

## 4. Indian cities' climate resilience: what role for transnational environmental law?

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### 1. Introduction

Cities are home to a growing majority of the world's population.<sup>1</sup> At the same time, they account for an increasing share of global anthropogenic greenhouse gas (GHG) emissions.<sup>2</sup>

Nation states have traditionally been the actors that shape the global, regional and national policies on climate change. They have negotiated international climate agreements and also reached agreement on regional and national targets and measures regarding mitigation of and adaptation to climate change. However, the role of municipal and subnational actors has been steadily increasing in climate change governance.<sup>3</sup> Cities have become active players in international environmental relations and governance, especially in tackling climate change. City activity has increased even though climate change is generally perceived as a global problem that requires a global solution. Then again, many cities are more populous than many states, making their policy action significant in relation to successful climate governance on a global scale. Moreover, cities have often demonstrated leadership when nation states have been slow in taking ambitious action on climate change.

In a globalized and multi-layered world that faces severe and complex environmental problems, the interplay between different spheres of governance, including cities and transnational networks and initiatives, is ever more important. In general, transnational environmental law (TEL) and governance institutions and regulation complement, and possibly in some cases substitute, nationally adopted policies and regulation on given issues.<sup>4</sup> Transnational law and governance initiatives provide a platform for partnerships and exchange of best practices and experiences in policymaking and implementation and provide guidance and capacity-building for their members in different thematic areas.

Cities are major players in climate change action in several ways and increasingly seek cooperation with each other on this issue globally. The number of transnational city networks that focus on sustainable development and/or climate change has been steadily increasing since 1990s.<sup>5</sup> The networks differ as to their focal areas, membership requirements, policy action etc. but they

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<sup>1</sup> UN Habitat, *World Cities Report 2020: The Value of Sustainable Urbanization* (UN Habitat 2020).

<sup>2</sup> The estimates of the share of cities of the global anthropogenic GHG emissions vary, but it is generally thought that they account for over 70 per cent of the total. Karen C Seto and others, 'Human Settlements, Infrastructure and Spatial Planning' in Ottmar Edenhofer and others (eds), *Climate change 2014: Mitigation of Climate Change. Working Group III Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press 2014) 923. This share can be expected to rise further given the projected raise of the global urban population. See, e.g., Daniel Hoornweg, Lorraine Sugar and Claudia Lorena Trejos Gomez, 'Cities and Greenhouse Gas Emissions: Moving Forward' (2011) 23 *Environment and Urbanization* 207.

<sup>3</sup> See, e.g., Michele M Betsill and Harriet Bulkeley, 'Cities and the Multilevel Governance of Global Climate Change' (2006) 12 *Global Governance* 141; Harriet Bulkeley, 'Cities and the Governing of Climate Change' (2010) 35 *Annual Review of Environment and Resources* 229; Taedong Lee, 'Global Cities and Transnational Climate Change Networks' (2013) 13(1) *Global Environmental Politics* 108; Michele Acuto and Steve Reyner, 'City networks: breaking gridlocks or forging (new) lock-ins?' (2016) 92 *International Affairs* 1147.

<sup>4</sup> For more on this, see section 6.

<sup>5</sup> Jennifer S Bansard and others, 'Cities to the Rescue? Assessing the Performance of Transnational Municipal Networks in Global Climate Governance' (2017) 17 *International Environmental Agreements: Politics, Law and Economics* 229, 231.

nevertheless serve as useful hubs for learning and concerted action, in terms both of the mitigation of and adaptation to climate change.

Cities are in a key role also as regards societies' resilience towards climate change. Although climate change is a global problem, its drivers and impacts are felt at local level.<sup>6</sup> In the context of this chapter, urban climate resilience is understood as climate resilience in the context of urban areas, recognizing their rapid growth and the prevailing and projected uncertainties associated with climate change faced by cities.<sup>7</sup>

In India, cities are already struggling with the effects of climate change. Extreme weather events, coupled with more slowly advancing patterns of environmental and social change, have made citizens literally gasp for clean air and experience an acute need for clean water. Despite efforts to mainstream climate change mitigation and adaptation and to embed them within the federal governance system, the existing national regulatory system does not effectively address the issue, and cities are trying to come to terms with the challenge and build resilience. Within this context, could TEL initiatives assist Indian cities in effectively addressing climate change? A number of Indian cities participate in transnational city networks that focus on sustainable development and climate change.

This chapter analyses the current and potential future role of TEL initiatives in strengthening Indian cities' policymaking on climate resilience. It also identifies factors that might prevent transnational governance initiatives from gaining ground in India and strengthening local urban climate resilience. The chapter argues that in the current situation, transnational urban climate initiatives do not directly lead to new, specific climate resilience legislation or regulation being put in place in Indian cities, but that their significance lies elsewhere. TEL networks have significant potential to effectively enhance cities' climate resilience both within India and on a global scale and to fill governance gaps in this area. However, even in their current, more modest role, transnational urban climate networks have many positive effects, and they can act as a complementing force to national and sub-national climate policymaking. At the same time, reliance on TEL should not be allowed to freeze nationally driven processes and tools for building cities' climate resilience.

The chapter is structured as follows. After defining urban climate change resilience and mapping the relevant implications and requirements for cities' climate change policies and regulation, the relevant Indian context is discussed, both in terms of the urgent need for urban climate resilience and of the current legal and policy framework. Thereafter, the chapter examines transnational environmental and climate law and governance and the relevant major networks. Benefits and challenges emanating from transnational climate law and governance initiatives to cities' efforts to build climate resilience are first examined on a general level and then in the specific context of Indian cities' participation in them. The chapter concludes with a summary of the main findings and offers an analytical outlook on the potential of TEL networks to effectively enhance cities' climate resilience both within India and on a global scale.

## 2. What climate resilience requires from urban climate law and policy?

Cities' resilience against climate change lies at the heart of this chapter. In order to analyse cities' climate resilience in the Indian and transnational environmental law contexts, it is necessary to provide a definition of the notion of (urban) climate resilience.

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<sup>6</sup> See also, e.g., Parveen Kumar and Davide Geneletti, 'How Are Climate Change Concerns Addressed by Spatial Plans? An Evaluation Framework, and an Application to Indian cities' (2015) 45 *Land Use Policy* 210, 210.

<sup>7</sup> See section 2.

In general terms, *resilience* may be defined as ‘the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks’.<sup>8</sup> This is a general delineation that assumes the existence of an adaptable system that comes to face a disturbance or shock and seeks to adapt to it without completely transforming itself into something different. The definition of resilience formulated by the Intergovernmental Panel on Climate Change (IPCC) illustrates the same idea. Accordingly, resilience is defined as ‘the capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation’.<sup>9</sup> Thus, a resilient system not only resists change and maintains existing structures and functions in the face of serious disturbance, but also has the capacity to adapt, renew (re-self-organize) and learn new ways to sustain itself and flourish.<sup>10</sup> Paradoxically, resilience is about changing while remaining the same at a system level.

From a climate change perspective, it is especially interesting that the general definitions of resilience include the concept of adaptation. However, resilience is not synonymous with adaptation. Rather, the resilience approach has been described as going beyond adaptation.<sup>11</sup> On another note, adaptability has been understood as the capacity of actors in a system to influence resilience.<sup>12</sup> Adaptation may thus be seen as a way of strengthening the resilience of a system.

Adaptive management is a key resilience principle. It is a well-established approach that focuses on change, attempting to reduce uncertainties, and methods such as continuous learning, learning by doing and social learning.<sup>13</sup> The learning utilizes the outcomes of the management strategies already implemented elsewhere or by other actors.<sup>14</sup> The methods of adaptive management allow remarkable flexibility, which has been said to improve the connectivity between different processes and scales.<sup>15</sup> From a broader perspective, the concept of adaptive governance focuses on administration and the structures of governance. ‘Polycentric institutional arrangements that operate

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<sup>8</sup> Brian Walker and others, ‘Resilience, Adaptability and Transformability in Social-ecological Systems’ (2004) 9 *Ecology and Society* <<https://www.jstor.org/stable/26267673>> accessed 22 January 2021.

<sup>9</sup> IPCC, *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part. A: Global and Sectoral Aspects* (Cambridge University Press 2014) 40.

<sup>10</sup> See also, e.g., Carl Folke, ‘Resilience: The Emergence of a Perspective for Social-ecological Systems Analyses’ (2006) 16 *Global Environmental Change* 253. Folke aptly interprets socio-ecological resilience through three interlinked elements: (1) the amount of disturbance a system can absorb while remaining in the same state or domain of attraction; (2) the degree to which the system is capable of self-organization (versus lack of organization, or organization forced by external factors); and (3) the degree to which the system can build and increase the capacity for learning and adaptation. *ibid* 259-60. In a resilient system, disturbances can even be used as an opportunity to transform the system into a more desired state. The transformation necessarily involves uncertainty and requires the system to have enhanced adaptive capacity to deal with disturbance. Emily Boyd and Sirkku Juhola, ‘Adaptive Climate Change Governance for Urban Resilience’ (2015) 52 *Urban Studies* 1234, 1242.

<sup>11</sup> Jo da Silva, Sam Kernaghan and Andrés Luque, ‘A Systems Approach to Meeting the Challenges of Urban Climate Change’ (2012) 4 *International Journal of Urban Sustainable Development* 125, 133.

<sup>12</sup> Walker and others (n 8).

<sup>13</sup> See, generally, e.g., Thomas Dietz, Elinor Ostrom and Paul C Stern, ‘The Struggle to Govern the Commons’ (2003) 302(5652) *Science* 1907; Carl Folke and others, ‘Adaptive Governance of Social-Ecological Systems’ (2005) 30 *Annual Review of Environment and Resources* 441.

<sup>14</sup> Claudia Pahl-Wostl, ‘Transitions Towards Adaptive Management of Water Facing Climate and Global Change’ (2007) 21 *Water Resources Management* 49.

