense of co-operation, mutual trust and synergy (Schaaf, 2015; Vasconcellos and Vasconcellos, 2009), as well as (the voluntary nature of) commitments and emphasis on social benefits (McQuaid, 2000). Brinkerhoff (2002) identifies mutuality and organisation identity as two key features for defining partnerships and distinguishing them from other forms of relationships. Following this logic, a key underpinning motive for partnership formation is the (perceived or otherwise) added value of working jointly rather than individually. While members may easily recognize the value of collaboration to gather information, share knowledge, influence others, when it comes to implementing solutions this is likely to require a different form of commitment and buy-in.

However, MSPs are not static, and aims, objectives and membership do change overtime (Caplan, 2001). For the adaptation decision making process this would suggest that MSPs can transition themselves from initial agenda-setting to a role in implementing and delivering action. Or it could mean that the members themselves initiate new forms of collaboration or take individual action, while the MSP continues with its facilitation role.

2.3 First and second generation MSPs

Our framework outlined below in Figure 1 offers a new perspective on this by introducing the concepts of ‘first generation’ to ‘second generation’ MSPs. First, we look at adaptation and disaster risk management through the lens of a decision-making framework developed by Willows and Connell (2003), which describes the different stages of the decision cycle underpinning adaptation (Figure 1). We have adapted this framework to identify the roles that a MSP plays during the progression from

agenda-setting to implementation, or, to use the formal descriptions of the framework, from problem identification to implementation. We then consider this framing from the perspective of a MSP and its members, their aims and objectives. For our analysis we propose a distinction between MSPs according to their role within the decision-making process. We suggest that there can be ‘first generation’ and ‘second generation’ MSPs in the urban adaptation and climate risk management context: ‘first generation’ MSPs are predominantly focused on agenda-setting and knowledge sharing, while ‘second generation’ MSPs are aimed at implementing solutions which address those climate risks. An important distinction is also that in a first generation MSP any resulting action is driven by the members as actors or by external stakeholders who the MSP intends to influence, while a second generation MSP is more focused on delivering implementation beyond the individual actions of its members.

Figure 1 depicts 8 interrelated stages of the decision cycle underpinning adaptation and risk management. This figure has been adapted to include 1st and 2nd generation MSPs and indicate where they are typically situated within these decision making cycles. As illustrated in Figure 1 first generation MSPs typically provide support and influence to their members and other stakeholders through phases 1 and 8 of the adaptation decision making cycles, whereas second generation partnerships have a core focus on delivering outcomes during the implementation phase 7. In this model the decision making itself (phase 6) rests with other actors, who may be members of the MSP (for example the Mayor or local authorities), but take the decision outside the MSP structure. We acknowledge that in reality the boundaries can be fluid, and that this is a simplified representation of the complex process of climate adaptation and urban resilience. However, we argue that this illustration can help MSPs, their members and external stakeholders to gain a clearer understanding of the different ways that they engage with the adaptation decision process. For MSPs the dynamic nature of adaptation could require an adjustment of aim, membership and role description in order to respond to these changes. For example, a ‘first generation’ MSP launched to engage in agenda-setting by raising the profile of adaptation within the urban policy making community might have to revisit its role once an urban adaptation strategy has been developed and adopted. This could mean that a MSP transitions and takes on implementation-focused activities (2nd generation) or it could lead to the formation of new partnerships (2nd generation), while the original MSP (1st generation) continues with its agenda-setting and support functions.

