

RE-THEORIZING THE COLLECTIVE ACTION TO ADDRESS THE CLIMATE CHANGE CHALLENGES: TOWARDS RESILIENT AND INCLUSIVE AGENDA

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Abstract: Climate change poses a significant risk threatening the livelihood of people, communities, and cities worldwide. The stakes cannot be reduced to zero, so there is a constant need to re-theorize the collective action to address the climate change challenges. Doing so requires planning to reduce vulnerability to climate change. One of the most crucial challenges facing scientists, academics, citizens, and policymakers today is whether the collaborative, inclusive, and resilient climate change action can be implemented, assessed, and achieved. To respond to this question, this research aims to re-theorize, de-conceptualize, and analyze the collective effort to address the climate change challenges. First, the paper conceptualizes climate change resiliency as the ability to anticipate, prepare for, and respond effectively to climate-related risks, hazards, and threats. The existing challenges toward implementing resilient and inclusive climate change action have been analyzed. The paper theorizes the urban commons and collaborative governance to theorize collective efforts. This article concludes by identifying some critical determinants for the up-scaling of collective action to address the climate change challenges. It can be supposed that any future inclusive and resilient collective action to address climate change is based on social learning to support decision-making, emphasizing inclusion and equity, which came in line with the United Nation's 2030 SDGs.

Keywords: Climate Change Action; Resiliency; Inclusivity; Urban Commons; Co-Governance

INTRODUCTION

Contemporary climate change, including human-induced global warming, is one of the most urgent scientific, social and political challenges. "Climate change is a powerful reminder of the interdependencies of the human-nature relationship and the fallacy of the modernist assumption about our ability to tame nature for our exploitation with little or no consequences" (Davoudi, 2014, p. 360). To address the problem, the international community has been exploring the challenges which arise from attempting to confront such a severe crisis to the collective well-being.

The issue is at the top of the international political agenda and one of significant public interest. The recent 2021 United Nations Climate Change Conference, also known as the COP26 summit, highlighted this importance by bringing twenty-five thousand delegates from 200 countries together to enhance international ambition toward mitigating climate change. Based on the 2030 United Nations Agenda for Sustainable Development Goals (SDGs), it is urgent to effectively address climate change's urgency linked to all other sixteen SDGs. This issue mainly reflects the progress made towards achieving the United Nation's Sustainable Development Goals (SDGs), especially SDG 13 urgent targets, including "improving education and awareness-raising mechanisms for raising capacities of management, mitigation and adaptation strategies especially focusing on marginalized communities" (Delladetsima et al., 2014; Hamdouch & Zuideau, 2010).

From the Kyoto Protocol to the recent 2021 COP26 International Summit and Paris Agreement, decision-makers continue to grapple with achieving effective climate change mitigation. The IPCC special report 2018 on the impacts of global warming of 1.5°C focused on knowledge sharing and organizing the global response to the immediate threat of climate change.¹ Considering the substantial scale of climate change and the environmental, economic, and ecological challenges, cities need to craft compelling and timely policies that are in tune with the low-carbon agenda (Rahdari et al., 2019, pp. 419-420). The Paris Agreement paved the way for a new form of climate change governance that allows different decision-makers, such as non-state actors and local governments or municipal networks, to decarbonize and transition towards a fossil fuel-free planet. However, the fragmentation of climate change governance led to critical debates on the employed mechanisms and hindered political action. Additionally, the latest report by the Intergovernmental Panel on Climate Change (IPCC) has struck more fear internationally (IPCC 2021). The shifts of institutionalization from top-down to bottom-up engendered hope and discontent among governments in various countries.