<sup>15</sup> Jonathan Cook and others, ‘Shifting Course: Climate Adaptation for Water Management Institutions’ (World Wildlife Fund 2011) 7.

at multiple scales and balance between centralized and decentralized control'<sup>16</sup> are central to the approach. This connects very well with the current chapter's topic and approach.

When climate change is added to the discussion, we can speak about *climate (change) resilience*, which covers both adaptation and mitigation. The IPCC uses the notion of 'climate-resilient pathways' to describe continually evolving development pathways that reduce vulnerabilities to climate change impacts and build capacity to manage change and risks. This happens with the aim of achieving sustainable development and on the basis of continuous learning.<sup>17</sup> Risks and uncertainties related to the impacts of climate change lie at the heart of climate resilience and the relevant governance needs.<sup>18</sup> Consequently, it could be said that vulnerability, risk management and adaptability are key to climate resilience.<sup>19</sup> Again, climate resilience goes beyond the traditional adaptation perspective by involving learning, vulnerability and risk management, and innovation.

The concept of *urban climate change resilience* adds another layer to the picture. It embraces climate resilience in the context of urban areas, recognizing their rapid growth and the prevailing and projected uncertainties associated with climate change.<sup>20</sup> Urban climate change resilience is intertwined with sustainability and disaster management<sup>21</sup> and includes ecological, economic, and institutional and governance elements<sup>22</sup> as well as equity and justice perspectives.<sup>23</sup> Cities are important environments and actors for climate change resilience due, inter alia, to the number of people they host, the breadth and depth of climate vulnerabilities and risks they face and the possibilities of taking action to withstand, mitigate and adapt to them. Cities' climate-related vulnerability varies in different parts of the world and depends on many factors, but the impacts are felt in all cities and sectors.<sup>24</sup>

### 3. Indian cities and the need for climate resilience

India has traditionally been a heavily rural country. However, following the global trend for the majority of population growth to occur in urban areas,<sup>25</sup> and as a result of India's economic growth, the country's urban population has rapidly increased during the last few decades. As a percentage of

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<sup>16</sup> Jeroen Rijke and others, 'Fit-for-purpose Governance: A Framework to Make Adaptive Governance Operational' (2012) 22 *Environmental Science & Policy* 73, 74.

<sup>17</sup> Fatima Denton and others, 'Climate-resilient Pathways: Adaptation, Mitigation, and Sustainable Development' in IPCC (n 9) 1101, 1106.

<sup>18</sup> For an overview on climate governance in the urban context, see, e.g., Boyd and Juhola (n 10) 1236.

<sup>19</sup> See also, e.g., Donghyun Kim and Up Lim, 'Urban Resilience in Climate Change Adaptation: A Conceptual Framework' (2016) 8 *Sustainability* 405.

<sup>20</sup> Asian Development Bank (ADB), *Urban Climate Change Resilience: A Synopsis* (2014) 4.

<sup>21</sup> Kim and Lim (n 19).

<sup>22</sup> According to Leichenko, urban climate change resilience can be tied, first, to ecological resilience, and denotes the ability of cities to absorb resilience and recover from hazards and disasters caused by climate change. Second, urban climate change resilience can be understood mainly in terms of the resilience of urban and regional economies in the face of economic stress caused by climate change. Third, the resilience of cities can be promoted through urban governance and institutions. Robin Leichenko, 'Climate Change and Urban Resilience' (2011) 3 *Current Opinion in Environmental Sustainability* 164, 164-5.

<sup>23</sup> On the social and justice dimensions of urban climate adaptation, see, e.g., Linda Shi and others, 'Roadmap towards justice in urban climate adaptation research' (2016) 6 *Nature Climate Change* 131. Chu and others posit that urban climate adaptation requires a transformative approach that should address long-term equity concerns and recognize diverse urban interests, integrating climate change considerations into them. Chu and others, 'Unlocking the potential for transformative climate adaptation in cities' (2019) World Resources Institute background paper <[https://wrirosscities.org/sites/default/files/FINAL19\\_GCA\\_Cities\\_Background%20Paper.pdf](https://wrirosscities.org/sites/default/files/FINAL19_GCA_Cities_Background%20Paper.pdf)> accessed 13 December 2021.

<sup>24</sup> Boyd and Juhola (n 10) 1236.

<sup>25</sup> UN, *World Urbanization Prospects: The 2018 Revision* (2019) 10.

overall population, the urban population has increased from 17 per cent in 1951 to 34 per cent in 2018. It is projected to almost double in size to over 800 million by 2050.<sup>26</sup>

India has roughly 60 cities with a population of one million or more. There are currently five megacities (more than ten million inhabitants): Delhi (28 million), Mumbai (19 million), Kolkata (14 million), Chennai (10 million), and Bangalore (11 million), which are expected to be joined by Ahmadabad and Hyderabad by 2030.<sup>27</sup>

India's GHG emissions have been rising steadily since the beginning of the 1990s.<sup>28</sup> According to estimates, cities account of close to two-thirds of Indian GHG emissions.<sup>29</sup> The biggest sources of national GHG emissions are the energy sector, agriculture, the industrial processes and product use sector, and the waste sector.<sup>30</sup> It may be expected that with accelerating population growth and urbanization, cities will become even bigger sources of GHG emissions, directly and indirectly (e.g. through increasing emissions from urban transportation and from energy production for the growing urban population).

India is highly vulnerable and exposed to climate change risks.<sup>31</sup> Climate models indicate that it will face rapid climatic change that will expose its natural ecosystems, agricultural output and freshwater resources to increasing stress, while also causing escalating damage to infrastructure.<sup>32</sup> India already suffers from and will increasingly face climate-related extreme events such as heatwaves, floods and droughts, increased frequency of cyclones and other natural disasters, sea-level rises, and associated environmental health risks.<sup>33</sup>

The IPCC's Fifth Assessment Report highlighted that many global risks of climate change are concentrated in urban areas.<sup>34</sup> Currently, much of India's vulnerability to climate change impacts derives from its vast rural population and its dependence on agriculture and other climate-sensitive livelihood activities and low-income levels.<sup>35</sup> However, the country's urban areas and growing urban population also face increasing risks and impacts of climate change. In fact, the risks and damage in urban areas are of particular concern due to high concentrations of people and infrastructure in these areas<sup>36</sup> with smaller chances to relocate.

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<sup>26</sup> *ibid* 37, 43 and the associated data <<https://population.un.org/wup/>> accessed 22 January 2021.

<sup>27</sup> UN (n 25) 58.

<sup>28</sup> Johannes Gütschow and others, 'The PRIMAP-hist National Historical Emissions Time Series (1850-2017). V. 2.1. GFZ Data Services (2019) <<https://doi.org/10.5880/PIK.2019.018>> accessed 22 January 2021.

<sup>29</sup> Mahendra Sethi and Subhakanta Mohapatra, 'Governance Framework to Mitigate Climate Change: Challenges in Urbanising India' in Huong Ha and Tek Nath Dhakal (eds), *Governance Approaches to Mitigation of and Adaptation to Climate Change in Asia* (Palgrave Macmillan 2013) 200, cited in Mahendra Sethi, 'Decoding Urban India's Carbon Footprint: Spatial-numerical Mapping of Thermal Energy Emissions (2015) 108 *Current Science* 1616, 1616.

<sup>30</sup> These were the main sources in 2010. See 'First Biennial Update Report to the United Nations Framework Convention on Climate Change' (Ministry of Environment, Forest and Climate Change, Government of India 2015) 57.

<sup>31</sup> For an excellent scientific overview of climate change in India, see R Krishnan and others (eds), *Assessment of Climate Change over the Indian Region: A Report of the Ministry of Earth Sciences (MoES), Government of India* (Springer 2020). For a solid but concise account of the science of climate change and its impacts in India, see Jayaraman Srinivasan, 'Impact of Climate Change on India' in Navroz K Dubash (ed), *India in a Warming World* (OUP 2019) 31-44.

<sup>32</sup> Krishnan and others (n 31) 224.

<sup>33</sup> See, e.g., Kumar and Geneletti (n 6) 211; Srinivasan (n 31) 39-41.

<sup>34</sup> IPCC, *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (IPCC 2014) 67-73.

<sup>35</sup> 'First Biennial Update Report' (n 30) 51.

<sup>36</sup> The Energy and Resources Institute (TERI), 'Climate Proofing Indian Cities: A Policy Perspective' (2014) TERI Policy Brief March 2014, 1 <[www.teriin.org/sites/default/files/2017-12/Urban.pdf](http://www.teriin.org/sites/default/files/2017-12/Urban.pdf)> accessed 22 January 2021.

Indian cities are in different positions with regard to climate change risks and impacts. For instance, the east coast of India has been identified as particularly vulnerable to sea-level rises.<sup>37</sup> Obviously, some cities are more vulnerable than others, and some are already experiencing the impacts of climate change (e.g., coastal and riverine cities are more strongly affected than inland cities). By way of an example, one may point to India's long coastline, where some of its largest cities are located, which is very vulnerable to the impacts of sea-level rises.<sup>38</sup>

#### 4. An overview of the Indian legal and policy framework addressing climate change in cities

##### 4.1 Federal and state climate legislation and policy touching upon cities

India is a party both to the United Nations Framework Convention on Climate Change (UNFCCC)<sup>39</sup> and the subsequent Paris Agreement.<sup>40</sup> The country is thus committed to global climate action and to the objective of the Paris Agreement of avoiding dangerous climate change by limiting global warming to well below 2°C and to pursue efforts to limit it to 1.5°C.<sup>41</sup>

Climate action in urban areas has been specifically included within the scope of India's self-determined climate change mitigation and adaptation commitment, the Intended Nationally Determined Contribution (INDC), submitted under the Paris Agreement in 2016. In the INDC, the country has taken into account the increasing pressures of urbanization and expresses a commitment to the development of 'climate-resilient urban centres'. The latter are to be realized partly through a specific scheme called Smart Cities Mission<sup>42</sup> whose stated aim is to develop 100 new generation cities that are climate-resilient and built on the idea of sustainable development.<sup>43</sup> However, originally (the initiative was launched in 2015), the Smart Cities Mission was not created primarily for climate resilience purposes but was intended to create sustainable and citizen-friendly 'model cities'.<sup>44</sup> It is illustrating that, for instance, the official Mission Statement & Guidelines document does not mention climate change or climate resilience at all.<sup>45</sup>

In addition to Smart Cities, the Indian government has created the National Mission on Sustainable Habitat<sup>46</sup> which also targets urban areas. It focuses largely on practical measures in the areas of energy efficiency in buildings, waste management and shift to public transport and thus targets GHG emissions without a holistic view as to cities' climate resilience. Overall, the Indian government's missions have received criticism<sup>47</sup> and they cannot be regarded as being very effective in building climate resilience in Indian cities. This is due to, inter alia, their advisory

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<sup>37</sup> See, e.g., Malay Kumar Pramanik and others, 'Sea Level Rise and Coastal Vulnerability along the Eastern Coast of India through Geo-spatial Technologies' (2015) 4(2) *Journal of Remote Sensing & GIS*.