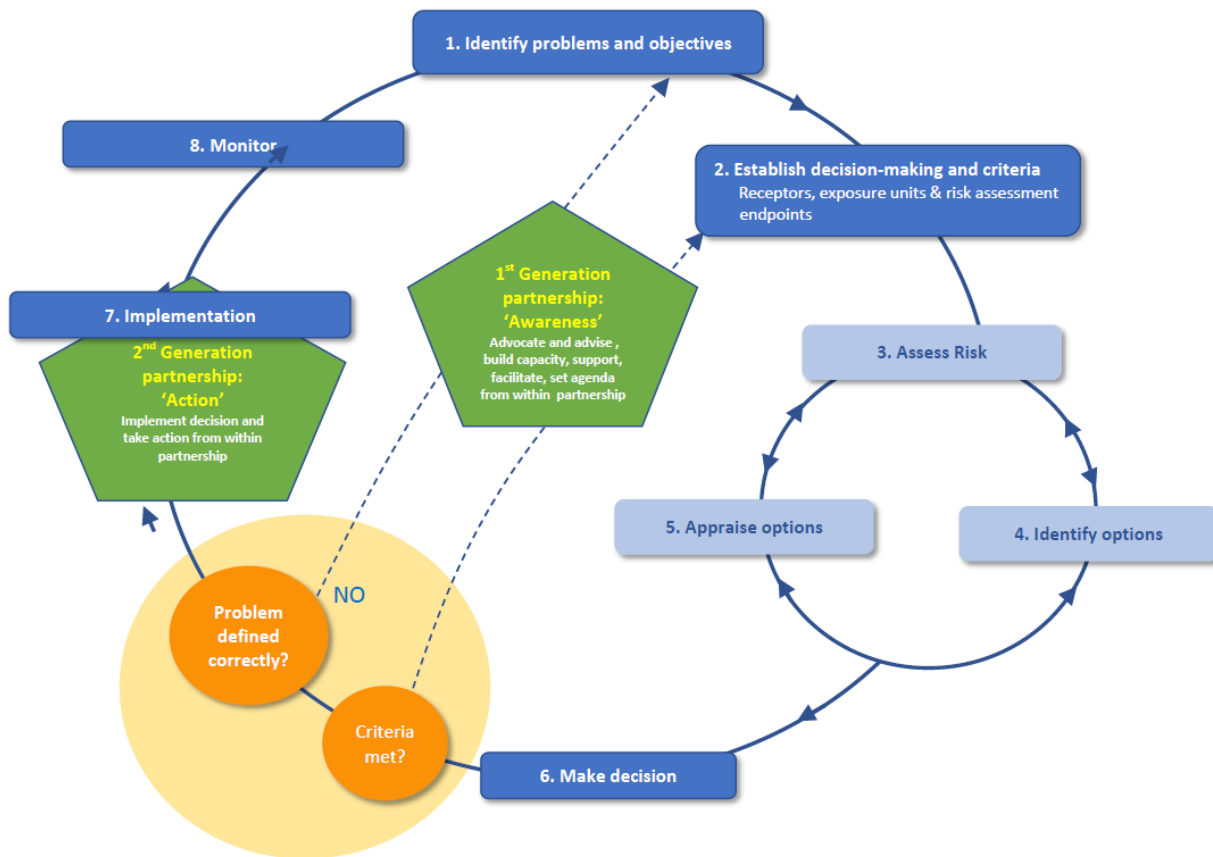


Figure 1: Authors, adapted from Willows and Connell 2003

3. The case of the LCCP – from agenda setting to implementation

3.1 Methodology

In order to explore the value of our proposed framework we conduct an in-depth investigation of the LCCP. .

Our evidence base has been developed over several years, with close interactions with the case dating back to 2005, when LCCP was still relatively young. During that early period until 2010 we have been able to gain first-hand evidence of the emergence of the MSP due to a direct role on the LCCP steering committee for one of the authors (Table 1 provides a summary of the evidence base).

Our analysis coincided with an initiative undertaken within the MSP to identify future strategy and focus. This enabled us to conduct a survey of LCCP members, which was open for approximately three months and completed at the end of November 2014. The survey was intended to develop our understandings of the role of the LCCP in the context of climate risks in London. The Qualtrics web-based survey achieved a response rate of just over 85%. The survey included closed and open-ended questions relating to multiple issues such as understanding of climate risks, sources of information, actions being undertaken by the LCCP and more specific questions such as current flood risk management in London. The survey results were coded and analysed into core themes using the Qualtrics platform.

The survey results were complemented by a focus group discussion in a meeting with LCCP members held in November 2014 (attended by over 15 members), as well as several informal interviews with LCCP members and management representatives held between March and November 2014. These data sources were cross-referenced further with survey results from internal LCCP research conducted in 2012 which elicited LCCP members’ perceptions on successes, aims and own achievements. Furthermore, we assessed key notes from an internal brainstorming session, held in 2012, which fed into the LCCP 2020 vision and key insights are also gained from official reports and publications. The core themes identified from analysis of the Qualtrics data were cross referenced with core themes identified in the interview and focus group transcript analysis.

Table 1: overview of the evidence base and methods

Type of evidence	Overview of method and approach
Literature review and development of concept of ‘first generation’ and ‘second generation’ MSPs	Analysis of wider academic literature on urban risk governance, adaptation decision making and on role of MSPs.
Access to internal LCCP documents summarizing Members’ positions during the	Document review, key word search and discussion with LCCP secretariat; cross-

strategic review process in 2012, including write-up of LCCP internal brainstorming meeting held in 2012	referencing results with online survey findings.
Document review of publicly available LCCP reports and documents through http://www.climatelondon.org.uk ; review of internal notes and relevant policy documents, as outlined above; review of publicly available information on Durham and Rotterdam partnerships	Document review, key word search
Face to face interviews and discussions with LCCP members between 2005 and 2015.	Stakeholder discussion from 2005 – 2010 (with author Surminski member of in LCCCP), semi-structured interviews with LCCP members from 2010-2015
Online- survey of LCCP members in 2014	Qualtrics web based survey completed by 20 respondents. Anonymity assured through Qualtrics platform and participants not disclosing personal details.
Focus group discussion in a meeting with LCCP members held in November 2014	Initial survey and interview results were presented at the focus group meeting, followed by detailed group discussion with over 15 LCCP members.

3.2 A shifting role for the LCCP?

The LCCP is a pertinent example of a long-running effort to bring together public and private sector players within an urban context. Table 1 highlights key past and present initiatives delivered under the LCCP as reported by the partnerships’ secretariat.

The partnership has a long-term outlook and supports climate risk reduction and climate change adaptation across London. Coordination and facilitation of the LCCP is government led, with funding from the environment programme budget from the Greater London Authority (GLA), the city

government for London. There are over 24 members in the LCCP (as of October 2016) and the partnership is coordinated by a Chair and Partnership Manager who are also responsible for calling quarterly member meetings and additional partnership related meetings. Workstreams involve assessment of, and research into specific climate risks as well as action on resilience. Functioning alongside and in collaboration with the LCCP are the 33 London boroughs (local government) and other knowledge networks. These include additional projects for climate resilience, such as Drain London, a cross boundary strategy to develop surface water management plans for London and its boroughs. Table 1 summarises the project activities of the LCCP and indicates which of its members is involved in the specific topic. This is based on information provided by the LCCP. From our interviews and engagement with LCCP members we understand that some of these activities have been supported by LCCP as an organization, representing all its members, while others are activities undertaken only by some members.

Table 1: Key past and present projects delivered under the LCCP

Project	Involved lead partners
Adaptation Economy	Greater London Authority
Observing London	The Met Office, Greater London Authority, Reading University, Lloyd’s of London
Retrofitting London	Sustainable Homes, Greater London Authority, Thames Water and the Environment Agency
Resilient Business	London Sustainability Exchange, Greater London Authority
Overheating Thresholds for Londoners	Environment Agency and Greater London Authority
Joint Strategic Needs Assessment Guidance	Greater London Authority and London Boroughs
Capturing Adaptation Research for London	UK Climate Impacts Programme (UKCIP) Environment Agency
Retrofitting social housing : Barking and Dagenham	Sustainable Homes, London Borough of Barking and Dagenham, Mayor of London, Sprunt, United House, Environment Agency
London Health and Social Care Climate Action Plan	London Climate Change Partnership
Thames Estuary Project (TE2100)	London Climate Change Partnership, Environment Agency
Drain London	Drain London Forum

Source: Authors, based on information from LCCP secretariat and discussion with LCCP member

The LCCP has been targeting London's evolving adaptation policy context and it forms an integral component of the Mayor's strategy for building climate change resilience for London. During its initial stages the LCCP's work focused strongly on research, information sharing and agenda-setting (LCCP Focus Group, November 2014). Partnership members see the LCCP's functions as diverse, spanning from agenda-setting to implementation, enabling the partnership to respond to changing needs and demands. However, in times of fiscal austerity the public funding for the LCCP is under threat, leaving a question mark about its future contribution to adaptation in London (Interview, 9 March 2015). As a survey respondent noted further: "Without a strong political support it is very difficult for the LCCP to act or gain serious funding".