In Europe, to address the emergent threat of climate change, the adaptation strategies are built upon three critical objectives at different scales to meet its goal of zero net carbon emissions by 2050, including promoting action by various European member states, 'climate-proofing and 'climate-neutrality' action by the European governmental level, and the better-informed decision-making (Climate-ADAPT) which are required at various scales, trans-national and multi-levels of administration, governance, implementation, and coordination, from the local/national to the international level.² More recently, the European Commission adopted the project called the 'New European Bauhaus' (NEB) to make Europe more sustainable, innovative, inclusive, and climate-resilient, which aims to strengthen the co-working and co-production spirit among various actors of society, culture, education, politics, and industry to find new co-creation solutions. NEB project's ambition is to bring the cultural, societal, and creative dimension to the European Green Deal and energy transition strategies with tangible change on the ground. By putting the culture, history, and collaboration at the heart of the European

Green Deal, the project aims to accelerate the circular economy and less/zero carbon-intensive schemes to transform the different economic, cultural, and innovative sectors. While supporting the EU Commission's bold undertaking to forge change through collaborative design and interdisciplinary approach, critics have doubts about that dubious name, arguing that the title is non-inclusive, non-egalitarian and Eurocentric which completely goes against the core of the plan. Instead, this initiative should embrace open and just societies to foster intersectional equality along the axes of gender, race, ethnicity, and class to enrich the cross-cultural dialogue and engagements with others worldwide. Also, for future conceptualizations, overcoming the anthropocentric perspectives on which the modernist ideologies were built is essential.

METHODOLOGICAL NOTE

One of the most pressing problems facing scientists and policymakers today is whether the collaborative, inclusive, and resilient climate change action can be implemented, co-designed, assessed, and achieved. To respond to this question, this research aims to re-theorize, conceptualize, and analyze the collective effort to address the climate change challenges. The inductive approach for analyzing the qualitative data was suggested initially by Conrad and Sinner (2015) and further developed by Barthel et al. (2021). This paper will adopt multi-layered and cross-disciplinary analysis, studies, and collaborations from diverse scientific disciplines in the environmental, ecological, spatial, social, cultural, and humanistic sciences to imagine new possibilities and open collaborative dialogue and interactions with other fields, professionals, and social groups. The next chapter seeks to conceptualize climate change resilience by going through various literature on climate change adaptation, mitigation strategies, and disaster risk management while recognizing the complexity of the uncertainty, injustice, and exclusivity associated with climate change.

CONCEPTUALIZING THE CLIMATE CHANGE RESILIENCE

The term *resilience* describes the ability of an ecological system to continue functioning amid and recover from a disturbance. Based on the 2030 United Nations Agenda for Sustainable Development Goals (SDGs), resiliencies (social, cultural, ecological, environmental, technical, or economical) as the overarching themes are defined as the capacity of individuals, societies, communities, institutions, entities, and financial systems within a city to survive, adapt, and recover from the effects of chronic stresses and acute shocks promptly. This goal mainly reflects the progress toward achieving the Sustainable Development Goals (SDGs), especially SDG 11, which "make cities and human settlements inclusive, safe, resilient and sustainable." The emergency of the theme has been mentioned as part of the Venice Biennale's Italian Pavilion 2021, *Resilient Communities*, which exhibited the seriousness and urgency of the issue of climate change and the significant challenges (urban, productive, and agricultural systems) that architecture is called on to face.

The concept of resilience has been translated into climate change action as the ability to anticipate, prepare for, and respond effectively to climate risks, hazards, and threats. However, due to the complexity of environmental and societal systems, their behaviors and the incomplete knowledge about the present and future systems' full functioning makes it almost impossible to have reliable predictions and probability distributions, human perceptions of risk may alter the objectivity in evaluating hazards, leading to various inconsistencies

¹ <https://www.ipcc.ch/sr15/> (accessed on 1 October 2019)

² For more see EU's Strategy on Adaptation to Climate Change (2013 and 2018 Evaluation Package): https://ec.europa.eu/clima/policies/adaptation/what_en

(Hultman et al., 2010). Uncertainty is an intrinsic characteristic of natural-social systems, resulting from the complexity of natural processes, interrelationships, and human activities and their unpredictable effects. To reduce uncertainty related to climate change challenges, progress has been made in expanding scientific knowledge and technical terms related to adaptation and mitigation strategies during the last decades.

