11. Governance of and with nature-based solutions in cities

Niki Frantzeskaki, Katinka Wijsman, Clare Adams, Nadja Kabisch, Shirin Malekpour, Melissa Pineda Pinto, and Paula Vandergert

INTRODUCTION

Cities are places where multiple systems, sectors, and actors come together, creating challenges and opportunities for urban sustainability and resilience. As such places, city governments are under pressure to keep services and the related infrastructures up to date and in good quality, while charting ahead to achieve sustainability and resilience goals. In doing so, city governments and other city actors seek and create opportunities to invest in solutions that strengthen their capacity to adapt to climate change, reconnect people and nature in urban environments, and improve social cohesion. Nature-based solutions (NBS) are proposed as an integrative concept and systemic approach, with the potential to address urban sustainability and resilience in a holistic way (Nesshöver et al. 2017). NBS deliver multiple functions and benefits beyond nature conservation, such as recreational opportunities, flood protection, urban cooling, etc., relevant for various urban infrastructure systems, sectors, and scales (Frantzeskaki et al. 2019). While these co-benefits and the multiplicity of NBS functions have been widely discussed in the literature, their implications for planning and governance is an emerging area of research and commentary (Frantzeskaki 2019).

NBS are a challenge to plan and implement in cities due to their systemic nature that requires the inclusion of multiple actors' perspectives, knowledge, and expertise, as well as acceptance by various groups (Frantzeskaki et al. 2020). Nature in cities has been a contested topic with some early writings seeing nature and cities as conflicting. The rise of ecological awareness and the acknowledgement of the interdependencies between people and nature in urban settings (McHarg 1998) has led to a growing interest in more-than-human understandings of people–nature relationships (Maller 2021). This is a critical

241

turn for the way in which nature is valued in cities, impacting how cities are planned and governed, and how people live in cities. Nature provides unique services in cities that human-made technology and infrastructure cannot substitute (IPBES 2019). Therefore, the multiple functionalities that nature provides are increasingly seen as an inherent part of the city, rather than separated from it (Duvall et al. 2018). This evolution of how we value nature in cities has important implications for the governance of cities, in terms of the distribution of environmental goods, such as green spaces, and who is exposed to environmental bads (Mata et al. 2020; Tozer et al. 2020). This also ties into broader discourses on urban justice and social-ecological justice (Vandergert et al. 2015; Pineda Pinto et al. 2021; Sharifi et al. 2021).

As interventions in spaces in cities, the planning and governance of NBS requires an understanding not only of their technical and ecological characteristics, but also how they will be used, managed, and maintained over time, and how they connect with urban life and citizens (Kabisch et al. 2022). Understanding 'what it takes' to implement NBS in cities in an inclusive way requires recognising their systemic nature, and that their delivery of multiple benefits depends on the appreciation and valuation from urban citizens and other stakeholders with divergent interests. NBS implementation will often face contestation of values and interests, which requires co-production approaches that understand and incorporate people–nature relations from the onset. Additionally, NBS depend on living organisms and ecological processes requiring adaptation to the urban context (Ossola and Niemela 2018; Kabisch et al. 2022). Thus, their implementation is a collective action problem 'where … who should be responsible for taking action, cannot be limited to specific borders or boundaries' (Jon 2021, 11).

In this chapter, we present and propose a novel conceptualisation of inclusive governance relating to NBS in cities. It is important to understand that there are two different aspects of NBS governance. First, we will introduce the importance of governance *of* NBS as part of urban infrastructure. Simply put, governance of NBS takes NBS as a goal, 'how do we get NBS designed, planned, and/or implemented?' We discuss the important governance design characteristics and aspects, such as the importance of multi-actor engagement and the multi-level governance considerations in place. Second, we discuss governance *with* NBS, positioning NBS as governance instruments to complex societal challenges used to achieve diverse urban agendas. Simply put, governance with NBS takes NBS as a means, asking the question: 'What can we achieve using NBS in cities?' We show the ways NBS can be pivotal to locally achieve the Sustainable Development Goals (SDGs) and how NBS are a means to bridge governance across sectoral agendas in cities. After explaining these different dimensions of NBS governance, we present and propose that efforts from city governments need to be put in place to make the governance of and

with NBS inclusive. To this end, we propose and present five dimensions of inclusive governance to guide the design and setting of NBS in cities in the future.