<sup>38</sup> Krishnan and others (n 31) 224.

<sup>39</sup> United Nations Framework Convention on Climate Change, New York, 9 May 1992, in force 21 March 1994, 31 *International Legal Materials* (1992) 849.

<sup>40</sup> Paris Agreement to the United Nations Framework Convention on Climate Change, Paris, 12 December 2015, in force 4 November 2016; 55 *International Legal Materials* (2016) 740.

<sup>41</sup> Paris Agreement art 2.

<sup>42</sup> See <<https://smartcities.gov.in/>> accessed 3 July 2021.

<sup>43</sup> India's Intended Nationally Determined Contribution (2016) 13.

<sup>44</sup> See Government of India, Ministry of Urban Development, 'Smart Cities: Mission Statement & Guidelines' (2015) s 2.

<sup>45</sup> *ibid*

<sup>46</sup> Government of India, Ministry of Urban Development, 'National Mission on Sustainable Habitat' (2010) <<http://mohua.gov.in/cms/National-Mission-on-Sustainable-Habitat.php>> accessed 3 July 2021.

<sup>47</sup> Vijeta Rattani, 'Coping with Climate Change: An Analysis of India's National Action Plan on Climate Change' (Centre for Science and Environment 2018); Navroz K Dubash and Shibani Ghosh, 'National Climate Policies and Institutions' in Dubash (ed.), *India in a Warming World* (n 31) 329, 331-2.

nature, financial constraints and lack of strategic direction and decentralized structures in their implementation at the state and city levels.<sup>48</sup>

The missions mentioned above form part of India's National Action Plan on Climate Change (NAPCC) which was launched in 2008. The NAPCC is carried out through eight national missions which define India's priorities for emissions reductions and adaptation to climate change. Each mission has its own objectives, strategies and action plans as well as monitoring and assessment criteria. The NAPCC does not address cities as such but states that it will be guided by the principle of implementation through linkages with local government institutions.<sup>49</sup>

India is a federal state consisting of 28 states and 8 union territories. Climate-related issues are included within the legislative domains of both the federal and state governments.<sup>50</sup> Since 2009, all states have been obliged to prepare and implement State Action Plans on Climate Change which are to be based on the NAPCC and contribute to its implementation.<sup>51</sup> It has become one of the key functions of the State Action Plans to ensure that climate change is mainstreamed and integrated into all planning processes at the state level. This has, however, meant that responsibility for funding the Plans has been shifted to the states,<sup>52</sup> which has been documented to have led to Plans being drafted with inadequate resources<sup>53</sup> and accordingly having systemic weaknesses as strategic documents.<sup>54</sup>

Urban development is also subject to state regulation in India. While detailed city planning is for the cities to conduct and implement, state governments provide policy, regulatory and financial support in respect of it.<sup>55</sup>

#### 4.3 City-level climate laws and policies

Indian cities have been taking an increasingly active role in mitigating and adapting to climate change (see below), even though their powers and capacities to take climate action are limited. The powers of city government bodies vary across India,<sup>56</sup> but in general, the national government still dominates the governance framework. The mandate and powers of state and local governments were strengthened by a constitutional amendment in 1992, but that did not result in significant empowerment in practice.<sup>57</sup> Consequently, Indian cities' institutional and financial capacities remain, overall, rather weak.<sup>58</sup> Cities face significant financial constraints in their everyday

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<sup>48</sup> *ibid.*

<sup>49</sup> NAPCC s 2.

<sup>50</sup> For a good account of state-level climate action in India, see Navroz K. Dubash and Anu Jogesh, 'From Margins to Mainstream? State Climate Change Planning in India' in Dubash (n 31) 349; Elizabeth Gogoi, 'State Climate Change Planning. Has It Reached the Mainstream?' in Dubash (n 31) 370.

<sup>51</sup> *ibid* 370.

<sup>52</sup> *ibid* 372.

<sup>53</sup> Navroz K Dubash and Neha B Joseph, 'Evolution of Institutions for Climate Policy in India' (2016) 51(3) *Economic & Political Weekly* 44, 52.

<sup>54</sup> *ibid* 51-2.

<sup>55</sup> Divya Sharma, Raina Singh and Rozita Singh, 'Urban Climate Resilience: A Review of the Methodologies Adopted under the ACCCRN Initiative in Indian Cities' (2013) *Asian Cities Climate Resilience Working Paper 5:2013*, 46 <<https://pubs.iied.org/sites/default/files/pdfs/migrate/10650IIED.pdf>> accessed 22 January 2021.

<sup>56</sup> PK Mohanty, 'A Municipal Financing Framework' in Isher Judge Ahluwalia and others (eds), *Urbanization in India: Challenges, Opportunities and the Way Forward* (Sage Publishing India 2004) 119; Govinda Rao and Richard Bird, 'Governance and Fiscal Federalism' in Ahluwalia and others (n 56) 203; Isher Judge Ahluwalia, 'Urban Governance in India' (2019) 41 *Journal of Urban Affairs* 83, 84.

<sup>57</sup> See, e.g., Surya Gupta and others, 'India: Cities Take the Lead in Climate Change Governance' (2020) 50 *Environmental Policy and Law* 89, 90.

<sup>58</sup> Mohanty (n 56); Rao and Bird (n 56); Ahluwalia (n 56).

activities and especially when seeking to take up new activities such as those related to strengthening climate action. In recent years, local governments have been mandated with additional functions, but these have not been backed with adequate financial resources or capacity to cope with them.<sup>59</sup> It could thus be said that Indian cities have, in principle, a mandate to act to strengthen their climate resilience, but their practical ability to carry out such measures remains limited.

Indian cities nowadays have a range of policy measures and activities in place and in reserve to address climate resilience concerns. Most larger cities have developed climate change strategies and action plans to guide policymaking. In addition, many cities have prepared, often separately, climate projections, climate vulnerability assessments, adaptation plans and specific flood management plans, for instance. What has often driven cities to create such assessments and plans has been their recognized vulnerability to climate change effects, seek for multi-purpose benefits (climate change mitigation would also ameliorate the air pollution problem or contribute to solving energy or waste related challenges) or external projects and funding.<sup>60</sup>

By and large, however, climate change resilience has not to date been comprehensively recognized as an issue for Indian cities to tackle. Some cities have prepared city resilience strategies with external support,<sup>61</sup> but mostly the approach has been rather piecemeal or project-based due to governance and capacity constraints.<sup>62</sup> There is no specific urban climate change resilience policy in place in India<sup>63</sup> – even though the national government has touched upon the issue through the national missions.

In conclusion, the Indian national framework leaves room for supplemental regulation to strengthen local governments' climate change resilience. Even at the federal level, India lacks stable, long-term and well-coordinated institutions and governance processes to effectively address climate concerns.<sup>64</sup> Comprehensive climate change legislation is also needed to complement the existing fragmented and sectoral climate-related policies.<sup>65</sup>

It is striking that, so far, much of the city-level climate action that has taken place in India has been stimulated by global networks and donor organizations,<sup>66</sup> not by domestic legislation, policies or initiatives. This has led to numerous pilot projects without adequate scaling up and permanence of action.<sup>67</sup> The existing city-level action in the field is variable and not based on a common understanding of what climate resilience is and what it requires from urban climate governance, the relevant policies and regulation generally and in the specific city context. Moreover, the capacity question and the centralized domestic policymaking system represent significant constraints.

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<sup>59</sup> *ibid* 84; Gupta and others (n 57) 94.

<sup>60</sup> See also, e.g., National Institute of Urban Affairs, 'Roundtable Dialogue on Climate Resilient Cities in India, 28th November 2019, New Delhi <[https://niuua.org/intranet/sites/default/files/480\\_0.pdf](https://niuua.org/intranet/sites/default/files/480_0.pdf)> accessed 3 July 2021.

<sup>61</sup> See section 7.

<sup>62</sup> It has been argued that Indian cities have 'very little functional autonomy in embarking upon climate change responses'. Parul Kumar and Abhayraj Naik, 'India's Domestic Climate Policy is Fragmented and Lacks Clarity' (2019) 54(7) *Economic & Political Weekly* <[www.epw.in/engage/article/indias-domestic-climate-policy-fragmented-lacks-clarity](http://www.epw.in/engage/article/indias-domestic-climate-policy-fragmented-lacks-clarity)> accessed 22 January 2021. See also Gogoi (n 50) 466. Indian national climate policies have also been criticized for not diffusing down to the city level – and even when they do, there is no accountability on actions taken in cities, which results in poor implementation. National Institute of Urban Affairs (n 60), 4.

<sup>63</sup> Although this has been recommended, e.g., by TERI (n 36).

<sup>64</sup> Dubash and Ghosh (n 47) 333, 342. Dubash and Joseph (n 53).

<sup>65</sup> See also Kumar and Naik (n 62).

<sup>66</sup> Dubash and Ghosh (n 47) 333.

<sup>67</sup> National Institute of Urban Affairs (n60) 4.