3.3 Member perceptions, motivation and expectation

Members of a partnership may have very different motives and motivations when joining a MSP, while their perceptions of the role and relevance of the MSP can also vary (Armistead, 2007). Survey results reveal that LCCP members identify 'information and knowledge sharing' as their main motivation for joining LCCP (listed by 89% of LCCP members), followed by interest in supporting climate adaptation and resilience in London (84%) and influencing climate change and policy (84%). Conducting research and developing solutions towards climate adaptation and resilience is also valued as a strong reason to join (52%). Accordingly most members also see the function of their partnership predominantly in the context of agenda-setting and capacity building: information dissemination and establishing a knowledge network were identified by 95% of the members as functions of LCCP, followed by 'knowledge exchange' (89%) and 'lobbying for adaptation in London' (84%). These characteristics fall within the first generation MSP classification and phases 1 – 6 of the decision making cycle depicted in Figure 1. Our focus group discussion with MSP members also revealed that the longevity and organizational stability and trust between partners of a partnership can be interpreted as an indicator for the value that members seem to derive from their membership; a third of all LCCP members have been involved in the partnership for 6-10 years. Much of the LCCP's activities and momentum are driven by key individuals or 'policy entrepreneurs', many of whom have been involved with the LCCP since its early formation (Interview, 11 September 2014). Despite their apparent centrality to MSPs, there are however potential pitfalls to relying heavily on such champions since should they move on from the

partnership a considerable void is likely to be left and the longevity of the MSP brought into question (Leck and Roberts, 2015).

3.4 The LCCP and its impact on adaptation in London

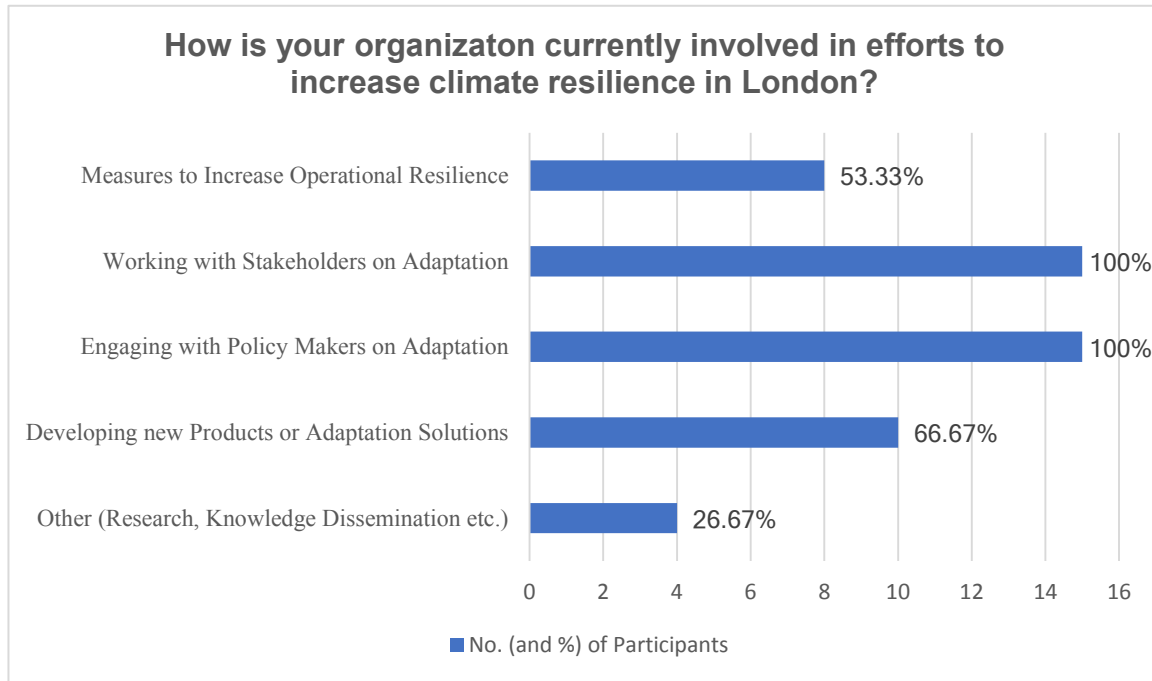
Assessing the impact and effectiveness of MSPs for influencing adaptation and disaster risk management in cities is challenging, with a limited evidence base to draw from. Critics have pointed out that partnerships are not a panacea for all sustainability related governance challenges, and question whether general conclusions about partnership effectiveness can be outlined at all, especially in light of the diversity of arrangements in this field (Biermann et al., 2007; McAllister and Taylor, 2015).

One key challenge is the diverging view of what impact means. Members' opinions on the impact of LCCP in London show the difficulty and sometimes conflicting viewpoint in capturing this: a small number of respondents (5%) indicate that the partnership had no impact on adaptation in London, while 47% remain unsure and 47% see definite impact on adaptation. The two highest ranked impacts in the survey are through the information and guidance on adaptation provided through LCCP (89%), and through the facilitator role of LCCP, helping to drive forward climate adaptation and resilience (89%). This is followed by informing climate change adaptation policy (77%), raising awareness of the risks and consequences of climate change within own organisations and individuals (67%) and monitoring preparedness of London to climate change (44%).