GOVERNANCE *OF* AND *WITH* NATURE-BASED SOLUTIONS

Governance is about the different processes in which policies, plans, and legislation are negotiated, discussed, contested, formulated, and implemented, and how they gain legitimacy and deal with accountability. It is thus about how various actors and their different interests are brought together in a dialectic space, and how their diverse expertise and knowledge are included in strategic and operational activities of steering towards commonly desirable outcomes. Governance is about 'the mechanisms of steering to guide societies towards outcomes that are socially beneficial and away from outcomes that are harmful' (Young 2008, 14).

With NBS seen as viable answers to deal with sustainability and resilience issues in cities (in particular climate adaptation), their governance requires inclusive approaches for their planning and implementation. The quest for inclusivity in planning, co-designing, and (co-)managing NBS stems from the recognition that all climate solutions need inclusivity and justice as core principles so as not to exacerbate existing inequalities and injustices and/or generate new unfair outcomes. We propose to think of inclusive governance as a multi-dimensional design and evaluation requirement for NBS in cities.

The notion of inclusivity stems from a concern about democratic norms in governance – especially those affected by decisions should have a say in them – and invites reflection on access, participation, and engagement as relevant to NBS decision making. Typically, inclusivity has been approached as an issue of remedying marginalisation in decision making on the basis of social difference (e.g. gender, race, ability, class), but we argue that it can be extended to the need to broaden perspectives and ideas more widely speaking. Inclusivity is therefore a concept helpful to pay systematic attention to diverse framings of problems and solutions from different stakeholders. Inclusivity in the governance *of* and governance *with* NBS can be further operationalised (see Figure 11.1) as inclusive to actors from multiple sectors (cross-sectoral inclusivity), as incorporating different origins and types of knowledge, including local and Indigenous knowledge holders (epistemic inclusivity), as considering more-than-human dimensions (multi-species inclusivity), as spatially distributing benefits and accessibility equitably (spatial inclusivity), and as bridging generational interests (intergenerational inclusivity).
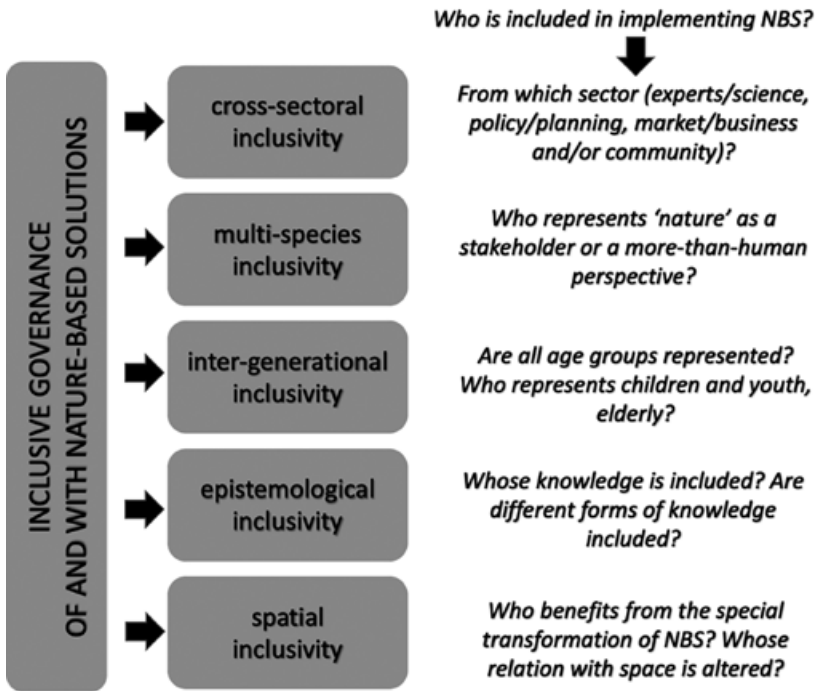
*Figure 11.1   Operationalisation of inclusive governance of and with
                nature-based solutions in cities*