Even the climate-policy pioneering Indian cities have limited climate governance capacity. Their existing priorities (such as housing, water and waste management) are not directly climate related. Therefore the cities are, arguably, often relying on the existing policies, practices and priorities and “superimposing” climate objectives into them.<sup>68</sup> This means that the existing practices remain largely unmodified, climate objectives are just laid upon them. This may be beneficial at large, possibly leading to win-win situations, but can also lead to shortcomings by, e.g., prioritizing short-term policy action and disregarding urban justice considerations.<sup>69</sup>

The regulatory hand of cities does not reach everywhere: informal settlements are highly vulnerable to the effects of climate change, but they are usually not within the sphere of cities’ climate policies. That is of course very unfortunate. The informal settlements are not centrally governed and they cannot become parties of TMNs; they should be represented in the city governance but in practice they are often not. This is very unfortunate and problematic. However, transnational law does not apply to this kind of informal human settlements; they operate with recognized governments at different levels. This is largely a national issue, though.<sup>70</sup>

## 5. Transnational environmental law and climate resilience

### 5.1 What is transnational environmental and climate law?

In the fight against environmental problems, the sphere of actors has remarkably broadened, and the levels of governance have multiplied in recent years.<sup>71</sup> The earlier dichotomy between international and domestic environmental regulatory systems has given way to a more pluralistic approach which recognizes the transnational nature of environmental law and governance. Mutual influences and interdependencies between different legal systems and levels of regulation have been recognized to the effect that transnational environmental law has emerged as an approach through which the regulation of environmental problems can be explained and analysed.<sup>72</sup>

Besides applicability in multiple jurisdictions, another key quality of TEL is that it involves actors other than state authorities. TEL involves private actors and/or subnational governments as well as,

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<sup>68</sup> Ankit Bhardwaj and Radhika Khosla, ‘Superimposition: How Indian city bureaucracies are responding to climate change’ (2021) 4(3) EPE: Nature and Space 1139.

<sup>69</sup> *ibid.*

<sup>70</sup> I am grateful to an anonymous reviewer of the chapter for this excellent point.

<sup>71</sup> See, e.g., Harriet Bulkeley and Michele Betsill, *Cities and Climate Change* (Routledge 2003); Elinor Ostrom, ‘Polycentric Systems for Coping with Collective Action and Global Environmental Change’ (2010) 20 *Global Environmental Change* 550; Jacqueline Peel, Lee Godden and Rodney J Keenan, ‘Climate Change Law in an Era of Multi-Level Governance’ (2012) 1 *Transnational Environmental Law* 245; Jolene Lin, *Governing Climate Change: Global Cities and Transnational Lawmaking* (Cambridge University Press 2018); Andrew Jordan and others, *Governing Climate Change: Polycentricity in Action?* (Cambridge University Press 2018).

<sup>72</sup> See, in particular, Veerle Heyvaert, *Transnational Environmental Regulation and Governance: Purpose, Strategies and Principles* (Cambridge University Press 2018); Lin (n 71); Veerle Heyvaert and Leslie-Anne Duvic-Paoli, *Research Handbook on Transnational Environmental Law* (Cambridge University Press 2020). The different understandings of the meanings and characteristics of transnational law have recently been presented as divided into three broad categories. First, transnationalism can be perceived as a discourse, communicating an alternative conceptualization of law, which focuses less on form and the traditional national/international law dichotomy. Second, transnational law may appear as a methodological innovation, seeking to understand law by tracing and analysing the complex, multipartite, and transboundary exchanges whereby new legal norms are created and others disappear. Third, building on the two previous conceptualizations, transnational law may be seen as a distinct field of practice which generates new, transnational variants of legal standards and principles. Veerle Heyvaert and Leslie-Anne Duvic-Paoli, ‘The Meanings of Transnational Environmental Law’ in *ibid* 2, 4-6.

or rather than, states or interstate organizations, and these actors operate across borders.<sup>73</sup> Transnational environmental law and governance goes, in essence, beyond the state and beyond the traditional conception of the state as the only potent regulator in the face of environmental problems. TEL has been described as seeking to ‘move beyond the state’ and providing a theoretical framework for a genuinely multi-actor, multi-level and normatively plural system of environmental law and governance.<sup>74</sup> In essence, TEL gives explicit recognition to the multiplicity of regulatory actors and levels that are currently operational in the environmental sphere, sometimes quite independently from state control.

In this chapter, the term *transnational environmental law and governance* are understood as environmental law norms and other collective goods (such as capacity-building and opportunities for learning and norm diffusion) which are applicable in multiple jurisdictions and the creation and implementation of which involves actors other than state authorities. The added value of examining the topic of this chapter specifically through the lens of TEL instead of the mere transnational governance perspective is that it enables the discussion, on one hand, to analyse the potential of attaching legal implications to some of the existing relevant transnational policies and instruments and, on the other hand, to better understand the relationship between national/sub-national legal systems and instruments and the transnational (legal) forces that could permeate to those levels.

*Transnational climate governance* has become a popular theoretical framework through which climate change regulation is being realized and analysed across the world.<sup>75</sup> It focuses on the variety of means of supporting and diffusing the implementation of climate-related policies and practices at various governance levels and by substate and non-state actors.<sup>76</sup> Climate change is the environmental challenge to which transnational environmental governance is by far most frequently applied.

When TEL focuses on cities, the analytical notion of *transnational urban governance* is often employed, many times supplemented with examining the role of *transnational municipal networks* (TMNs) as an empirical entrypoint to the study.<sup>77</sup> TMNs are key actors or institutions in transnational climate governance at city level. In the applicable literature, three defining criteria are applied to them: (1) members are free to leave the network at any time; (2) networks are non-

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<sup>73</sup> Kenneth W Abbott, ‘Strengthening the Transnational Regime Complex for Climate Change’ (2014) 3 *Transnational Environmental Law* 57, 60.

<sup>74</sup> Jolene Lin, ‘The Emergence of Transnational Environmental Law in the Anthropocene’ in Louis J Kotzé, *Environmental Law and Governance for the Anthropocene* (Bloomsbury 2017) 329, 331. It has even been said that TEL challenges the monopoly of the state as the source of law. Heyvaert (n 72) 197.

<sup>75</sup> See, e.g., Harriet Bulkeley and others, *Transnational Climate Change Governance* (Cambridge University Press, 2014); Liliana B Andonova, Thomas N Hale and Charles B Roger (eds), *The Comparative Politics of Transnational Climate Governance* (Routledge 2020); Natasha Affolder, ‘Transnational Climate Law’ in Peer Zumbansen (ed), *Oxford Handbook of Transnational Law* (OUP forthcoming).

<sup>76</sup> Paula Castro, ‘Common But Differentiated Responsibilities Beyond the Nation State: How Is Differential Treatment Addressed in Transnational Climate Governance Initiatives?’ (2016) 5 *Transnational Environmental Law* 379, 383.

<sup>77</sup> See, e.g., Kristine Kern and Harriet Bulkeley, ‘Cities, Europeanization and Multi-level Governance: Governing Climate Change through Transnational Municipal Networks’ (2009) 47 *Journal of Common Market Studies* 309; Sofie Bouteligier, *Cities, Networks, and Global Environmental Governance: Spaces of Innovation, Places of Leadership* (Routledge 2014); Lukas Hakelberg, ‘Governance by Diffusion: Transnational Municipal Networks and the Spread of Local Climate Strategies in Europe’ (2014) 14 *Global Environmental Politics* 107; Bansard and others (n 5); Henner Busch, Lena Bendlin and Paul Fenton, ‘Shaping Local Response – The Influence of Transnational Municipal Climate Networks on Urban Climate Governance’ (2018) 24 *Urban Climate* 221.

hierarchical; and (3) network decisions are directly implemented by the members.<sup>78</sup> Municipal networks under TEL are thus based on voluntarism, they are prime examples of polycentric governance<sup>79</sup> and their actions and decisions are directed to the member cities – without additional administrative levels or nation state interference in between. Thus, the networks may be considered self-governing.<sup>80</sup> It is important to remember, however, that naturally cities can engage in TEL networks and initiatives only when and to the extent that their nationally determined legal mandates allow.

The concept of (transnational) *urban climate governance* may be used to denote the norms, practices and voluntary standards created by global cities and implemented through their transnational networks.<sup>81</sup> Urban climate governance is what cities must do at all levels nowadays.

## 5.2 TEL networks seeking to address cities' climate resilience

Transnational environmental law and governance networks that engage cities as their members have numerous functions and pursue various activities to advance their goals. Typically, the networks collect together like-minded or geographically proximate actors and create, maintain and strengthen their connections with each other. The networks provide much-needed fora for the collection and exchange of information and experiences and the sharing of best practices in a given field – be it climate change resilience or sustainable development more broadly. These elements promote and facilitate shared learning, which is often identified as the most important aspect of TEL networks.<sup>82</sup> Partnerships among cities and between cities and other actors (private sector, multilateral funding institutions etc.) are also being promoted within TEL networks. In concrete terms, the networks facilitate the pooling of resources and provide, or at least assist in, capacity-building for cities. With regard to practical regulatory measures or policy guidance, TEL networks have a mixed track record. Of the networks active in the climate field, some have issued joint policy guidelines, and some require their members to adopt climate mitigation or adaptation goals, while others remain rather inactive in this respect.

The following paragraphs contain brief presentations of the most significant TEL networks that are relevant to the topic of this chapter. Their functions, from an Indian city membership perspective, are further considered in section seven. It is notable that although the areas of operation of the presented networks overlap, their structures, objectives and operational approaches differ.

*C40 Cities* is a network specifically focused on addressing climate change, and it currently comprises 97 global megacities that share this commitment. The member cities are committed to delivering on the most ambitious goals of the Paris Agreement. C40 Cities provides support to the member cities to facilitate effective collaboration and knowledge-sharing and to engage in action on climate change. The network has a number of subnetworks and programmes to support its members in multiple sectors and issues. The Climate Action Planning Programme, for example, supports member cities in strengthening their climate planning capacity and developing ambitious climate action plans that aim to reduce emissions in line with the 1.5°C pathways, adapting to climate

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<sup>78</sup> Kern and Bulkeley (n 77) 309-10. Further suggested criteria include the following: members come from different countries; members can acquire formal membership; a network is more than a city partnership, i.e. there are more than two members; and the network has its own staff and a physical address. Busch and others (n 77) 222.