In mitigation, there is a reduction of climate change-related threats, while adaptation can reduce the impacts of the hazard and exposure. In both adaptation and mitigation of these systems, unpredictable threats often associated with climate change are inevitable and imperative if positive changes are realized. More specifically, the interaction between hazards, vulnerabilities, and exposure results from risks. In this way, identifying and understanding the local climate risks is a long but essential process to define climate change adaptation and mitigation strategies. So, adaptation is unavoidable because of the degree of climate change that has already occurred and for the protection and prevention of future effects that cannot be mitigated efficiently. Based on the New Urban Agenda's report, "while climate adaptation involves dealing with unprecedented new risks, it also magnifies many existing socio-economic and environmental challenges" (UN-HABITAT, 2017). Both should have been considered complementary actions when dealing with climate change and risks (Doll & Romero-Lankao, 2017). Therefore, adaptation and mitigation are not mutually exclusive; on the contrary, they are interdependent allies in climate change policies and strategies. Ultimately, these strategies should embrace new collaborative approaches to reduce harm when unforeseen events occur. Using the term 'coping capacity', this ability enables the system to adjust and adapt to potential damage, to take advantage of opportunities, or to respond effectively to threats and challenges.³

The use of likelihoods in climate change challenges' assessments is emergent. Although most studies have limited their analyses to presenting alternative future scenarios, they cannot determine the likelihood of these scenarios occurring (Carter & La Rovere, 2000). It can be reduced with improved knowledge but cannot be entirely removed due to fundamental system uncertainty (Jones, 2003). Another frequent source of uncertainty is the difficulty of obtaining information about local climate risks. Climate scenarios and projections are often set at the global or regional scale, but risks and their impacts occur locally. This gap between scales is critical in the case of extreme events when local and isolated phenomena arise unexpectedly due to context-specific weather conditions. This accentuates the need for local knowledge and communication by other interlocutors, such as the citizens themselves. Thus, engaging a broad range of scientists and stakeholders in participatory processes is required to achieve a better understanding of human-environment systems (Doll & Romero-Lankao, 2017). Managing risks is not simply about understanding how hazards and impacts are related to risks; more importantly, it is about developing adaptive analysis and participatory risk management systems (Jones, 2003).

Another essential concept is the need for in-depth, large-scale, and quick transformational changes. These transitional changes aim to move forward from incremental adaptation, seen as narrow scope, more superficial, partial, and slow process, though recognizing its value and that these incremental steps can contribute to the change (Termeer et al., 2017). This concept is in line with the IPCC special report on "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation," which defines transformation as "a fundamental 'qualitative' change that often involves a radical paradigm shift and may include changes in perception and meaning, changes in underlying norms and values, reconfiguration of social

networks and patterns of interaction, changes in power structures, and the introduction of new institutional arrangements and regulatory frameworks" (IPCC special report, 2012, p.436).⁴

Profound societal and environmental system knowledge gaps have created deep gaps in perceiving and analyzing the diversity of climate change-related challenges (Mehan & Tafrata, 2022). Local authorities, such as municipalities, NGOs, regional authorities, and civil protection agencies, need practical, collective, and rapid responses when and where risks occur to ensure that populations can safely face and handle diverse climate-related impacts. However, it is worth emphasizing that the active and constructive involvement of ordinary citizens and authorities will only be improved if their climate change-related challenges, collective imagination, and risk perception are substantially increased. In the community setting, shared memory, collective oral history, and intangible heritage play a crucial role in facilitating communications, sharing information, learning from experiences, and transmitting and articulating the built environment.

Because the new social means and digital media have changed the world, it is essential to focus on the latest digital technologies, smart apps, automation, and data-driven methods for urban research in a selected community to encourage self-resilience. While climate change's impacts, magnitude, and scale have been studied in several scientific studies and technical analyses, it inspires new questions and perspectives across the social sciences and humanities. Along this line of thought, the contribution of anthropologists, sociologists, and social and political scientists can enlighten how risk is perceived, understood, and interpreted individually and by communities. The values and sociocultural features of the communities or organizations they interact with directly affect how people perceive and interpret the risks. Today, these concepts are essential when tackling the development pathways and overcoming climate change action's complex uncertainties and challenges.