Governance *of* Nature-Based Solutions in Cities

NBS are globally implemented through a range of governance models and
a one-size-fits-all model therefore does not exist (Zingraff-Hamed et al. 2021).
What is widely agreed, though, is that a reliance on urban grey infrastructures
and fragmented governance – where benefits, risks, roles, and responsibili-
ties are divided and siloed between different organisational and disciplinary
domains – creates a significant barrier against the planning and implemen-
tation of NBS and thus against realising their co-benefits (Dorst et al. 2019;
Fastenrath et al. 2020; Malekpour et al. 2021; Zingraff-Hamed et al. 2021). It
is also widely understood that the complex relationships between technical,
ecological, social, and economic dimensions of NBS means that governing
NBS cannot reside with a single organisation, discipline, or sector, but requires
collaborative governance shared between inter- and transdisciplinary urban
actors (Frantzeskaki 2019; Malekpour et al. 2021). We here argue that it is

helpful to approach this type of collaborative governance through the concept of inclusivity. This concept invites a reflection on the multi-dimensionality of the governance of NBS. We identify three types of inclusivity as relevant to the governance of NBS.

First, *cross-sectoral inclusivity* means taking into account multiple actors' perspectives, ideas, and interests in the design, planning, implementation, and management of NBS in urban environments. Ecologists, engineers, and social scientists, for example, have completely different ways of looking at NBS – emphasising either structural integrity, ecological connectivity, or social values – yet all are necessary for successful NBS applications (Wijsman et al. 2021). What is more, lay audiences offer different knowledge than experts do, for example on informal institutions and the memory of the system through experiential knowledge and historical references (Vandergert et al. 2021). What is challenging in ensuring this type of inclusivity is identifying who needs to be part of the governance process (e.g. how close in time and space does one need to be), in which way they can be included (e.g. which medium of engagement to be considered), and how such process needs to be organised (e.g. frequency, location, representation, reporting, and feedback registration or not), facilitated, and designed over time. Cross-sectorally inclusive governance of NBS can build from the long tradition and knowledge on participatory and collaborative (urban) planning (Puskas et al. 2021) and governance to ensure the active and genuine involvement of academic and non-academic stakeholders, ensuring representation, openness, and accountability (Cook et al. 2021). Eakin et al. (2021, 2) point out that 'increased efforts to include diverse actors in planning highlights the importance of actor network coordination and inter-organizational communication'.

This, however, is not a process to be taken lightly. It is important to understand what collaborative governance means and what it entails, given the evidence that 'stakeholder coordination is most challenging in urban projects, where many public and private land- and homeowners and initiatives interact' (Raska et al. 2022, 5). Collaborative governance through cross-sectoral inclusivity is about sharing information, capacities, resources, risks, and decision making among actors, in order to achieve a set of outcomes or to overcome a set of challenges that would not be achieved/overcome without such collaboration (Bryson et al. 2015). Collaborative governance is an integrative approach that brings together various disciplines, interests, values, and perspectives across existing conventional boundaries. The governance of NBS thus challenges different urban sectors (e.g. water, housing, transport), organisations (e.g. city councils, non-governmental organisations, private developers), and disciplines (e.g. urban planning, engineering, ecology) across various scales (e.g. city, neighbourhood) to look beyond narrowly defined remits and responsibilities and to innovate integrative collaborative approaches that can achieve holistic

outcomes. Inter- and transdisciplinarity have been recognised as key principles underlying the governance of NBS (Dorst et al., 2019; Albert et al., 2021, Kabisch et al., 2022).

To create inclusive governance processes for NBS, procedural aspects of justice need to be taken into consideration. Scholarship in participatory planning as well as adaptive governance offers insight on fundamental aspects for such things as ensuring mutual respect, building rapport, and on the importance for facilitators or process convenors 'to create supportive spaces to raise procedural and distributive justice concerns, and to ensure all stakeholders are recognised and empowered' (Eakin et al. 2021, 2). Puskas et al. (2021) report that the majority of the literature on NBS governance and participatory engagement adopts a consultation and partnership model of engagement. According to them, 'the dominance of consultation and partnership levels in urban planning and design may explain a trend towards a mix between maintaining the decision making process with experts and policy makers while allowing some level of public participation' (Puskas et al. 2021, 7). There are two key points to keep in mind when considering how to progress collaborative governance through partnerships. First, the importance of partnerships as configurations employed to solidify collaboration, build trust, and engage in mutually beneficial exchange, as evident across the literature of NBS governance (see also Frantzeskaki et al. 2019, 2020; Midgley et al. 2021) and as a stepping stone for further mainstreaming of NBS (Xie et al. 2022). Second, the focus on consultation and partnerships as modes of governance requires attention to ensure that cross-sectoral inclusivity extends beyond engaging planners, policy makers, and experts to also include citizens/communities, especially those infrequently invited or partaking in the design and/or implementation of NBS. Also, consultation and partnerships are one approach to include and build relationships between different stakeholders, but inclusive processes need to go beyond consultation to truly bring multiple actors and knowledge to participate in and co-design NBS.