<sup>79</sup> See, in particular, Jordan and others (n 71).

<sup>80</sup> Kern and Bulkeley (n 77) 310.

<sup>81</sup> Lin (n 71) 20.

<sup>82</sup> See, e.g., Sierra C Woodruff, 'City Membership in Climate Change Adaptation Networks' (2018) 84 *Environmental Science & Policy* 60.

impacts, and creating wider social, economic and health benefits. The Programme directly assists member cities in building their climate resilience through active climate planning.

There is an application process but no fee for membership of the C40 Cities network. Member cities are required to have set a target for reducing GHG emissions, and to actively share best practice examples with other cities through the C40 networks. In addition, the C40 'Deadline 2020' programme encouraged all members 'to have developed and be implementing, by the end of 2020, a climate action plan compatible with the Paris Agreement goal to constrain global average temperature rise below 1.5°C, while improving resilience and inclusivity'.<sup>83</sup> The C40 Cities membership commitments are not empty words; the network conducts progress monitoring through several mechanisms and reporting frameworks.<sup>84</sup>

*ICLEI – Local Governments for Sustainability*, established in 1990, is a global network of more than 1,750 local and regional governments committed to sustainable urban development. Climate change is among ICLEI's key areas of work. One of the network's central aims is to drive local action for low emission development by encouraging members to reduce GHG emissions. ICLEI is open to all cities, i.e. it has no membership requirements. However, there is a membership fee.

ICLEI functions in several ways: peer exchange, partnerships and capacity-building programmes, including expertise and technology transfer. It also hosts a subnational climate reporting system, the carbonn Climate Registry. The system enables subnational actions to be included in national climate reporting. ICLEI has a number of climate initiatives and programmes. Its GreenClimateCities Program offers member cities guidance and tools towards climate neutrality in a defined step-by-step manner.<sup>85</sup> ICLEI's Climate Neutrality Framework, which is part of the GreenClimateCities Program, calls for all local and regional governments to accelerate climate action, and for towns and regions to enhance climate resilience across all sectors.<sup>86</sup>

The *Covenant of Mayors* is a 'network of networks' of which both C40 Cities and ICLEI are members. The Covenant is a combination of initiatives. One of these, the Global Covenant of Mayors for Climate & Energy, launched in 2017, is described as 'the largest global alliance for city climate leadership across the globe',<sup>87</sup> and numbers over 10,000 participating cities. The Global Covenant of Mayors for Climate & Energy has also defined specific actions that the member cities/municipalities are required to implement and report on:

- reporting of emissions, including developing a GHG emissions inventory;
- assessment of climate risks and vulnerabilities of the city;
- setting measurable emissions targets at least as ambitious, and preferably more ambitious, than their respective government's Nationally Determined Contribution (NDC) under the Paris Agreement;
- setting of ambitious climate adaptation and sustainable energy access targets;
- creating climate action plans to meet the set targets; and

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<sup>83</sup> C40 Cities and ARUP, 'Deadline 2020. How Cities Will Get the Job Done' (n.d.) <[https://cdn.locomotive.works/sites/5ab410c8a2f42204838f797e/content\\_entry5ab410fb74c4833febe6c81a/5ad4d6ae74c4837def5d3cde/files/Deadline\\_2020.pdf?1541690065](https://cdn.locomotive.works/sites/5ab410c8a2f42204838f797e/content_entry5ab410fb74c4833febe6c81a/5ad4d6ae74c4837def5d3cde/files/Deadline_2020.pdf?1541690065)> accessed 24 January 2021.

<sup>84</sup> See, in particular, the Global Protocol for Community-scale Greenhouse Gas Emission Inventories (GPC) <<https://resourcecentre.c40.org/resources/measuring-ghg-emissions>> accessed 24 January 2021.

<sup>85</sup> ICLEI, 'GreenClimateCities Program' <<https://iclei.org/en/GreenClimateCities.html>> accessed 24 January 2021.

<sup>86</sup> ICLEI, 'The ICLEI Climate Neutrality Framework' <[https://iclei.org/en/climate\\_neutrality.html](https://iclei.org/en/climate_neutrality.html)> accessed 24 January 2021.

<sup>87</sup> The Global Covenant of Mayors for Climate & Energy <[www.globalcovenantofmayors.org/](http://www.globalcovenantofmayors.org/)> accessed 24 January 2021.

- measuring and monitoring the impact of the implemented action over time, making key data and plans publicly available.<sup>88</sup>

The network's members commit to reporting their progress on a regular basis in accordance with the Common Reporting Framework of the Global Covenant of Mayors.<sup>89</sup> Support is available to assist cities with fulfilling the membership commitments.

The *Resilient Cities Network* is the world's leading urban resilience network.<sup>90</sup> It does not specialize in climate change but naturally includes that challenge within its scope. The initiative started as a donor-led programme ('100 Resilient Cities'), focusing on providing support to cities in devising resilience plans and implementing relevant projects. The objectives remain the same even now that the network has become a more permanent institution. The Resilient Cities Network comprises cities that are committed to building and investing in urban resilience. The member cities need to commit to:

- creating a permanent Office of Resilience within city administration;
- developing a holistic, multi-stakeholder Resilience Strategy;
- implementing resilient initiatives derived from a citywide resilience agenda; and
- participating in regional and global network activities.<sup>91</sup>

The network offers cities capacity-building, technical support, network services and partnerships. The Resilient Cities Network is based on the principle of co-funding with all members contributing financial and other resources to be used within the network.<sup>92</sup>

The *Asian Cities Climate Change Resilience Network* (ACCCRN) was a regional transnational climate initiative that specifically focused on developing cities' resilience to climate change. It had a duration of eight years, was donor-led, and ended in 2016. It was devised as a holistic programme carried out in several phases and involving multiple partner organizations. The objective was to build capacities to plan, finance and coordinate resilience strategies in the chosen cities, develop networks for information exchange and learn from the cities' experiences and eventually 'scale up' the learning and processes to new cities.<sup>93</sup> In concrete terms, the selected cities developed climate vulnerability assessments on which they built city resilience planning and strategies. Based on the plans and strategies developed, resilience projects were then carried out in cooperation with donors.<sup>94</sup> While the ACCCRN has now ended, it made an important contribution to empowering Asian cities to plan and implement climate resilience and network with their peers.

## 6. What role for transnational environmental law in city climate action?

### 6.1 City motives for participating in TEL initiatives

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<sup>88</sup> The Global Covenant of Mayors for Climate & Energy, 'What Are the Requirements for Committing to the GCOM?' <[www.globalcovenantofmayors.org/faq/what-are-the-requirements-for-committing-to-the-gcom/](http://www.globalcovenantofmayors.org/faq/what-are-the-requirements-for-committing-to-the-gcom/)> accessed 24 January 2021.

<sup>89</sup> The Global Covenant of Mayors for Climate & Energy, 'Global Common Reporting Framework' <[www.globalcovenantofmayors.org/our-initiatives/data4cities/common-global-reporting-framework/](http://www.globalcovenantofmayors.org/our-initiatives/data4cities/common-global-reporting-framework/)> accessed 24 January 2021.

<sup>90</sup> Resilient Cities Network, 'About' <<https://resilientcitiesnetwork.org/about/>> accessed 24 January 2021.

<sup>91</sup> *ibid* 'Membership' <<https://resilientcitiesnetwork.org/membership/>> accessed 24 January 2021.

<sup>92</sup> *ibid*

<sup>93</sup> Sharma and others (n 55) 13.

<sup>94</sup> ACCCRN, 'Our history' <[www.acccrn.net/about-acccrn/history](http://www.acccrn.net/about-acccrn/history)> accessed 24 January 2021.

Cities have taken a more prominent role in tackling the climate change problem in recent years. Part of the increasing municipal and city climate action is being inspired and facilitated by TEL networks under which cities and other substate or non-state actors connect and collaborate. One of the most significant motives for cities to join these transnational networks is the opportunity for peer exchange that they facilitate.<sup>95</sup> Cities have long been regarded as having more in common with other cities than can be taken into account in relation to other subnational and national governmental priorities.<sup>96</sup> Despite each having its own peculiarities and circumstances, cities in different parts of the world face similar challenges due to climate change. In addition, cities' needs are often inadequately addressed by national climate policies. Under these circumstances, it is understandable that policymakers in cities appreciate networking with their peers also at the transnational level and realize the associated benefits (see the previous section).

In addition to cities wanting to reap the substantive benefits of transnational climate cooperation, they may also feel somewhat compelled to participate in key TEL initiatives due to competition among cities. There are signs of an ongoing race to the top taking place as far as environmental standards are concerned.<sup>97</sup> In the globalized world, megacities, in particular, compete not only in terms of resources but also in terms of the business and living environments they have to offer.<sup>98</sup> Climate resilience is a major factor in this picture, not only a branding issue but also a question of long-term survival to many cities.

Benefits of city participation in transnational climate networks will be further discussed in section 7.

## 6.2 Indian city participation in transnational climate networks

Indian city participation in transnational climate law and governance initiatives varies from one network to another. The reasons for this may relate to the networks' characteristics and membership requirements or to the cities and their interests, capacities and circumstances. The former includes factors such as whether the network charges a membership fee or requires its members to put in place detailed climate plans and targets and whether significant capacity-building opportunities are available through the network. City-specific factors include, for instance, a city's recognized need for strengthened climate resilience (deriving, for instance, from identified vulnerabilities to climate change), its existing policy measures in the area and interest in taking more ambitious climate action than currently required and adopted. The remainder of this chapter focuses on the role of TEL networks in strengthening Indian cities' climate resilience.