The term climate change resiliency is increasingly used by governments to stimulate residents to take charge of the management of the financial challenges and environmental crisis, and ecological threads. The government defers its top-down responsibility to citizens, who are expected to become more 'resilient.' However, is a more productive way to reimagine the new collaborative practices to facilitate the relevant resilient practices? How can we encourage, act and give agency to the Inclusive and Just Climate agendas from the bottom up? The next part of the paper will conceptualize climate justice from the analytical-theoretical perspective to bring a different set of actors to the multi-sectoral and multi-lateral development process scenario.

RE-IMAGINING THE INCLUSIVE AND JUST CLIMATE AGENDA

The current global climate change plan focuses mainly on the technical, scientific, and ecological perspectives. A knowledge gap is rooted in the local communities social, historical, cultural, and economic circumstances from the global south, north, and east. It means an urgent need to analyze the power and politics in conjunction with the socio-economic factors that often determine how people in vulnerable local communities in developing countries respond to climate change (Mikulewicz, 2018). In his book *The Great Derangement: Climate Change and the Unthinkable*, Amitav Ghosh argues that the extreme effects of today's climate events are challenging to grasp and even harder to fictionalize the scale and violence in art or literature (Ghosh, 2017).

³ For more details see this link published as the fifth assessment report on the intergovernmental panel: https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-AnnexII_FINAL.pdf

⁴ IPCC (2012) Special report on Managing risks of extreme events and disasters to advance Climate Change Adaptation.

Climate change has affected various places and brought inequalities, injustice, and exclusivity to many populations, particularly those who have emitted the most negligible CO2 emissions throughout history. For instance, settler colonialism and the capitalism of extraction and exploitation constructed the injustice weathered by post-colonies (Davis and Todd 2017). Shangrila Joshi, in her book *Climate Change Justice and Global Resource Commons: Local and Global Postcolonial Political*, articulates the geography of climate justice, considering how ideas of injustice about colonialism, race, indigeneity, caste, gender, and global inequality intersect with the politics of scale (Joshi 2021).

While the western narrative and institutions of power continue to conceal the implications of colonialism on ecologies and confine climate action between national borders and green policy agendas, climate justice is bringing forward critical discussions that dissect marginalization, environmentalism, and the production of systemic inequalities, through the same prism (Mehan et al., 2022a; Nawratek & Mehan, 2021; Kozłowski et al., 2020; Schlosberg and Collins 2014; Pettit 2004). Climate justice forges for re-evaluating the governance system, including fossil fuel dependency, post-oil futures, fighting green gentrification, withstanding racial capitalism, racial discrimination, white supremacy, mobility injustice, and forced displacements (Sheller 2018; Vergès 2017; Jon 2021; Moore & Patel 2017).

In particular, feminist scholarship highlights the intersection between gender issues and climate justice, promoting more equity and inclusion, which centers on race, class, and gender (Agostino & Lizardo 2012; Arora-Jonsson 2011). Climate change exacerbates women's unpaid labor as it disturbs accessibility to resources and land (Dankelman & Naidu 2020). This ecological crisis amplifies patriarchal oppression and exploitation systems and extends socio-economic inequalities, displacing women from marginalized areas and communities (Güiza et al. 2017). They continue to highlight the interconnectedness between the local and the global, as Ihnji Jon (2021) emphasizes that what humans are enduring locally is «fundamentally and inevitably related to the planetary environmental degradation which requires us to behave as a part of 'the whole'» (p. 12). As Joshi highlights, the climate system is a global common but one whose management is problematic due to the injustices, exclusiveness, and inequalities embedded in local economies, local people, and local resources. In this sense, we need to lift the different voices and advances in anti-colonial theory to advance an environmental justice future where the collaborative actions across the multilayered and interconnected scales of the commons can be re-imagined (Mehan et al. 2022b; Joshi 2021; Kozłowski et al., 2020).