Findings reveal that most respondents feel that it is difficult to measure impact, especially because the partnerships serve a wide variety of purposes with impacts often being cumulative and intangible. During the LCCP focus group meeting partners explained several challenges to assessment and attribution of impact including the difficulties of demonstrating 'value added' and the difficulty of separating out LCCP's influence from other influential organisations and factors in the city and beyond. Graph 1 below indicates the range of responses from LCCP members regarding the climate resilience initiatives initiated by their own organization. This is revealing in that many of these efforts such as engaging with stakeholders and policy makers are also being undertaken by the LCCP. This

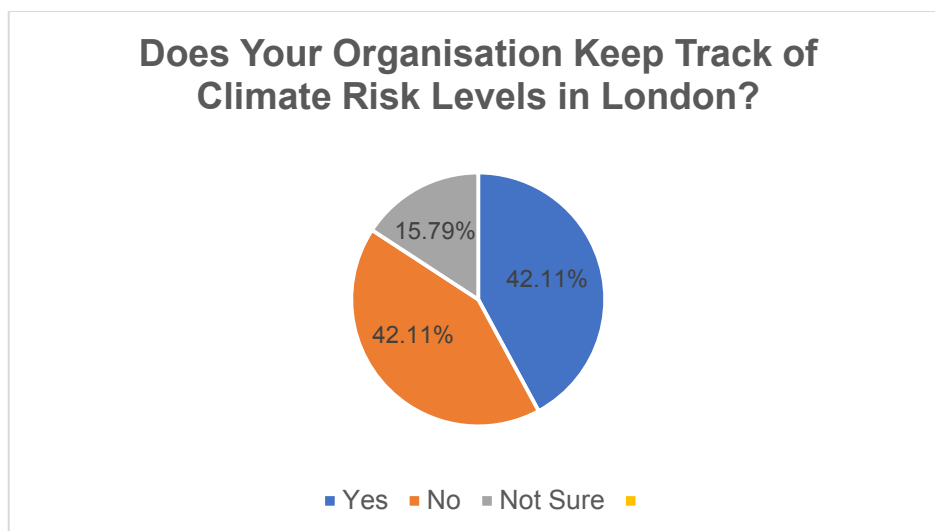
further underlines the difficulty of isolating partnership impact from concurrent activities being undertaken.

Graph 1: LCCP member's individual organization climate resilience initiatives



Furthermore we notice that less than half of the LCCP members confirm that they actively seek information about climate risk levels in London, which would arguably be the first step on the agenda-setting to implementation trajectory for their own organisations (Graph 2).

Graph 2: LCCP member's efforts to



3.5 Mapping role of MSPs in the context of the transition from agenda-setting to implementation

MSP dynamism and flexibility are important prerequisites in urban contexts where policies, planning and practice are continuously evolving. It is thus important for climate change focused MSPs to identify the stage(s) of the evolving adaptation decision making and policy cycle that they target or relate to and how this might shift over time and the necessary prerequisites for undertaking such transitions. LCCP finds its origins in the first generation category and since its inception the LCCP has largely focused on playing a support role for London’s evolving adaptation and risk management policy context through the core activities of information sharing, advocacy and other activities described above.

As the partnership has evolved its focus has shifted towards discussions about moving into second generation type activities and in particular stage 7 of the adaptation decision making cycle (Figure 1). This has predominantly been in the form of supporting the delivery of small projects (Interview, September 2014) for climate resilience such as ‘Drain London’; a cross boundary strategy to develop surface water management plans for London. This initiative has been supported by the 33 London boroughs (local government) and other knowledge networks that function alongside and in

collaboration with the LCCP. A second example of LCCP's dynamism and shifting focus towards adaptation delivery is the retrofitting social housing project undertaken in Barking and Dagenham involving multiple LCCP partners including Sustainable Homes, London Borough of Barking and Dagenham, Mayor of London, Sprunt, United House and the Environment Agency (LCCP, 2016). However, the implementation of adaptation and risk management measures under a second generation categorisation requires considerably larger financial commitments than information sharing, advice and guidance; core resources which are often lacking under fiscal austerity.

Overall our investigation of the LCCP supports our proposed distinction between 'first generation' and 'second generation' MSPs. As the climate risk policy area matures and the understanding of urban risks improve, the notion of acting and implementing comes to the fore. This is highlighted by the LCCP's quest for a new strategic outlook, raising the question of how to have impact beyond the initial agenda-setting and information sharing functions. Moving beyond this initial stage towards implementation appears to require an adjustment in aim, membership and role description of the MSP. This may or may not be supported by all existing members, and could also lead to changes in membership, focus and overall structure.

4 First and Second Generation Partnerships beyond London

To further explore the value of the concept of first and second generation MSPs we look for examples beyond London. Based on earlier research conducted under the EU ENHANCE project (ENHANCE 2016) we can draw on additional insights from two cities with a history of multi-sectoral engagement on climate adaptation: Rotterdam and Durban, who, similar to London, are members of the *C40 City Climate Leadership Group* as well as participants in the *100 Resilient Cities initiative*.