C40 Cities has six Indian megacities as members: Kolkata, Bengaluru, Chennai, Jaipur, the National Capital Territory (NCT) of Delhi and Mumbai (joined last, in December 2020). Several Indian cities participate in the sector- and issue-based C40 Cities networks that facilitate learning on climate issues and support various climate actions in cities. The city of Bengaluru co-leads the Air Quality Network and has signed, along with Chennai and Delhi, the Clean Air Cities Declaration adopted

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<sup>95</sup> See, e.g., Hakelberg (n 77); Busch and others (n 77); Fabiana Barbi and Laura Valente de Macedo, 'Transnational Municipal Networks and Cities in Climate Governance: Experiments in Brazil' in Jeroen van der Heijden, Harriet Bulkeley and Chiara Certomà (eds), *Urban Climate Politics: Agency and Empowerment* (Cambridge University Press 2019) 59.

<sup>96</sup> Taedong Lee and Chris Koski, 'Mitigating Global Warming in Global Cities: Comparing Participation and Climate Change Policies of C40 Cities' (2014) 16 *Journal of Comparative Policy Analysis: Research and Practice* 475, 476.

<sup>97</sup> See, e.g., Benjamin J. Richardson, *Local Climate Change Law. Environmental Regulation in Cities and Other Localities* (Edward Elgar 2012).

<sup>98</sup> See, e.g., Fauke Kraas and others, *Megacities. Our Global Urban Future* (Springer 2014).

under C40 Cities in 2019. Mumbai, Chennai, Delhi and Kolkata are committed to the C40 Cities Deadline2020 initiative for ambitious city-level climate action planning and implementation.

ICLEI has a long list of Indian cities of all sizes as members, comprising a total of 54 municipalities. It also has a special South Asia branch that collects together a regional network of cities and promotes local initiatives for the achievement of sustainability. ICLEI South Asia (ICLEI SA) is engaged in a multitude of activities through which it supports its member cities.<sup>99</sup> The Capacity Building Project on Low Carbon and Climate Resilient City Development in India (CapaCITIES) may be mentioned as an example. This was an ICLEI SA project, running in 2016-2019 with external donor support that sought to support and accelerate the Indian government's efforts in relation to sustainable urbanization. Thus, the project had a strong federal government angle although its stated aim was to support city authorities to mainstream climate change mitigation and adaptation into development policies at city level. The project involved four partner cities, and sharing of experiences with other cities as well as technical support to follow-up projects were facilitated and provided.<sup>100</sup> On the whole, ICLEI appears most useful to Indian cities through its regional branch. The umbrella organization constitutes a large collection of both members and themes, making reaping concrete benefits in respect of efforts to build city climate resilience from it potentially challenging without dedicated effort. ICLEI SA has a good track record of regional capacity-building and peer exchange projects in which Indian cities have participated.

The Covenant of Mayors has had a regional office in India since 2018. A total of 21 Indian cities have joined the Covenant of Mayors South Asia. The member cities are committed to the membership requirements of the initiative. Indian member cities include large cities such as Mumbai, Nagpur and Patna as well as smaller ones.<sup>101</sup>

The Resilient Cities Network has four Indian member cities: Chennai, Pune, Surat and Jaipur. By way of an example, with support from the Network, Chennai launched its Resilience Strategy in 2019 and institutionalized the Chennai Resilience Centre<sup>102</sup> in 2020. All the Indian member cities have resilience strategies in place.

The Asian Cities Climate Change Resilience Network, which ended in 2016, established a specific programme in India. Three cities were identified (not self-nominated) for city-level engagement and capacity-building within it: Gorakhpur, Indore and Surat. In the last phase of the programme, the actions taken with the three cities were replicated and scaled up, with the help of project partners, to be extended to 30 Indian cities. As a result, Resilience Strategies were prepared for a number of cities in addition to the capacity-building projects, preparation of cities' vulnerability profiles etc. carried out during the final phase of the programme.

The membership lists of the transnational climate law and governance initiatives assessed in this chapter reveal that several Indian cities appear on the member lists of multiple networks. These cities may be regarded as belonging to the avant garde of climate-resilient Indian cities and

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<sup>99</sup> See ICLEI SA, 'About ICLEI South Asia' (n.d.) <<http://southasia.iclei.org/who-we-are/iclei-south-asia.html>> accessed 25 January 2021; ICLEI SA, 'Projects' (n.d.) <<http://southasia.iclei.org/nc/our-activities/our-projects.html>> accessed 25 January 2021.

<sup>100</sup> ICLEI SA, 'Capacity Building Project on Low Carbon and Climate Resilient City Development in India (CapaCITIES)' (n.d.) <<http://southasia.iclei.org/our-activities/our-pathways/low-emission-development/capacity-building-project-on-low-carbon-and-climate-resilient-city-development-in-india-capacities.html>> accessed 25 January 2021.

<sup>101</sup> The Global Covenant of Mayors for Climate & Energy South Asia (n.d.) <<http://covenantofmayors-southasia.org/frontend/city>> accessed 25 January 2021.

<sup>102</sup> Chennai Resilience Centre <<https://resilientchennai.com/>> accessed 25 January 2021.

genuinely interested in strengthening their climate policies. It may also be the case that once a city has joined one network, it becomes easier to join another (in terms of knowing what to expect and having already put climate action plans, strategies and vulnerability assessments in place under other initiatives) – although of course the membership requirements of the various networks differ. In any case, participation in transnational (climate) initiatives currently appears an attractive option for quite many Indian cities, and possibly increasingly so in the future.

## 7. Benefits and challenges emanating to cities from transnational climate law and governance initiatives

Cities derive various benefits from participation in TEL networks, but challenges remain as to the usefulness of such networks in complementing national city-level climate change policy and regulation. The following section briefly discusses the main issues in both categories. It is notable that the identified benefits emanating from transnational city networks to their members are at the same time a strong explanatory factor behind the effectiveness of these networks in mobilizing sustainability action in cities. This is true especially in environments where national legislation and governance structures do not give urban authorities much scope or responsibility to act to build resilience to climate change.

### 7.1 Building city identity

Participation in TEL initiatives and networks affects city identity in relation to the city's inhabitants, other cities and the national government. When cities network with their peers and other partners, get policy inspiration and new ideas, adopt policy innovations etc. to build resilience to climate change, they demonstrate to themselves and the outside world that they are serious about addressing climate change by taking meaningful action to mitigate and adapt to it.

Studies show that TEL networks provide an opportunity for cities to renew their identity to an extent and to detach themselves in a positive way from the national climate governance context – which may sometimes appear mired in conflict-prone policy debate taking place with and within the government or with the various constituencies. In such circumstances, TEL initiatives represent an opportunity to form new alliances, to get fresh ideas on policymaking and to deepen the commitment of substate actors.<sup>103</sup> Membership of transnational municipal climate networks is a significant driver of ambitious city-level climate policy.<sup>104</sup>

Participation in TEL networks affords cities an opportunity to demonstrate leadership that goes beyond that demonstrated by national governments,<sup>105</sup> especially where domestic actors are unsatisfied with the level of ambition of the climate action taking place at government level. Cities may also benefit from membership of respected transnational climate governance networks in terms of branding,<sup>106</sup> as a means of positively distinguishing themselves from other cities, albeit that there is a risk in such circumstances that their membership remains solely or largely symbolic.<sup>107</sup>

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<sup>103</sup> See also Abbott (n 73) 68 and Andonova and others (n 75), who have studied the dynamic relationship between national policies and transnational governance within the context of transnational climate initiatives.

<sup>104</sup> Lee and Koski (n 96) 476.

<sup>105</sup> Henrik Selin and Stacy D VanDeveer, 'Political Science and Prediction: What's Next for U.S. Climate Change Policy?' (2007) 24 *Review of Policy Research* 1; Miranda A Schreurs, 'From the Bottom Up: Local and Subnational Climate Change Politics' (2008) 17 *Journal of Environment & Development* 343, 351.

<sup>106</sup> Busch and others (n 77) 226.

<sup>107</sup> It is not uncommon for TEL networks to have a 'core group' of active member cities while others remain relatively passive members. C40 Cities seeks to address this challenge by being very selective in its membership and providing additional support to less active cities. Lin (n 71) 110.



## 7.2 Weak obligations without follow-up?

As with traditional international environmental law, voluntarism is the basis of cooperation in respect of TEL initiatives. Certain limitations stem from this, such as that a rigid regulatory approach could deter actors from joining the networks. At the same time, however, the fact that the initiative for participation in transnational climate networks originates within the cities, potentially gives them genuine motivation to participate actively and implement the set commitments.

Generally, transnational (urban) climate law and governance initiatives have thus far adopted quite limited lawmaking functions. Many of the relevant TEL initiatives and networks give the impression that they promote better and more effective climate policymaking in the member cities, but the concrete commitments that are required have remained rather modest in character.<sup>108</sup>

Generally, the networks do not entail concrete mitigation commitments for their members, but mainly only qualitative commitments and soft mitigation actions such as exchange of best practices and capacity-building.<sup>109</sup> Many networks encourage, and a few even require, their members to set voluntary climate mitigation targets. However, there is no harmonization of the member cities' mitigation or adaptation targets within or across networks. Moreover, the individual climate actions and targets are not usually subject to effective follow-up by the network,<sup>110</sup> although this is an issue that is being increasingly addressed by TEL initiatives. Usually only if the commitments have been tied to membership conditions can TEL initiatives hold their members to fulfilment of those commitments. However, in any case, the networks assign certain social authority to the emission reduction targets adopted.<sup>111</sup>

C40 Cities is a TEL initiative that has relatively rigid conditions for the member cities regarding climate change regulation. The C40 Participation Standards lay down a number of mandatory requirements for the member cities: they are required to set targets for reducing GHG emissions, develop climate action plans with concrete initiatives to meet the targets, and actively share best practice examples with other cities through the C40 networks. The requirements sound relatively ambitious; however, their practical implementation can be done in many ways.

In a way, TEL initiatives allow cities to 'pick and choose' their climate commitments as they can voluntarily join their preferred network(s) and then, often independently, select the best practices shared by other members and the voluntary commitments they are willing to adopt.