The next part of the draft will take stock of existing scholarship conceptualizing the commons, governance, and inequality to build a more vital bridge with environmental justice and climate change resiliency scholarships.

RE-DEFINING THE CLIMATE CHANGE AS THE GLOBAL COMMONS

The concept of the commons was made widely known by the research of economist Elinor Ostrom (1990), allowing the 'commoners' of that community the right to sustain themselves by grazing animals and collecting wood and wild food (Bingham-Hall, 2016:2). Many scholars and activists see strengthening 'the urban commons' as a crucial means of achieving more sustainable and collective use of environmental resources and a more equitable future for humans and more than human habitats and settlements (Mehan, 2021; Rahdari et al., 2019). The commons concept has been sometimes in-

terpreted as the 'public,' but both words can only be used interchangeably when the citizens influence public resources. This concept denotes the public land and natural resources – such as water and air – accessible to all members of society for development and survival, around which, historically, commoners organized themselves as self-governing collectives (Mehan & Mehan, 2022).

Referring to Lessig (2001) and the Oxford English Dictionary (Simpson & Weiner 1989), the commons is any collectively owned resource held in everyday use or possession to which anyone has access without obtaining permission from anyone else. Central to this definition is the concept of 'community' itself, closely related to the strategies and characteristics of the welfare state. In this sense, urban commons "suggests a community of commoners who actively utilize and upkeep whatever is common. The diverse forms of cultural commons, knowledge commons, neighborhood commons, and health commons could be considered part of the wide variety of new commons. Huron defines urban commons as "experiencing collective work, among strangers, to govern non-commodified resources in spaces saturated with people, conflicting uses, and capitalist investment" (2015: 977). In the new social definition, the term has taken on through grassroots projects and scholarly rethinking (...) common access has the potential to offer a richer form of interaction with the city than public ownership" (Bingham-hall, p.2). This means that the urban commons conceptualization is a representation of resistance against the capitalist order and spatial commodification. The urban commons exist "as a dynamic and collective resource—a variegated form of social wealth—governed by emergent custom and constant negotiating, rebuffing, and evading the fixity of law" (Gidwani & Bavisar, 2011: 42).

To effectively deal with climate change challenges, the new forms of collective-choice arenas could play a significant role in the emergence of resilient, inclusive, and community-oriented collective responses to the climate agenda. Situating commons in the climate change context could be about finding the right path to regulate something as dynamic, spontaneous, and agile as a community (URBACT, 2021). Identifying Commoning as the creation of formal rules and management systems or as social relations and existing informal norms (Bollier, 2010:3), governance could be recognized as a tool to identify and justify those relations (Mehan & Mostafavi, 2022). Polycentric urban governance involves resource pooling and cooperation between five possible actors—social innovators or the unorganized public, public authorities, businesses, civil society organizations, and knowledge institutions--the so-called "quintuple helix governance" approach (Iaione & Cannavo 2015). These co-governance arrangements have four main aims:

- Social innovation enhancement in urban welfare provision
- Prompting collaborative, participatory economies as a driver of local
- Sustainable development plans
- Promoting the inclusive urban regeneration of run-sown residential neighborhoods

Public authorities play an essential enabling role in creating and sustaining the co-city. The ultimate goal is to make a more just and democratic city, consistent with the Lefebvrian approach of the right to the town (Foster & Iaione 2016, Iaione 2017). Focusing on the definition of commons as the formal rules and management system at different scales, the next part of the chapter will focus on the meaning of collaborative governance as the theoretical tool to identify the existing challenges and opportunities to implement collective actions in response to environmental challenges.