There are different ways to organise and ensure inclusive processes for bringing cross-sectoral stakeholders together. These include scenario-building processes (Pereira et al. 2020; Cook et al. 2021), envisioning and appreciative inquiry development, thinking of entry points for addressing justice considerations (Eakin et al. 2021), and multi-media participation methods (e.g. videos, virtual reality interfaces, serious gaming, interactive engagement technologies, design methods). Digital technologies and platforms also offer a way to bridge the procedural justice aspects, to make such processes more inclusive. As Puskas et al. (2021, 8) argue, 'digital methods … can open up participation to a wider audience (more equal and diverse, removing barriers due to e.g. age, disabilities) as witnessed via the advancement of citizen science, open data and crowdsourcing platforms'. What is important is to choose methods and

forms appropriate for the socio-cultural capacity of the engaged stakeholders as well as to the knowledge available to mediate/intervene in dealing with the social-ecological complexities that NBS are set to address.

As a second aspect of inclusivity, NBS require multiple and pluriform knowledge to weave in the aspects of envisioning, design, planning, implementation, monitoring, and evaluation. This dimension of *epistemic inclusivity* is often overlooked even though it is a crucial aspect to include in the urban governance of NBS in order to ensure epistemic justice. Epistemic justice (sometimes also called cognitive justice) challenges the idea that universal knowledge is possible and instead advocates the recognition of different social groups as producers of knowledge (Visvanathan 1997; de Sousa Santos 2007; Fricker 2007). Centring the plurality of knowledge, to consider epistemic inclusivity means to recognise knowledge practices other than scientific ones as legitimate and valuable, and to consider its bearers credible, for example by valorising the knowledge of women and Indigenous peoples (Wijsman and Feagan 2019). It requires a reflection on the concepts, practices, and frameworks used to analyse our worlds and interventions into it (Wijsman and Feagan 2019) and a conscious reconsideration of the organisation of knowledge systems to prevent Western scientific knowledge from overpowering alternative ways of knowing and understanding the world (Wijsman and Berbes-Blazquez 2022).

In this regard, Puskas et al. (2021, 4) point to the importance of utilising 'a broader knowledge-base' to design and implement 'more democratic' NBS. One way to ensure that there are fewer epistemic justice tensions – meaning that prominence of knowledge or expertise of one stakeholder group does not dominate the narrative or power over others – is to organise knowledge co-production processes as epistemic inclusive governance processes. Knowledge co-production has been advocated as a way to be inclusive in developing pathways for NBS implementation (Wickenberg et al. 2021) as well as ways to engage with social or technical pioneers/entrepreneurs (Fastenrath and Coenen 2021). Urban living labs are examples of settings that are place-based and that organise and allow for experimentation where co-creation and co-production of NBS occurs (Frantzeskaki 2019; Mahmoud et al. 2021). Co-production methods, however, are not one-size-fits-all approaches and institutional fitness to socio-cultural and socio-political contexts needs to be considered. In addition to inclusivity outcomes, governance processes for NBS that ensure/safeguard epistemic inclusivity can trigger new ways of thinking, and new innovations through the bridging of knowledge and ideas, such as the emergence of nature-based enterprises (Kooijman et al. 2021) or integrative thinking for nature-based solutions (Albert et al. 2021).

Third, governance of NBS needs to account for *multi-species inclusivity*. A multi-species approach brings to the forefront the lives of other organisms

that are enmeshed in the worlds of humans and that recognises the creative, political, and affective capacities of these others (Kirksey and Helmreich 2010). The urban governance of NBS can play a key role in coordinating the biodiversity and climate change crises (Clement 2020) by building a shared understanding of working with and for nature to improve both social and ecological outcomes. Without recognising and including other species in some ways as co-participants in political and practical decision-making processes, it will not be possible to achieve legitimate and inclusive governance of NBS in cities.