## 7.3 Norm diffusion and learning

A TEL initiative may, in practice, lead to new regulation even though this would not lie within the mandate or practice of the network in question. This may happen, for instance, through sharing of best practices among the members, as a result of which regulatory approaches or tools may be adopted in new locations. There is indeed evidence that transnational municipal networks enable horizontal (norm) diffusion whereby successful policies can be transferred from one city to another,

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<sup>108</sup> One study has found that transnational climate governance initiatives are quite weak in terms of actually contributing to climate change mitigation. Only a single initiative of those studied met all four criteria laid down for an effective climate governance system, while almost half met none of them. See Katharina Michaelowa and Axel Michaelowa, 'Transnational Climate Governance Initiatives: Designed for Effective Climate Change Mitigation?' (2017) 43 *International Interactions* 129, 135.

<sup>109</sup> See, e.g., Bansard and others (n 5) 237-40 and section 5 of this chapter.

<sup>110</sup> See also, e.g., Hakelberg (n 77) 113.

<sup>111</sup> Busch and others (n 77) 226.

even within a relatively short time period.<sup>112</sup> Major city climate action plans consistent with the highest goals of the Paris Agreement, started by New York in October 2017, would be a good example of soft norm diffusion in the context of transnational climate governance. By way of another example, the soft requirement of identifying priorities and setting targets on climate change mitigation and adaptation, set by a TEL network, may induce a city to actually create new policies on a voluntary basis. In this way, even those TEL initiatives that appear rather toothless from a regulatory or legal perspective may give rise to policymaking and regulation that makes a difference at city level.

Policy learning occurs through sharing of knowledge and best practices among the actors participating in a TEL initiative.<sup>113</sup> The networks also showcase successful policy initiatives and regulatory actions that can have political effects by highlighting opportunities that governments have failed to grasp and by generating public demand for cities to do so.<sup>114</sup> This approach may represent or lead to new policy innovations<sup>115</sup> at local level. In any case, effective sharing of best practices and regulatory and governance tools via transnational networks generate valuable knowledge and resources that the members can take advantage of as they see fit. However, learning does not happen equally within and across TEL networks and member cities.<sup>116</sup>

#### 7.4 Capacity-building and support

Participation in transnational governance initiatives not only provides benefits and even savings (in terms of pooling of resources, learned best practices etc.) to the members of those initiatives but also uses resources. For instance, city networks may require reporting by members,<sup>117</sup> and commitments to draft climate mitigation and adaptation plans, risk and vulnerability assessments etc. require additional resources, especially if cities would not take such action in the absence of the TEL commitments. In addition, some transnational municipal climate network initiatives charge membership fees.

In response to the capacity challenges identified, TEL initiatives in respect of urban climate resilience generate and provide many kinds of support to member cities. They may act as information hubs, promoting knowledge-generation and awareness-raising towards the member cities. Such information relates, *inter alia*, to cities' risks of and vulnerabilities to climate change impacts, and to better management options in respect of those impacts. In addition to information-sharing, capacity-building under TEL initiatives may include direct, albeit limited, financial aid.

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<sup>112</sup> Lin (n 71) 129, 141; Kaveh Rashidi and Anthony Patt, 'Subsistence over Symbolism: the Role of Transnational Municipal Networks on Cities' Climate Policy Innovation and Adoption' (2018) 23 *Mitigation and Adaptation Strategies for Global Change* 507, 510. On diffusion and transnational municipal networks on climate change, see, e.g., Hakelberg (n 77). On policy mobilities, especially between Indian municipalities and cities in the context of transnational climate networks, see Susannah Fisher, 'Exploring Nascent Climate Policies in Indian Cities: A Role for Policy Mobilities?' (2014) 6 *International Journal of Urban Sustainable Development* 154.

<sup>113</sup> On policy learning in the context of transnational municipal networks, see Taedong Lee and Susan van de Meene, 'Who Teaches and Who Learns? Policy Learning through the C40 Cities Climate Network' (2012) 45 *Policy Sciences* 199. Busch and others (n 77) 226. This article interestingly highlights the value of peer-to-peer exchange of municipal staff through transnational municipal networks.

<sup>114</sup> Abbott (n 73) 68.

<sup>115</sup> See, e.g., Rashidi and Patt (n 112).

<sup>116</sup> See also, e.g., Milja Heikkinen, Tuomas Ylä-Anttila and Sirkku Juhola, 'Incremental, Reformistic or Transformational: What Kind of Change Do C40 Cities Advocate to Deal with Climate Change?' (2019) 90, 92, which argues that '[i]t is unclear what precisely is being learned and what kind of solutions cities promote, how these differ across cities and how profound these solutions are in terms of the change they envisage'.

<sup>117</sup> See, e.g., Busch and others (n 77) 227-8.

More often financial assistance is included indirectly within the ambit of TEL initiatives, by enabling and promoting access to external funding and by facilitating ground-level projects.<sup>118</sup>

For instance, the C40 Cities Finance Facility supports cities in developing and emerging economies to develop finance-ready projects to meet the objectives of the Paris Agreement.<sup>119</sup>

### 7.5 Legitimacy and disconnection between governance levels

Growth in the role of cities in climate governance and regulation may be accompanied by elements of controversy. This may be related to the cities' nationally determined legal mandates or to more obscure legitimacy challenges within and between governance levels and actors. In general, transnational governance networks have the benefit of being able to address norms or recommendations directly to substate actors, without necessarily involving the state. Bypassing national governments<sup>120</sup> in this way may be regarded as problematic by the government/central administration even if cities do not, strictly speaking, go beyond their legal mandates.

In practice, it may sometimes appear that in the context of transnational cooperation the state government level is bypassed through cities' reliance on transnational peer and expert networks. This may be seen as either beneficial or problematic from a governance legitimacy perspective.<sup>121</sup> Increasing reliance on transnational governance initiatives by cities may be seen by some as a shift away from nationally driven and centrally administered climate policymaking and thus in a negative light, as if cities were acting solo. The legitimacy of TEL-based action may be questioned by the central administration if transnational ideas and initiatives appear to replace state-driven regulation (even if scarce).<sup>122</sup> The other side of the legitimacy coin is that cities presumably gain legitimacy (especially in the eyes of the civil society) from participating in TEL networks,<sup>123</sup> as compared to the situation where they acted mainly on their own to build climate resilience.

From a practical point of view, a mix of nationally derived and transnational climate governance and regulatory tools may indeed lead to coordination problems between the chosen policies and action taken at different governance levels. The 'hybrid' governance arrangements that result from transnational city networks<sup>124</sup> pose many challenges.

### 7.6 Supplementing or complementing existing policies and regulation?

Continuing from the legitimacy and governance level discussion, one may ask whether TEL is to be considered as a substitute<sup>125</sup> or as complementing the actions taken by states and the

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<sup>118</sup> See, e.g., Michele Betsill and Harriet Bulkeley, 'Transnational Networks and Global Environmental Governance: The Cities for Climate Protection Program' (2004) 48 *International Studies Quarterly* 471; Hakelberg (n 77) 120-121.

<sup>119</sup> See C40 Cities Finance Facility <[www.c40cff.org/](http://www.c40cff.org/)> accessed 24 January 2021.

<sup>120</sup> See, e.g., Abbott (n 73) 69, 79.

<sup>121</sup> From a substantive legitimacy perspective, reliance on tested best practices and learning from peer experiences may be beneficial – whereas from a process legitimacy point of view, reliance on transnational networks that operate outside the formal governance structure of the state may seem problematic. On the legitimacy challenge of transnational environmental law and governance, see Josephine van Zeben, 'Facing the Legitimacy Challenge: Law as a Disciplining Force for Transnational Environmental Governance' in Heyvaert and Duvic-Paoli (n 72) 145.

<sup>122</sup> Within this context, it has been argued that the contention that TEL initiatives may erode the unitary nature of the state is no longer valid, given that the modern state is far from being a unitary actor at all times anyway. Jolene Lin, 'The Role of Subnational Actors in Transnational Climate Change Law' in Heyvaert and Duvic-Paoli (n 72) 216, 228.

<sup>123</sup> See, e.g., Betsill and Bulkeley (n 118) 486-7, 489.

<sup>124</sup> Acuto and Reyner (n 3) 1159-1160.

<sup>125</sup> 'If an issue has not been addressed satisfactorily by one set of governance arrangements, relevant actors have an incentive to address it via another.' Liliana B Andonova, Thomas N Hale and Charles B Roger, 'National Policy and

intergovernmental system for environmental regulation.<sup>126</sup> On the one hand, TEL is a response to the apparent inadequacy of intergovernmental policies and regimes in addressing growing environmental problems and adapting to changing circumstances.<sup>127</sup> On the other hand, transnational governance initiatives may be used by sub- and non-state actors as a complementary means of achieving domestic policy aims<sup>128</sup> or going beyond them if those policies are deemed inadequate.

It is often contended that, especially in relation to protecting global public goods such as climate, TEL norms and institutions are a response to a state's failure to regulate,<sup>129</sup> an attempt to fill the 'governance gap'.<sup>130</sup> Participation in transnational governance initiatives may represent an opportunity to supplement or circumvent official policy.<sup>131</sup> Then again, it has been found that participation in transnational initiatives is highest in countries with strong national climate policies.<sup>132</sup> Consequently, transnational climate governance tends to complement rather than substitute national policies.<sup>133</sup> TEL would be, in many ways, an imperfect substitute for international and national climate policies.<sup>134</sup> It might be argued that TEL does not (except perhaps in very rare cases), or is not meant to, substitute nationally driven regulation but to complement it based on transnational cooperation and learning based on tested best practices, thus promoting concerted voluntary action by substate actors.

#### 7.7 Motives for and impacts on Indian cities from TEL networks for climate resilience

Little information is available on Indian cities' motives for becoming members of transnational urban climate networks. In the context of ICLEI SA, it has been reported that Indian city members have sought support for existing projects and ideas as well as new ideas and inspiration for their policies on sustainable development. Some Indian member cities particularly valued ICLEI SA as a network through which best practices and documentary details of city projects may be circulated.<sup>135</sup> Cities also valued workshops and events organized by ICLEI SA that have helped to build cities' capacities and provided technical support and ideas.<sup>136</sup> Interestingly, it was also reported that some Indian cities joined ICLEI SA as a means of seeking support from other levels of government.<sup>137</sup> This perspective was not further elaborated in the report, but it illustrates a situation where policymakers in Indian cities feel that their concerns are not adequately addressed at other levels of government.