The literature on State Theory and the transformation of state spatial theory under contemporary capitalism has overgrown during the past three decades. In general, the questions of power and politics are central to the urban governance literature. The core of these analyses focuses on the state policy and governance alignment in recent decades. During the 1970s, the term 'entrepreneurial urban governance'⁵ was introduced to promote economic development to respond to the challenges of urban industrial decline, inclusion and integration policies, and globalization (Harvey, 1989). In the early 1980s, during the early stages of the institutionalization of neoliberal ideology in the Global North, the national states began promoting economic rejuvenation within localized territorial competitiveness (Brenner & Theodore, 2012). Such urban locational policies fundamentally redefined the national state's role as an institutional mediator of uneven geographical development (Amin & Malmberg, 1994).

The term 'governance' (Rhodes, 1996; Stoker, 1998) appeared more than twenty years ago as a relatively obscure and undefined concept, becoming a buzzword in recent decades, particularly when referring to positive governing (Doornbos, 2001). Governance brought a different set of actors to the scenario of social development implementation, such as private initiatives, institutions, and people. Thus, society as a whole is engaged in the process. Following this perspective, the government refers to the formal and institutional processes that operate at the level of the nation-state to maintain public order and facilitate collective action. However, "there is a baseline agreement that governance refers to the development of governing styles in which boundaries between and within public and private sectors have become blurred" (Stoker, 1998, p. 15). Therefore, the government is linked with globalization and state territoriality (Brenner, 1999). As Folke et al. (2005) put it, governance refers to "the structures and processes by which people in societies make decisions and share power" (Folke et al., 2005, p. 444) that brings more complexity when it comes to solving the political and societal problems (Munaretto et al., 2014).

Although the term has been applied in a wide range of issues and different contexts (such as urban, environmental, political, etc.), it does not always with a clear-cut definition; there is a consensus regarding its core meaning. However, its consistency fades away when applied in those specific contexts. There are three main assets related to governance: governance as a broader concept than government, governance comprising a set of rules and processes, and finally, governance as an analytical framework (Obeng-Odoom, 2012). However, the key insights have been developed based on Henri Lefebvre's 'Space and the State'⁶, Bob Jessop's 'State Theory' (1990), Eric Swyngedouw and Neil Brenner's 'New State Spaces' as the major benchmarks of this intellectual journey (Lefebvre, 2003; Jessop, 2003; Brenner, 2004). For Swyngedouw (2005), "governance is an arrangement of governing beyond-the-state (but often with the explicit inclusion of parts of the state apparatus) organized as [apparently] horizontal associational networks of the private market, civil society (usually NGO) and state actors. In addition, governance often promises greater democracy and grassroots empowerment but also exhibits contradictory tendencies" (Swyngedouw, 2005, p. 1992). It is important to note that democracy is conceptualized in inclusivity, competency, efficiency, transparency, and adaptive reflexive capacity.

In this way, governance brought a different set of actors to the scenario of social development implementation. The process involves collaboration between government institutions at all levels, NGOs, individual and private organizations, and society (Florini & Pauli, 2018), which brings more complexity to solving societal problems (Folke et al., 2005). In this way, urban governance needs to enrich the 'soft

infrastructures' which connect governance activity to its milieu and which relate a fine-grain understanding of the range and complexity of evolutions forming this milieu to a strategic understanding of the dynamics within the broader worlds in which the relations of urban area exist (Cars et al., 2002, p. 225). In general, urban governance studies aim to unpack the strategies to frame the potential future urbanisms we might produce. As McCann (2017) puts it, "studies of urban governance have addressed the actors and interests that make urban policy decisions to define and enact what it means to be a citizen, and address existential challenges, including environmental crises" (McCann, 2017, p. 314). Focusing on Neoliberal governmentality, Davoudi, and Madanipour (2015) state that "the tension between the perceived moral and responsible individuals, communities and localities, and their identification as rational economic actors, whose decisions are solely motivated by the cost-benefit analysis of their self-interests, remains high; and finding ways of bridging the two remains a critical challenge" (Davoudi & Madanipour, 2015, p. 98). Following this perspective, critical governance analysis is essential to more comprehensive urban political studies.

