Transformational resilience thinking: Putting people, power and politics at the heart of urban climate resilience

Aditya V. Bahadur and Thomas Tanner

ABSTRACT

Resilience is receiving substantial traction as a concept to inform climate change and development policies and programs. At the same time, a number of critiques have emerged that question its use as a framing concept for tackling urban climate change. This paper reflects on climate resilience and its critiques through an examination of the Asian Cities Climate Change Resilience Network initiative in two cities in India. We illustrate aspects of the resilience critique and using evidence of transformational aspects of the initiative, we argue that resilience thinking must be coupled with the concept of transformation in order to bring issues of people, politics and power to the fore. In the process, the conceptual strength of resilience can be combined with a more radical agenda that engages with underlying political structures and trade-offs that determine risk and vulnerability.

1 INTRODUCTION: THE RISE OF 'RESILIENCE THINKING' AND THE URBAN CONTEXT

Resilience is receiving substantial traction as a concept to inform climate change and development policies. Articles on resilience have increased by over 400% in ten years;[1] and a significant number of development organisations are attempting to employ the concept in their programs[2]. At the same time, a number of critiques of resilience thinking have emerged, calling into question its use as a framing concept for tackling urban climate change. This paper reflects on urban climate resilience and its critiques through an examination of the Asian Cities Climate Change Resilience Network (ACCCRN) initiative in two cities in India. It also examines the potential for transformation within the

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[1] According to the Social Science Citation Index (from 80 in 1997 to over 380 in 2007), Swanstrom (2008). This is reflected in the papers in this issue and Volume 25 issue 2 of this journal.
[2] Rockefeller Foundation (2010)

initiative to suggest that transformational thinking can help address some of the gaps in resilience approaches by focusing attention on people, politics and power.

Even though it is growing in popularity and is employed by a number of disciplines, [3] resilience is a contested concept. The field of ecology has had the most significant influence on resilience thinking in the context of climate change, disasters and development[4]. The concept has been applied in particular to the functioning of coupled social and ecological systems (SES), in which resilience is defined as the ability of systems to "absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity and feedbacks." [5] This understanding of resilience has led to substantial interest in the social sciences, where the concept is applied to describe responses at different scales, for instance communities, institutions and economies.[6]

This SES strain of thinking has increasingly been applied to 'urban resilience' as a response to a potential range of disturbances, including climate change in towns and cities.[7] A growing number of researchers are considering what urban climate change resilience is, why it is important and how it is achieved. Urban resilience has been defined by Leichenko as: "…the ability of a city or urban system to absorb disturbance while retaining identity, structure and key processes"[8]. The interest in urban resilience is growing because over half of the world's population now lives in urban areas and most cities "…concentrate people and their homes, physical capital, industries and wastes…" while also being disproportionately located along exposed coasts and rivers.[9] At the same time, city authorities in middle income and least developed countries usually do not have the finances or the technical knowledge to appropriately engage with these impacts. Also, 'urbanisation' enhances risks and makes cities more vulnerable to the impacts of a changing climate as it negatively impacts natural systems and increases the exposure of urban residents.

Resilience is seen by some as a function of balancing ecological services and human services. Some analysts have also stressed the importance of the relationship between urban and provincial governments to achieving resilience along with qualities such as "…polycentricity, transparency and accountability, flexibility, and inclusiveness." Others have linked the ability of cities to deal with climate change impacts with the ability of urban governments to meet the 'everyday needs' of their citizens[10]. Some also stress the role of active citizen action and local politics in achieving 'accumulated resilience' in urban areas to strengthening resilience to climate change.[11] Still others stress spatial

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[3] Including psychology, engineering, mechanics, computer science and corporate strategy,. See Bahadur, Ibrahim, and Tanner (2013)
[4] Schoon (2005)
[5] Folke (2006), page 259
[6] Klein, Nicholls and Thomalla (2003), page9.
[7] See recent papers in Environment and Urbanization, Vol. 25, No. 2
[8] Leichenko (2011), page164
[9] Chelleri (2012); Dodman and Satterthwaite (2008), page 68; also Dodman (2008), and Gasper, Blohm and Ruth (2011)
[10] Dodman and Satterthwaite (2008)
[11] Satterthwaite (2013)

diversity in the supply of urban services and diversified economic activities as important to urban resilience.[12]