When looking at NBS governance for multi-species inclusivity it is crucial to examine the needs and capabilities of the species that co-inhabit our cities, as well as future city dwellers. While scientific disciplines like ecology provide valuable observations, knowledge on the ecology of species, their interactions, and relations to the environment and people can also be fragmented and biased, and thus challenging to include in appropriate ways. However, diverse insights can be gained through alternative ways of being and relating with urban nature, for example through citizen science, Indigenous practices and worldviews, the perspectives of children, and through non-traditional planning and governance methods. These can bring attention to the lives of other species by visualising or making visible these others through storytelling, art installations, and experimental visual communication that can reveal recombinant ecologies, or 'hidden' assemblages of species and interactions with people and the land-scape (Vanni and Crosby 2020).

Exploring and bringing together multi-species knowledge then raises the question of how we can incorporate the needs of other species when envision-ing, planning, designing, and implementing NBS. A first task includes making injustices visible in order to rectify existing inequities. It is also important to recognise different value systems or assumptions, such as recognising nature's intrinsic value (Clement 2020). For multi-species justice considerations to become central in NBS, we need to find different ways of encountering other species through empathy, responsibility, and political processes that can nurture an ethics and politics of care, solidarity, and respect (Steele et al. 2019; Tschakert 2020). Multi-species inclusivity thus means that, at a minimum, gov-ernance for NBS needs to account for the multiple species that through their lives enrich and populate urban environments, and that have a right to flourish through their own experiences, agency, and capacities. Ideally, however, this needs to go beyond consideration of individual species and expand into a relational paradigm that sees people, other living beings, landscapes, and ecosystems as a model to inform NBS governance. Through the development of two ontological models of water, Laborde and Jackson (2022), together with Aboriginal Australians and state planners, developed the *Living Waters* para-digm, in which there is no separation between people, water, and other living

beings, contrary to the modern water management paradigm. Importantly, this model – and others that challenge dualistic underpinnings – can inform current planning and governance practices in terms of exposing blockages and obstacles for enacting a more relational governance (Laborde and Jackson, 2022). This shifting paradigm also influences and includes new actors that can bring a multi-species understanding for NBS governance to decision-making spaces. A multi-species inclusivity approach has the potential to steer a vision and direction through NBS governance that addresses the combined challenges of climate change and biodiversity loss.

Governance *with* Nature-Based Solutions

NBS have been discussed as a means for urban transformation (Frantzeskaki et al. 2017) and achieving multiple global policy agendas, such as the United Nations SDGs (Faivre et al. 2017; Seddon et al. 2020). The 17 goals agreed upon by United Nations member states in 2015 provide a framework for transformative planning, policy making, and investment to achieve economic prosperity, human wellbeing, and environmental protection. As opposed to mainstream biodiversity conservation approaches that predominantly focus on ecological benefits, NBS can be integrated into a suite of technologies and infrastructure solutions, as well as a portfolio of planning interventions, in order to deliver multiple environmental, social, and economic benefits that align with various SDGs (Cohen-Shacham et al. 2019). For example, NBS can increase access to green spaces in urban settings which improves human health and wellbeing (SDG 3), biodiversity (SDG 15), water retention and natural stormwater treatment (SDG 6), and provide opportunities for green investments (SDG 8, SDG 9) and urban regeneration (SDG 11), making cities more liveable, sustainable, and resilient (Faivre et al. 2017).

While there are clear synergies between multiple functions of NBS and the co-benefits they can deliver, there are also trade-offs. For example, NBS can increase the value of properties in the area in which they are implemented, exacerbating social inequalities and inhibiting inclusive access to urban amenities (negative impact on SDG 10 and SDG 11). The non-linearity and interconnectedness of social-ecological systems within which NBS is implemented makes the assessment of synergies and trade-offs a complex endeavour. Moreover, NBS systems themselves change over time due to dynamic alterations in their natural components, or under external pressure (e.g. under the impacts of climate change). This may result in changes in the relationship between different functions and co-benefits over time, making the assessment of synergies and trade-offs even more difficult.