In response to the increasing collaborative action, collaborative governance (CG) has been developed over the last two decades, which involves more proactive participation of all the actors, particularly those non-governmental, not simply as consultants but participating in decision-making and consensus-building. This has emerged to respond to severe implementation deficit regarding collaboration and the high costs and politicization of regulation. Collaboration is one of the main features of co-governance and is directly related to increasing knowledge and institutional capacity. This collaborative governance concept is also about the 'diversity' of stakeholders and leadership, leading to community empowerment and collective decision-making. Another critical feature of co-governance is focused on 'public policies.' Ansell and Gash (2008) reviewed different case studies of collaborative management in various policy sectors to identify critical variables and how they influence the co-governance and factors fundamental to the process. These identified variables included:

- The history of conflict or cooperation in each case.
- The existence of incentives for stakeholder participation.
- The power and available resources imbalance
- Leadership existence.
- The institutional design.

Ansell and Gash (2008) identified the major contributing factors within collaborative processes, such as "face-to-face dialogue, trust-building, and the development of commitment and shared understanding" (Ansell & Gash, 2008, p. 543). 'Government transparency' and 'institutional design' have a meaningful impact on community participation. Communities of all kinds hold and constantly evolve essential knowledge, skills, and insights relevant to addressing climate change. Co-governance for accountability stands a much better chance at success when government actors respect social actors enough to fully inform about the detailed development programs and 'participatory' design institutions to ensure the active involvement of the most marginal actors (Ackerman, 2004, p. 457). McDougall and Bandaje (2015) focused on adaptive collaborative governance, trying to overcome difficulties that result from conflict, social capital, and the government itself. They referred to the "dark side" of social capital and the fact that collaborative attitudes do not just improve social capital but also change it. Social capital is based on social relations and can be responsible for action facilitation. These authors refer to the absence of a more assertive reference in adaptive governance literature to conflicts and power asymmetries. According to this de-

⁵ This trend starts with Harvey's highly influential paper on entrepreneurial governance in *Geografiska Annaler B*

⁶ from Vol. IV of the *De L'Etat*

finition, collaborative governance is based on 'active social learning' to support decision-making, emphasizing inclusion, diversity, and equity, aligned with sustainable development principles (McDougall & Banjade, 2015).

Like commons, the literature review on collaborative governance also reveals a variety of perspectives, but all of them are based on changing relations between public and non-public entities. Ansell and Gash (2008) refer that "collaborative governance brings public and private actors together in collective forums with active agencies to engage in consensus-oriented decision-making" (Ansell & Gash, 2008, p. 543).

The other climate governance concept is *Environmental Governance*, presented by Lemos and Agrawal (2006) as a "set of regulatory processes, mechanisms and organizations through which political actors influence environmental actions and outcomes" (Lemos & Agrawal, 2006, p. 298). Chaffin et al. (2014) suggested that environmental governance could assume different approaches involving institutions, laws and regulations, policies, social norms, and various methodologies (Chaffin, Gosnell, & Cosens, 2014). However, Eastwood et al. (2017) argue that despite this diversity of approaches and the number of recommendations and guidelines, the results do not necessarily lead to better environmental management in the face of difficulties such as the features of participatory processes, the funding mechanisms, the governance structure, amongst others (Eastwood, Fischer, & Byg, 2017). The complexity of governance processes is related to uncertainties in tackling climate change challenges. This way, collaborative governance is focused on supporting multi-scalar and multi-layered decision-making by reducing uncertainty through knowledge.

CONCLUDING NOTES

Climate change challenges are more present in the collective social, cultural, scientific, and international imagination. Various academics and policymakers suggest the concept of resilience and environmental activism to empower the communities to respond effectively and positively to the changes, hazards, and risks on various scales. To respond effectively to the growing uncertainties, significant stresses and shocks (such as environmental, political, and economic), the increasing complexity, and to enhance the resilient capacity of society, the general concept of climate change resiliency is continuously evolving to be able to appropriately respond to the societal, political, cultural, and environmental needs of the people and society (Mehan & Soflaei, 2017; Mehan, 2017; Mehan, 2016).