In Rotterdam we find what could be described as a 'second generation' partnership: The Port of Rotterdam MSP is a recently created partnership focused on flood risk management in the outer dyke areas of the Port Area of Rotterdam and can be classified as a 'second generation' MSP that was triggered by the work of another partnership, the Rotterdam Climate Initiative, a city-wide climate change MSP founded in May 2007, with the objective of reducing CO₂ emissions by 50% and climate proofing the city. It is a broad partnership between the City of Rotterdam, the Port of Rotterdam, DCMR Environmental Protection Agency Rijnmond, and Deltalinqs. It supported the development of Rotterdam's Adaptation strategy, similar to the LCCP in London. The outer dyke flood risk challenge was acknowledged in Rotterdam's Adaptation Strategy (Rotterdam Climate Initiative, 2015) as an

issue requiring collaboration between different layers of authorities and various stakeholders, including individual businesses operating in the port, the Port of Rotterdam Authority, the national Ministerie van Infrastructuur en Milieu, the provincial administrators in Provincie Zuid-Holland, and municipal actors. Furthermore, the national government's Delta Programme identified clear knowledge and governance gaps: flood risk levels in the outdyke areas were unknown, while there was also no clear responsibility in terms of protecting anyone based or operating in these areas (Nicoli et al., 2015; Nicoli et al., 2014). In addition the publication of new risk data and new modelling analysis appear to have galvanized the willingness of stakeholders to collaborate on this specific topic and to implement action in response. The new MSP is aiming to deliver new flood risk responses, such as the implementation of insurance or business continuity measures (Nicoli et al., 2015; Nicoli et al., 2014), but it is somewhat unclear whether any resulting action would be delivered by individual MSP members or through the MSP itself. This highlights an interesting aspect for the concept of 2nd generation MSPs; while this MSP emerged in response to lack of implementation and problem ownership identified through the work of another MSP (first generation) it may only facilitate individual implementation, with individual members, for example insurance companies or the businesses operating in the port, delivering implementation, rather than the MSP itself. However, this could also lead to the joint implementation of new flood risk measures or a new insurance pool managed by the MSP. Monitoring this process is likely to prove some further insights on whether MSPs can deliver implementation.

In contrast, the origins of the MSP in Durban, South Africa, are more similar to that of the LCCP. The municipality received a mandate to develop a 'Durban Climate Change Partnership' (DCCP) at the Durban Climate Change Summit held in May 2009. This was intended to bring together diverse stakeholders including public, private and civil society actors in a structured, open and inclusive manner to tackle both adaptation and mitigation issues (Roberts, 2010). The DCCP process has highlighted certain positive effects such as increased awareness and knowledge sharing of the city's climate change challenges across diverse communities, but it also shows a range of challenges such as lack of funding and limited political will that appear to have constrained the role of the MSP in the adaptation processes in the city (Roberts, 2010; Roberts and O'Donoghue, 2013). While the DCCP fits into the 1st generation MSP category, there is evidence of the emergence of a more action oriented partnership alongside the DCCP: the Durban Industry Climate Change Partnership (DICCP) was

formed in June 2009 when the eThekweni Municipality signed a partnership declaration with local and national business leadership, with the intention of creating a subsequent “sustained partnership of the industrial and public sector in Durban to effectively contribute towards climate change mitigation and adaptation” (UNIDO, 2009). This supports the view that implementation appears more suitable for the public-private partnership concept, with its more transaction focused operational approach, rather than the broader MSP concept. Interestingly the DICCP was only set up for a year to kick-start implementation. As a Durban official explained with reference to the DICCP, ‘it has been good for us to use partnerships as vehicles to pull champions together and to identify spaces that can we slot the champions into’ (Pers Comm, 23 July 2014). While this indicates a focus on delivering implementation through different partners, it has become clear that the whole process suffered from funding constraints and lack of commitment from most partners, which appear to have hampered further development of the partnership beyond the initial first year period.

5 Discussion of findings

Our analysis confirms that MSPs are fulfilling important roles in urban adaptation. There is clear evidence of MSPs influencing adaptation processes through agenda-setting as described in our 1st generation category. This alone does not make a city more resilient, but it appears to create an enabling environment for others, including individual MSP members, to implement adaptation measures. What remains less clear is the role that MSPs can play in delivering implementation (i.e. second generation MSPs). This goes to the heart of a growing adaptation and urban resilience discourse, where after a period of agenda-setting actors are facing the challenge of implementing solutions. Our framework suggests that there is very little evidence of implementation oriented 2nd generation MSPs.

Interestingly this appears to be relevant not just for MSPs, but for partnerships in general: Homke’s (2011) review of a wide range of partnerships supports this: assessing a variety of functions attributed to partnerships, it reveals only one ‘implementation’ focused category: the ‘operational’ partnership, which ‘conducts action itself’ rather than just providing frameworks and guidance, yet identifies this as the least predominant category of existing partnerships (Homkes, 2011). Examples could be MSPs that ‘deliver’ adaptation – such as organizing, funding and implementing retro-fitting schemes for homes to make them more climate-resilient, installation of urban drainage systems or the implementation of heat-wave management plans for hospitals. This approach is commonly more associated with PPPs between a public authority and a private sector partner, who deliver critical infrastructure, housing

affordability and urban regeneration (Harman et al. 2015).with a clear distinction of role and functions of its members. .

Our analysis also highlights the importance of reflecting on who actually can take action: much implementation falls on private actors – households, firms and civil society, whose actions cannot be planned centrally, but often require support when facing barriers, including financial, behavioral and informational barriers, as well as a lack of capacity and skills (Fankhauser et al., 2013). MSPs can clearly play a role here – facilitating and enabling their own members as well as others to implement measures – as shown in London and elsewhere. For example a MSP can bring together different views and interpretations of risk and risk maps, thus creating a common risk language and resolving differences in risk identification across different partners. However, overtime, in the context of a move from agenda-setting to implementation, this support function may no longer suffice to justify the existence of a MSP. This was clearly evident in the case of LCCP, where after many years of existence a review of future aim and objectives were deemed necessary to secure continued buy-in and relevance. This underlines the importance of considering MSPs from the perspective of its members in order to understand the scope and possible direction of travel and impact for such a partnership. Importantly MSPs are voluntary arrangements, and the buy-in from members, as well as their ability to contribute either financially or in kind, can change dramatically over the lifetime of such a partnership.