To address these challenges and ensure that governance with NBS delivers on its intended transformative outcomes, we need frameworks and tools

that allow for integrated assessment of co-benefits, synergies, and trade-offs prior to the design and implementation of NBS (see for example Raymond et al. 2017; Gómez Martín et al. 2020). Furthermore, NBS need to be governed through adaptive planning using scenario approaches, monitoring and ongoing assessment, and the design of adaptation pathways and strategies that can respond to changing circumstances (Albert et al. 2021) and keep the synergies and trade-offs in check in the long term. Even if we broaden the topic to include nature-based thinking as an approach to wilding or renaturing landscapes (Randrup et al. 2020, 921–922), it is highlighted that this needs to be socially inclusive and have landscape-scale considerations.

In the same line, governing with NBS also needs to be inclusive, first and foremost spatially. What we conceptualise as *spatial inclusivity* is the transformation of place and space that NBS bring about by reconnecting people and nature in cities. As spatial interventions, NBS can be the means to ensure that connection to nature in cities is accessible and available equitably to all urban citizens. Spatial inclusivity is contested in the way land uses are allocated and distributed in cities as well as shaped through zoning, and that through gentrification processes this can exacerbate disadvantage in the availability and accessibility of nature in cities (Kronenberg et al. 2021; Mabon and Shih 2021).

Governance configurations and spatial organisation can enable the adoption of NBS in cities to transcend jurisdictional barriers. This is important for bridging the ongoing gap in governance between the ecological scale and the jurisdictional scale, as well as how this plays out across different jurisdictions (Borgström et al. 2006; Macdonald et al. 2021). NBS is an essential concept to attain transformative change, as it has the capacity to create hybrid (grey-green) infrastructure solutions (Eggermont et al. 2015). Interaction among multiple levels of governance is important in the context of the city, as local, national, and global interests and policies play out in the governance of NBS. For example, prescriptive and top-down agendas need to be coupled with bottom-up initiatives (Zölch et al. 2018), such as urban experimentation which is an enabling process for transformations (Fuenfschilling et al. 2019) and further ensures that these transformations are contextualised to place (Frantzeskaki et al. 2018).

Place-based localism could be isolationist, but when considered in the context of a region there are opportunities for higher-level coordination (Cowell 2015). However, there are still conceptual gaps and practical governance and jurisdictional barriers to a metropolitan level of governance. For example, in the Australian context, there is a stark mis-match of governance for the metropolitan level. This can be illustrated by the three-tier government system in which there is an ongoing absence of federal-level urban policy (Gleeson 2007; Burton 2017; Hu 2020) and an urban planning structure that

is fragmented between state and local competencies (Davidson and Gleeson, 2018). A deeper understanding of the city-level and metropolitan-level governance attributes, influences, and enabling institutions is integral to the implementation of transformational urban nature initiatives such as urban forestry across Greater Melbourne (Bush et al. 2020; Coenen et al. 2020; Fastenrath et al. 2020; Moloney and Doyon 2021).

Another dimension of inclusive governance with NBS is *intergenerational inclusivity*, that centres around how justice happens between generations. Integrating an intergenerational justice perspective is pivotal to creating sustainable benefits for the long term. In the context of pressing societal challenges with long-term implications, such as climate change, urbanisation, land cover changes, biodiversity loss, etc., environmental justice communities increasingly engage in temporal discussions on who bears the brunt of these challenges, forging intergenerational views. Typically, generational justice relates to sustainability and the responsibilities of the current generation to allow future generations to live in a safe and healthy environment (Bolte et al. 2011). It thus considers the 'transgenerational respect for the rights of and the fulfilment of duties vis-à-vis future and past generations' (Meyer 2017, 1).

Integrating an intergenerational justice perspective into NBS governance starts with co-designing NBS where multiple actors from a diversity of stakeholder and beneficiary groups need to be considered. To have socially inclusive and just outcomes for current and future generations, such a NBS co-governance process needs to include different population age groups with an intragenerational perspective including younger and older generations to be addressed and heard. Older people, children, teenagers, and adults may all have different needs and demands on a NBS to be implemented. Older people may demand specific infrastructure elements to be installed together with NBS. When new green spaces such as parks or new retention areas are planned as a potential NBS to mitigate extreme weather events, for example, they may be accompanied with the creation of particular benches to rest for older people, with areas serving as shelter in times of extreme events, with paths that are safe and accessible (Enssle and Kabisch 2020). Children may also demand nature areas to experiment and play, green spaces with trees for shading, accompanied with benches, to allow friends and family members of all age groups to be socially active (Kabisch and Kraemer 2020; Kabisch et al. 2020).