The research into how adaptation and mitigations strategies work in practice is still limited and has been exceptionally scarce in terms of analyzing power, society, culture, urban policies, and the politics that often determine how communities respond collectively to climate change, especially in the Global South context (Ford et al., 2015; Hydén, 2006). It is also essential to highlight the international aspects of climate injustice and efforts against the 'invisibilization of the Global South' (Joshi, 2021). Moreover, implementing environmental assessment measures adapted locally but with a globally cooperative ethic will help slow the pace of ecological crises. A new dynamic and collaborative way of climate change-related action are required, predicated on environmental awareness, economic growth, inclusiveness, resiliency, economic equity, and spatial justice (Goffman, 2020, p. 48). It can be concluded that there is an absence of politics and power-related debates in adaptation and mitigation strategies, which has traditionally refused to tackle the political dynamics affecting on-site and empirical activities. Moreover, a transdisciplinary collaboration among the different fields is critical since dealing with climate uncertainties and their impacts requires a multi-scalar partnership between other sectors and various actors of society.

As discussed in detail in two previous sections; '*Re-defining the climate change as the Global Commons*' and '*Re-theorising the Climate Co-Governance*,' it is essential to note the leading vital indicators/features for assessing the environmental collaborative governance system in tackling climate change based on the extensive literature review of urban, communal, and environmental governance systems. The suggested key indicators are as follows: Public Participation, Even access and distribution to the urban commons, Collective Deliberation, Experimentation and Collective Learning (also known as Social Memory/Information/ Self Organization), Data Transparency, Flexibility (also known as Resilience Management/Adaptive Capacity Management), Diverse, Redundant and Polycentric Institutions, stakeholders and organizations (also known as Multiple Scales), Collaboration, Inclusivity, Equity, Trust and Network (also known as Shadow Networks and Leadership). However, to do this effectively and holistically, it is necessary to be actively and holistically involved in various actors in the different decision-making processes to ensure motivation, engagement, and joint responsibility. Thus, an interdisciplinary approach is needed to manage the risks of coping with climate risk events and address the complexity of risks in societal and environmental systems (Yuan et al., 2017).

With ongoing and increasing uncertainties in place and accelerated by Covid-19, as well as the climate risks, different governments must be able to respond effectively to how social-ecological systems can adapt to these situations, especially when dealing with high levels of uncertainty and the non-linearity of ecological systems (Wyborn, 2015; Karpouzoglou et al., 2016; Rijke et al., 2012). The COVID-19 pandemic and economic crisis have shown the urgent need for collective, multi-scalar, and multi-lateral resilient responses to urgencies to reduce climate change, inequality, and poverty (Mehan, 2021). The pandemic highlighted the diversity of actors such as urban authorities, policymakers, public citizens, NGOs, and various private and non-private stakeholders and the variety of territorial scales for impacts of imminent threats and hazards on the long-term development in terms of sustainability of cities, resiliency of cities, and enhancing the sustainability of cities. This diverse make-up will allow the critical and multiscale analysis of the different aspects and actors of climate change challenges and resilient urban future transitions.

However, the still existing research and policy gap is located in future challenges related to the societal, cultural, and political transformation to address the climate change-related policies and implementations. Focusing on uncertainty, complexity, and power imbalances, there is an urgent need for more socially, culturally, and politically engaged holistic understandings of climate change governance. It can be interpreted that there is an absence of politics and power-related debates in adaptation and mitigation strategies, which has traditionally refused to tackle the political dynamics affecting on-site and empirical activities. Expanding the knowledge base – with research, humanities, literature, social media, observations, scientific assessments, and technology advances – allows policymakers to identify better, understand, and guide strategies to manage climate-related risk efficiently. This would enable us to identify the features we must look for when studying a territory to verify if resilient and inclusive climate action principles are present in its sustainable development process.

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