Reflecting on changing needs and wants of members as well as on the shifting landscape of adaptation policy and broader financial and political climates are important elements when trying to improve our understanding of the role and reach of these MSPs. From the point of view of MSP members, our surveys and interviews highlight that the understanding of remit and function as well as the motivation to join a MSP varies significantly across the membership. In fact these partners often pursue competing agendas outside an MSP – for example property developers and planning authorities - but see value in participating and collaborating to achieve a common aim. As seen in our examples the goals of a MSP range from relatively ‘soft’ aims such as agenda-setting and knowledge sharing to more implementation-focused goals. This could signal a varying degree of commitment - assuming that it is easier for a company or institution to secure internal buy-in for MSP participation if it is about agenda-setting, but more difficult if the MSP is aimed at delivering practical solutions. However, this could also simply be a reflection of the policy process - urban adaptation is a continuous process, involving

risk assessment, early agenda-setting and capacity building, before considering the implementation of particular measures to address climate risk and increase resilience, which then needs monitoring and adjusting, subject to new risk assessment and appraisals. Here our distinction between 1st and 2nd generation MSPs can be a useful tool to help MSPs identify their current role and assist members in understanding what a transition from agenda-setting to implementation may entail. This could be of particular use for MSPs who are struggling to justify their existence to members or external funders. Our discussions in London show that a clearer understanding of the adaptation decision process can help to formulate influence and impact of the MSP activities. This point would deserve further investigation across different MSPs.

6 Concluding remarks

Critics have questioned the ability of partnerships to address regulation, implementation and participation deficits, in particular in situations where effective governments are lacking and where there are strong political divides between sectors (Forsyth, 2010). City scale MSPs generally have limited influence on strategic decisions and policy making – these decisions are predominantly taken elsewhere, often by the partners in their primary roles outside the partnerships, but in the context of external existing structures and not within the partnership. Here the distinction between ‘first’ and ‘second generation’ MSPs appears to be of use: while agenda setting and information sharing appears to be a relatively simple form of engagement, this becomes more complex and possibly more controversial once the MSP is focused on the delivery and implementation of solutions. This can also raise questions about mandate, inclusivity and accountability (Bulkeley and Newell, 2010). As our core case study has not (yet) assumed this predominantly implementation-focused role, it is too early to investigate the implications of this. However, it is clear that an initial focus on agenda-setting and knowledge sharing covers what one could term the ‘low hanging fruits’ of collaboration, while implementing concrete measures such as investing in flood defences or building resilient infrastructure is likely to require a different set of members or rules of engagement as well as resources and capacities. This should not be interpreted as a limitation of MSPs for supporting urban adaptation, but it signals the importance of clarifying where in the process of increasing urban resilience a city is and what type of collaboration is needed and considered feasible by those involved.

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REFERENCES

- Armistead, C., P. Pettigrew and S. Aves. 2007. "Exploring leadership in multi-sectoral partnerships". Volume 3 Issue 2 Leadership.
- Aylett, A. 2010. "Conflict, collaboration and climate change: participatory democracy and urban environmental struggles in Durban, South Africa". Volume 34 Issue 3 International Journal of Urban and Regional Research.
- Bauer, A. and R. Steurer. 2014. "Innovation in climate adaptation policy: are regional partnerships catalysts or talking shops?" Volume 23 Issue 5 Environmental Politics.
- Beisheim, M. and A. Liese (Eds.). 2014. *Transnational Partnerships: Effectively Providing for Sustainable Development?* Palgrave Macmillan, London.
- Bevir, M. and R. A. W. Rhodes. 2003. "Interpreting British Governance". London: Routledge.
- Biermann, F., M. Chan, A. Mert and P. Pattberg. 2007. "Multi-stakeholder Partnerships for Sustainable Development: Does the Promise Hold?" In P. Glasbergen et al. (Eds.). 2007. *Partnerships, Governance and Sustainable Development. Reflections on Theory and Practice*. Cheltenham, UK, Edward Elgar Publishing.
- Börzel, T.A. and T. Risse. 2005. "Public-Private Partnerships: Effective and legitimate tools of international governance". In E. Grande and L. W. Pauly (Eds.). 2005. *Complex Sovereignty: Reconstituting Political Authority in the Twenty First Century*. University of Toronto Press, Toronto.
- Brinkerhoff, J.M. 2002. "Assessing and improving partnership relationships and outcomes: a proposed framework". Volume 25 Issue 3 Evaluation and Program Planning.
- Bulkeley, H. and P. Newell. 2010. *Governing Climate Change*. New York, USA, Routledge.
- Bulkeley, H. and V. Castán Broto. 2013a. "Government by experiment? Global cities and the governing of climate change". Volume 38 Issue 3 Transactions of the Institute of British Geographers.
- Bulkeley, H. and V. Castán Broto. 2013b. "A survey of urban climate change experiments in 100 cities". Volume 23 Issue 1 Global Environmental Change.
- Caplan, K. 2001. "Perceptions of Partnership: Understanding What Public, Private and NGO Partners May Offer". London: BFD Water and Sanitation Cluster.
- Carmin, J., D. Dodman and E. Chu. 2013. "Urban Climate Adaptation and Leadership: From Conceptual Understanding to Practical Action". OECD Regional Development Working Papers, 2013/26, OECD Publishing.
- Carmona, M., M. Mañez, P. González-Riancho Calzada, J. Bayer, S. Hanger, S. Surminski, D. Haro, J. Andreu and J. Mysiak. 2014. "Deliverable 4.1: Inventory: Assessing risk perception criteria".

ENHANCE Project Paper D4.1, European Commission. Available at: http://www.enhanceproject.eu/uploads/deliverable/file/18/ENHANCE_D4.1_Working_paper_Risk_perception_and_risk_cultures_in_Europe.pdf (accessed 20 August 2015).

Castán Broto, V. 2017. Urban Governance and the Politics of Climate Change. *World Development*, In press: <http://dx.doi.org/10.1016/j.worlddev.2016.12.031>

Climate UK. 2012. “A Summary of Climate Change Risks for London”. Climate UK. Available at: <http://climatelondon.org.uk/wp-content/uploads/2012/01/CCRA-London.pdf> (accessed 17 June 2016).