DISCUSSING IMPLICATIONS OF THE INCLUSIVE GOVERNANCE OF AND WITH NBS

To progress the inclusive governance of and with NBS there are two core principles that should underpin it: intersectionality and inter- and transdis-

ciplinarity. These two concepts elucidate the inclusive governance of NBS governance.

Intersectionality

A way forward to more inclusive governance of NBS across all identified considerations (cross-sectoral, multi-species, epistemic, spatial and inter/intragenerational) is to take an intersectional approach to identify, engage, co-design, and co-create as well as empower communities to connect with NBS when in place. The concept of intersectionality draws attention to the interactivity of and interconnections between categories of difference, and how interlocking systems of power and oppression shape experiences in the world (Crenshaw 1989). Feminist scholars use intersectionality as a key analytical tool to discuss how inequalities are produced, paying attention to identities of race, gender, class, and sexuality, as well as experiences of species difference and living in dangerous environments. It has since become a research methodology centring on going beyond essentialisms, for example showing that climate change is not singular but instead experienced as a different kind of problem to different individuals and groups (Kaijser and Kronsell 2014) and highlighting the unequal impacts of pollution on differently situated people with intergenerational effects through contaminated breast milk, triggered miscarriages, and chronic childhood illnesses (Sze 2017). The key lessons from intersectionality are that the experiences that concepts try to capture are not necessarily stable (e.g. the experience of blackness is versatile over different geographies and different times) and that 'the whole is larger than the sum of its parts' (e.g. understanding the experience of black women requires more than adding an understanding of women to an understanding of blackness). It reminds us that climate change is not simply an environmental or technical issue, but instead that it is shaped by and shaping social difference. In the words of Naomi Klein, 'racism is what has made it possible to systematically look away from the climate threat' (2014, n.p.).

   In cities where populations are in flux due to migration, location mobilities, and regeneration dynamics, an intersectional approach needs to also guide the management, maintenance, and stewardship of NBS. It is an oversight to only focus on the design and planning phases of NBS implementation and neglect their full policy and planning cycle. In considering policy and planning cycles, it is important to understand how such intersectionality unfolds and how the different dimensions build upon each other to create spaces for inclusive governance to be transformative. For example, intergenerational justice for NBS governance also speaks to multi-species inclusivity and asks us to extend our notion of NBS governance not only for future generations of humans, but also for those multiple living beings that will be co-inhabiting cities with

future human generations. Intragenerational inclusivity can also be viewed as interspecies inclusivity, where the needs and relationality between humans and the many other species inhabiting cities is deliberated and considered. Intersectional approaches are fundamental to also plan and manage – govern overall – NBS in urban areas, especially when and where Indigenous communities, knowledge, and practices are contested. The path towards reconciliation is an ongoing process of interrogating and re-evaluating the values systems and assumptions that govern cities.

Interdisciplinarity and Transdisciplinarity

Inter- and transdisciplinarity in the context of the governance of NBS may be understood as the purposeful and systemic involvement of diverse holders of knowledge, capacity, resources, and decision-making power for the co-design and implementation of NBS (Albert et al. 2021). This does not imply that all actors should be involved at the same level, in all stages of planning and implementation and in all contexts, but that phases and types of inter- and transdisciplinarity should be strategically designed over the planning and implementation process to make the best use of complementary contributions (Albert et al. 2021; Malekpour et al. 2021). Through the inclusive governance conceptualisation presented in this chapter, a deeper understanding and appreciation of diverse influences, actors, and voices is essential for driving and co-producing NBS governance for cities. Inter- and transdisciplinarity is particularly important when considering the city as a whole. This is critical, first, for understanding the spatial reach, in terms of responsibilities, of NBS governance (e.g. neighbourhoods, municipalities, metropolitan regions). Second, in regard to whose interests are being served, whether within or across generations of people or broadening the scope to be inclusive of non-human species. Thus, inter- and transdisciplinarity are essential for understanding and including the appropriate stakeholders, in the appropriate ways, to enable an inclusive governance for cities to emerge.

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