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Transnational Governance of Climate Change: Substitutes or Complements?' (2017) 61 *International Studies Quarterly* 253, 256.

<sup>126</sup> *ibid*

<sup>127</sup> See, e.g., Castro (n 76) 383.

<sup>128</sup> Andonova and others (n 125) 253.

<sup>129</sup> Acuto and Reyner (n 3).

<sup>130</sup> See, e.g., Thomas Hale, David Held and Kevin Young, *Gridlock: Why Global Cooperation is Failing When We Need It Most* (Polity 2013).

<sup>131</sup> Charles Roger, Thomas Hale and Liliana Andonova, 'The Comparative Politics of Transnational Climate Governance' (2017) 43 *International Interactions* 1, 11.

<sup>132</sup> Andonova and others (n 125).

<sup>133</sup> *ibid* 262. See also, e.g., Bansard and others (n 5) who argue that transnational municipal and regional networks are not effective substitutes for ambitious international climate action.

<sup>134</sup> See also Lin (n 71) 351.

<sup>135</sup> Fisher (n 112) 167.

<sup>136</sup> ICLEI SA: 'Interviews with Member cities' representatives', <<http://southasia.iclei.org/our-members/about-our-members.html>> accessed 22 January 2021.

<sup>137</sup> Fisher (n 112) 167.

In respect of ACCCRN, Indian cities' most frequently cited motives for joining were as follows: the city understands the need to climate-proof itself; the Network deals with cities' existing problems and challenges; and the technical and capacity-building support offered by external agents under the Network.<sup>138</sup> In this case, it is clear that the ACCCRN, focusing on supporting Asian cities in strengthening their climate change resilience, worked in a thematic area that the selected cities were highly motivated about and that the offered capacity-building support was in high demand. Peer exchange was not a central function in this network even at the outset.

By and large, transnational urban climate initiatives do not directly lead to the establishment of new, specific climate resilience regulation in relation to Indian cities. This is due to the nature of the initiatives and the commitments they impose on the members. However, transnational initiatives and networks have led to the introduction of tangible policy instruments, most importantly city climate plans and resilience strategies, that would likely not have been prepared, at least in such a timely manner and to the extent that is now the case, in the absence of city participation in the relevant transnational initiatives. It should also be noted that the initiatives' membership requirement for cities to set ambitious targets for reducing GHG emissions can actually lead to effective implementation even through city-level legislative measures. This directly contributes to urban climate resilience since, as stated in section 2 of this chapter, the concept includes both mitigation of and adaptation to climate change.

TEL initiatives have had, and will continue to have in the future, various positive indirect effects on the development of Indian city-level policies and regulation in respect of climate resilience. These effects result from, *inter alia*, knowledge, inspiration and support received from within the networks, preparation of climate strategies, plans and assessments as required and supported by the networks, spreading of best practices and potential new regulatory instruments that can be put to the test in Indian cities, and cities declaring a commitment to the objectives of transnational climate policies rather than the domestic ones defined by the national government.

## 8. Conclusion

Nation states have traditionally been the actors that shape the global, regional and national policies on climate change. However, in recent years, municipal and subnational actors have been taking a more prominent role in tackling the climate challenge. Increasingly, cities in particular seek cooperation with each other on this issue across the globe. The number of transnational city networks that focus on sustainable development and/or climate change has been steadily on the rise in recent years. Despite being a global problem, the impacts of climate change are felt at the local level, which motivates cities to take mitigation and adaptation action.

Transnational law and governance institutions and actions complement, and in some cases possibly substitute, nationally adopted policies and regulation on given issues. Transnational governance initiatives act as platforms for peer-networking and partnerships, facilitate exchange of best practices and experiences in policymaking and implementation and provide guidance and capacity-building for their members. In essence, TEL initiatives represent a shift from state-centrism towards more diverse sets and networks of actors that actively participate in endeavors to resolve global and regional environmental problems.

Cities play a key role as regards societies' resilience towards climate change. A resilient system not only resists change and maintains existing structures and functions in the face of serious

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<sup>138</sup> Sharma and others (n 55) 42.

disturbance, but also has the capacity to adapt, renew and learn new ways to sustain itself and flourish. Climate change represents serious disturbance, which means that resilience to it involves both mitigation and adaptation in reducing vulnerabilities and managing risks. Urban areas cannot avoid being affected by climate change impacts. Within this context, urban climate resilience denotes climate resilience which recognizes cities' rapid growth and the prevailing and projected uncertainties associated with the climatic changes that they face.

In India, the growing urban population and the city environment are increasingly witnessing the effects of climate change. Extreme weather events connected to climate change, together with the ensuing environmental health risks and environmental and social changes are already causing major damage across the country.

Despite efforts to mainstream climate change mitigation and adaptation to the governance system, the extant federal and state regulatory system does not effectively address Indian cities' concerns in respect of climate resilience. Indian cities have been taking an increasingly active role in mitigating and adapting to climate change despite the fact that their nationally determined powers and capacities to take climate action are limited. Within this context, this chapter examined the question of whether existing TEL initiatives could assist Indian cities in increasing their resilience to climate change.

In general terms, city participation in transnational climate law and governance initiatives brings along many potential benefits but also involves challenges. Participation in the initiatives provide an opportunity for cities to build their identity in a positive way and to demonstrate their leadership in taking climate action, over national governments or their peers within the country or globally. Transnational (urban) climate law and governance initiatives have only limited regulatory functions and capacities, and they rely on voluntary and soft commitments without enforceable follow-up. Nevertheless, the networks facilitate norm diffusion and policy learning through active exchange of experiences and best practices among member cities. Capacity-building is also an important function of many TEL initiatives. At national level, however, active city engagement in TEL initiatives may bring about controversies between governance levels. State governments may raise concerns over the legitimacy of cities' actions, the complementary/substitutional role of TEL and over coordination challenges in relation to climate policies.

A good number of Indian cities participate in transnational city networks on sustainable development and climate change. However, the same cities tend to appear on networks' member lists. Regrettably little information exists on Indian cities' motives for becoming members of transnational urban climate networks, although some reports indicate that they relate to the well-known benefits of TEL network participation.

This chapter has shown that transnational urban climate initiatives do not currently directly lead to the putting in place of new, specific climate resilience regulation in Indian cities, but that their significance lies elsewhere. Nevertheless, it can be said that the studied TEL initiatives have various positive, yet indirect, effects on the development of Indian city-level policies and regulations aimed at building climate resilience. These effects result from both concrete and intangible capacity-building and peer-exchange; preparation of climate assessments, strategies and plans as required and supported by the networks; diffusion of best practices and potential new regulatory instruments and strategies; and cities going beyond nationally set climate objectives and policies through explicit commitment to transnational policies.

All in all, TEL networks have considerable potential to effectively enhance cities' climate resilience both within India and on a global scale. TEL may represent a new kind of non-hierarchical, participatory and learning-focused environmental governance model for cities. It can be used to complement, or partly substitute, domestic – and/or international<sup>139</sup> – regulation. Indeed, the closing of gaps in governance is generally perceived as a key motivation for the formation of city-level TEL networks.<sup>140</sup> However, this should not be seen as the sole *raison d'être* of city networks in environmental governance; significantly, they also facilitate peer exchange, collect and disseminate information and best practices, and provide and mobilize support for their members. Most importantly, transnational urban networks focus on activities and measures that are specifically tailored to meet the needs of cities and their inhabitants – in the face of climate change, for instance.<sup>141</sup> At the same time, the networks are the sum of their members and partners. As is the case with international environmental governance, where the parties include both leaders and laggards, different cities have taken active and passive roles in the transnational networks to which they belong. Generally, cities with lower capacities may adopt passive roles, with their membership being mostly symbolic.<sup>142</sup> Acting in a transnational environment may also be new for some cities and it may take a while for them to orientate themselves in terms of finding the most suitable ways in which to participate.

As regards Indian city participation in transnational climate initiatives, the current situation is a good start, but there is potential for much more active and large-scale city engagement. Given the current modest national policy framework for strengthening climate resilience at city level in India, there is indeed room for complementary policymaking to specifically address cities' needs.

Resilience to climate change impacts is an issue that is particularly important and pressing for Indian cities. The rapidly increasing Indian urban population and the vulnerable location of many Indian cities bespeak an urgent need to strengthen such resilience, as the cities themselves are increasingly beginning to realize. Only a few years ago, many Indian cities did not see climate resilience-building as a priority:<sup>143</sup> it was regarded as a future issue to be tackled after other, more pressing needs – such as ameliorating the energy deficit and developing infrastructure – had been addressed. However, with the evidence on climate change mounting and the risks of severe negative climate impacts increasingly materializing in recent years, India has come to realize that the time for action is now. Indian cities may be encouraged to seek support from transnational climate networks in the context of efforts to build capacity for urban climate policymaking and regulation. However, TEL should not be treated as a panacea. It does not free cities from the need to invest in and develop their own climate policies; or the national government from providing the enabling environment and resources, as per the applicable national governance model, for municipalities to take climate action. Rather, the transnational initiatives provide a complementary avenue through which to gain knowledge, inspiration and support, and sometimes also concrete commitments to adopt.

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<sup>139</sup> Indeed, cities have been identified as having potential to act as a 'a transformative force' at a time when much global world politics and international law-making is locked into slow-moving multilateralism. Acuto and Reyner (n 3) 1148.

<sup>140</sup> See, e.g., *ibid* 1149; Lin (n 71).

<sup>141</sup> *ibid* 37-38, 105. Lin calls these 'urban-specific norms' and labels cities as 'an emerging normative community' in the sphere of transnational climate change governance. *ibid* 8, 105.

<sup>142</sup> Kern and Bulkeley (n 77).

<sup>143</sup> See, e.g., TERI (n 36) 2.