DAC. 2011. “Durban Adaptation Charter for Local Governments as adopted on the 4th December 2011 of the occasion of the “Durban Local Government Convention: adapting to a changing climate” - towards COP17/CMP7 and beyond”. The DAC Secretariat. Available at: http://durbanadaptationcharter.org/wp-content/uploads/2015/06/Durban_Adaptation_Charter_5_December_2011.pdf (accessed 26 August 2015).

ENHANCE. 2012. Website of the ENHANCE Project, European Commission. Available at: <http://enhanceproject.eu/> (accessed 26 August 2016).

ENHANCE 2016. Novel Multi-Sector Partnerships in Disaster Risk Management. Results of the ENHANCE project. Jeroen Aerts and Jaroslav Mysiak (eds). EU FP7 project ENHANCE. pp. 346, Brussels.

Fankhauser, S. and R. Soare. 2013. “An Economic Approach to Adaptation: Illustrations from Europe”. Volume 118 Issue 2 *Climatic Change*.

Fankhauser, S. and T. McDermott (Eds.). 2016. *The Economics of Climate-Resilient Development*. Cheltenham, UK, Edward Elgar Publishing.

Forsyth, T. 2010. “Panacea or paradox? Cross-sector partnerships, climate change, and development”. Volume 1 Issue 5 *Wiley Interdisciplinary Reviews: Climate Change*.

Glasbergen, P. 2007. “Setting the scene: the partnership paradigm in the making”. In P. Glasbergen et al (Eds.). 2007. *Partnerships, governance and sustainable development: Reflections on theory and practice*. Cheltenham, UK, Edward Elgar Publishing.

Harman, B.P., B.M. Taylor and M. Lane. 2015. “Urban Partnerships and Climate Change Adaptation: Challenges and Opportunities”. Volume 12 *Current Opinion in Environmental Sustainability*.

Heal, G. and A. Millner. 2013. “Uncertainty and decision in climate change economics”. Centre for Climate Change Economics and Policy Working Paper No. 128 and Grantham Research Institute on Climate Change and the Environment Working Paper No. 108.

Homkes, R. 2011. “Analysing the role of public-private partnerships in global governance: Institutional dynamics, variation and effects”. Available at:

<http://etheses.lse.ac.uk/269/1/Homkes%20Analysing%20the%20role%20of%20Public-private%20partnerships%20in%20global%20governance.pdf> (accessed 10 March 2017).

Hoorweg, D., M. Freire, M. J. Lee, P. Bhada-Tata and B. Yuen (Eds.). 2011. “Cities and Climate Change: Responding to an Urgent Agenda”. The International Bank for Reconstruction and Development/The World Bank, Washington DC.

Johansen, E. B. 2006. “Between Public and Private – Insurance Solutions for a Changing Society”. NFT 2/2006.

Keskitalo, E.C. 2010. “Climate Change Adaptation in the United Kingdom: England and South-East England”. In E.C. Keskitalo (Ed.). 2010. *Developing Adaptation Policy and Practice in Europe: Multi-level Governance of Climate Change*. Springer, London.

Krumm, T. and K. Mause. 2009. “Public-Private Partnerships als Gegenstand der (Politik-) Wissenschaft”. Volume 50 Issue 1 Politische Vierteljahresschrift.

LCCP.2016. London Climate Change Partnership Website. Available at: <http://climatelondon.org.uk/lccp/partners/>

Leck, H. and D. Roberts. 2015. “What lies beneath: understanding the invisible aspects of municipal climate change governance”. Volume 13 Current Opinion in Environmental Sustainability.

Máñez Costa, M., M. Carmona, K. Gee, B. Gerkenmeier, B.M.W. Ratter, W. Botzen, J. Aerts and Y. Paudel. 2013. “Deliverable 2.3 Governance Indicators for (Un)successful MSPs”. ENHANCE Working Paper, European Commission. Available at: http://enhanceproject.eu/uploads/deliverable/file/13/ENHANCE_D2.3_Governance_indicators.pdf (accessed 26 August 2016).

Mahlman, J. D. 1992. “Assessing Global Climate Change: When Will We Have Better Evidence?”. In L. Rosen and R. Glasser (Eds.). 1992. *Climate Change and Energy Policy*. American Institute of Physics.

Massey, E. and D. Huitema. 2013. “The emergence of climate change adaptation as a new field of public policy in Europe”. Volume 16 Issue 2 Regional Environmental Change.

McAllister, R.J. and B.M. Taylor. 2015. “Partnerships for Sustainability Governance: A Synthesis of Key Themes”. Volume 12 Current Opinion in Environmental Sustainability.

McDermott, T. 2016. “Investing in Disaster Risk Management in an Uncertain Climate”. Policy Research Working Paper No. 7631. World Bank, Washington DC.

McQuaid, R.W. 2000. “The theory of partnerships – why have partnerships?” In S.P. Osborne (Ed.). 2000. *Managing Public–Private Partnerships for Public Services: An International Perspective*. Routledge, London.

Millner, A., S. Dietz and G. Heal. 2012. “Scientific Ambiguity and Climate Policy”. Volume 55 Issue 1 Environmental and Resource Economics.

Mimura, N., R.S. Pulwarty, D.M. Duc, I. Elshinnawy, M.H. Redsteer, H.Q. Huang, J.N. Nkem and R.A. Sanchez Rodriguez. 2014. “Adaptation planning and implementation”. In C.B. Field (Ed.). 2014. *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Mysiak, J. and C. D. Pérez-Blanco. 2016. “Partnerships for disaster risk insurance in the EU”. Volume 16 Natural Hazards and Earth System Sciences.

Mysiak, J., E. Calliari and D. Peréz Blanco. 2014. “Deliverable 6.1: Inventory of Policy Instruments and Indicators for MSP-Policy Interaction”. ENHANCE Project, European Commission. Available at: http://enhanceproject.eu/uploads/deliverable/file/25/ENHANCE_D6.1_Inventory_of_policy_instruments_and_indicators_for_MSP-policy_interactions.pdf (accessed 26 August 2016).

Nicoli, R., G. Pleijter, J. de Greef and S. van Vuren. 2014. “Deliverable 7.2: Development of MSP – Case study Port of Rotterdam infrastructure”. ENHANCE Deliverable 7.2. European Commission, Brussels, Belgium.

Nicoli, R., G. Pleijter, J. Huizinga, J. de Greef and J. Vilier. 2015. “Deliverable 7.3: Risk assessment results– Case study Port of Rotterdam infrastructure”. ENHANCE Deliverable 7.3. European Commission, Brussels, Belgium.

Nomis. 2015. “London population as of 2013”. Available at: <https://www.nomisweb.co.uk/reports/lmp/gor/2013265927/report.aspx#tabrespop> (accessed 17 June 2016).

Parnell, S. 2016. “Defining a Global Urban Development Agenda”. Volume 78 World Development.

Pattberg, P. H., F. Biermann, S. Chan and A. Mert (Eds.). 2012. “Public-Private Partnerships for Sustainable Development: Emergence, Influence and Legitimacy”. Cheltenham, UK, Edward Elgar Publishing.

Roberts, D. 2010. “Prioritizing climate change adaptation and local level resilience in Durban, South Africa”. Volume 22 No. 2 Environment and Urbanization.

Roberts, D. and S. O’Donoghue. 2013. “Urban environmental challenges and climate change action in Durban, South Africa”. Volume 25 No. 2 Environment and Urbanization.

Rockerfeller. 2015a. “Durban’s Resilience Challenge”. Available at: http://www.100resilientcities.org/cities/entry/durbans-resilience-challenge#/-/_/ (accessed 17 June 2016).

Rockefeller. 2015b. "Rotterdam's Resilience Challenge". Available at: <http://www.100resilientcities.org/cities/entry/rotterdams-resilience-challenge#/-/> (accessed 17 June 2016).

Rotterdam Climate Initiative. 2015. "Rotterdam Climate Change Adaptation Strategy". Available at: http://www.rotterdamclimateinitiative.nl/en/100percent-climate-proof/projecten/rotterdam-climate-change-adaptation-strategy?portfolio_id=181 (accessed 25 August 2016).

Schaaf, R. 2015. "The Rhetoric and Reality of Partnerships for International Development". Volume 9 Issue 2 Geography Compass.

Vangen, S., Hayes J.P. and Cornforth, C. (2015) "Governing cross-sector, inter-organizational collaborations" Public Management Review 17:9 pp 1237-1260

Stainforth, D. A., M. R. Allen, E. R. Tredger and L. A. Smith. 2007. "Confidence, uncertainty and decision-support relevance in climate predictions". Volume 365 Issue 1857 Philosophical Transactions of the Royal Society.

Statistics Netherlands. 2013. "Population dynamics; birth, death and migration per region". Available at: [http://statline.cbs.nl/Statweb/publication/?DM=SLLEN&PA=37259eng&D1=0-1,3,8-9,14,16,21-22,24&D2=0&D3=933&D4=0,10,20,30,40,\(1-1\)-1&LA=EN&VW=C](http://statline.cbs.nl/Statweb/publication/?DM=SLLEN&PA=37259eng&D1=0-1,3,8-9,14,16,21-22,24&D2=0&D3=933&D4=0,10,20,30,40,(1-1)-1&LA=EN&VW=C) (accessed 17 June 2016).

Tanner, T.M., T. Mitchell, E. Polack and B. Guenther. 2008. "Urban Governance for Adaptation: Assessing Climate Change Resilience in Ten Asian Cities". Report to Rockefeller Foundation, Institute of Development Studies, University of Sussex, UK.

UKCIP. 2015. Website of the UKCIP, UK Climate Impacts Programme. Available at: <http://www.ukcip.org.uk/terms-conditions/#.Vd2XTPIVhBc> (accessed 26 August 2016).

UN. 2015. "Transforming our world: the 2030 agenda for sustainable development". UN General Assembly. Available at: http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E (accessed 10 March 2017).

UNIDO. 2009. "Climate change Mitigation of Industrial Activity through Investment and Technology Compacts and Partnerships- Durban, South Africa and China Work Plan". United Nations Industrial Development Organization. Available at: https://www.unido.org/fileadmin/user_media/UNIDO_Worldwide/Offices/UNIDO_Offices/South_Africa/ClimatChangePartnershipSummary.pdf (accessed 13 September 2015).

UNISDR. 2011. "Hyogo Framework for Action 2005-2015 mid-term review". United Nations Office for Disaster Risk Reduction. Available at: <http://www.unisdr.org/we/inform/publications/18197> (accessed 13 September 2015).

UNISDR. 2015. “Sendai Framework for Disaster Risk Reduction 2015-2030”. United Nations Office for Disaster Risk Reduction. Available at http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf (accessed 26 August 2016).

UNISDR. 2016. “Resilient Cities Initiative”. Available at: <http://www.unisdr.org/campaign/resilientcities/> (accessed 26 February 2016).

Van Huijstee, M. M., M. Francken and P. Leroy. 2007. “Partnerships for sustainable development: a review of current literature”. Volume 4 Issue 2 Environmental Sciences.

Vasconcellos, M. and A.M. Vasconcellos. 2009. “Partnership, empowerment and local development”. Volume 10 No. 2 Interações (Campo Grande).

Watkiss, P. and F. Cimoto. 2016. “The economics of adaptation and climate-resilient development: lessons from projects for key adaptation challenges”. Centre for Climate Change Economics and Policy Working Paper No. 265 and Grantham Research Institute on Climate Change and the Environment Working Paper No. 235. Available at: <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2016/05/Working-Paper-235-Watkiss-and-Cimoto.pdf>

Willows, R. and R. Connell (Eds.). 2013. “Climate adaptation: Risk, uncertainty and decision-making”. UKCIP Technical Report May 2003, UK Climate Impacts Programme.

Wohlstetter, P., J. Smith and C.L. Malloy. 2005. “Strategic alliances in action: toward a theory of evolution”. Volume 33 No. 3 Policy Studies Journal.