While resilience is rapidly becoming the new catch-all term for adaptation, there remain some critical gaps in the thinking that are relevant to the urban and to wider contexts[13]. In section 3 we review critiques of resilience thinking before providing empirical examples of these gaps through an examination of an urban resilience building program - the Asian Cities Climate Change Resilience Network (ACCCRN) initiative, in two cities in India. The discussion in section 5 considers the insights provided by this initiative into the concept of transformation, how it can draw attention to the human dimensions of resilience building initiatives, and how politics and power mediate the roles of different actors involved.

We refer to politics in this paper as the exercise of power to control agenda, decisions and outcomes around resilience-building and the processes that support or obstruct different individuals, groups, or organisations in exercising this control[14]. We call for a greater appreciation of these dynamics within policy processes governing urban resilience,[15] arguing that an appreciation of 'people' as well as systems should be central to understanding resilience building.

2 EMPIRICAL RESEARCH METHODS

Data were collected using qualitative methods from July 2010 to August 2011. The semi-structured format was use to interview respondents at different governance levels of the ACCCRN initiative (local, city, national and international). The views of volunteers and user groups helping link communities to the ACCCRN were garnered through focus group discussions. These were analysed for content and observed interactions between individuals. A variety of documents on the ACCCRN were analysed for essential information on the initiative. This analysis was cross referenced against data collected through the other methods. Participant observation saw the researcher being embedded with the initiative for over a year and allowed insight into operationalising resilience and transformation. Exponential discriminatory snowball sampling was employed for interviews, focus groups and document analysis. This sampling process starts with a small, core set of data sources and uses these to uncover new sources, rejecting those that are not centrally aligned to the research design.[16] Data analysis was undertaken through the use of inductive approaches and manual coding techniques.

3 CRITICAL GAPS IN RESILIENCE THINKING

While the popularity of resilience as a framing concept for tackling climate change has grown in academic, policy and practice contexts, there is also a burgeoning body of thought on the gaps and potential pitfalls of resilience thinking.[17] These critiques highlight the lack of normativity and direction given to resilience thinking, a failure to address trade-offs, and its epistemological bias towards technical responses. We interpret these

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[12] Chelleri (2012), also Foster (2007).
[13] Tanner and Horn-Phathanothai (2014)
[14] Gaventa (2006)
[15] Keeley and Scoones (2003), Hall (1997)
[16] Denzin and Lincoln (2011)
[17] Cannon and Muller-Mahn (2010); Duit,Galaz and Eckerberg I. (2010); and Bene, Wood, Newsham, and Davies (2012)

critiques here through the lenses of people, politics and power, calling attention to the ways that different actors and groups exert control and influence over others.

The concept of resilience is not inherently invested with a direction or goal, and is often employed without reference to its subjects.[18] Injecting a normative dimension is crucial if resilience is to provide a basis for successful and equitable adaptation to climate change. In common with theory on the 'anatomy' of climate change adaptation, [19], there is therefore a need to "…reflect on what precisely it is that is being made resilient, in the face of which specific dynamics, for whom and by what criteria this is good or bad, and whether such resilience is consequently problematic or not"[20]. The uncritical assumption of positive outcomes from resilience-building may fail to address different winners and losers, and the political processes mediating trade-offs between actors. Resilience thinking therefore needs to focus on the ways that different groups of actors construct ideas of 'resilience' in order to pursue their interests[21] - one way of enhancing the place that 'people' have within this concept.

Trade-offs in building resilience may be both spatial and temporal.[22] Building resilience at one scale within a system could have a negative impact on resilience at other scales, for example through diverting resources away from other systems or by exploiting other groups of people[23]. Indeed, as Berkhout points out, resilience may not be a desirable characteristic and "…there may be good reasons for wanting to destroy or transform a system – as, for instance, with slavery, fascism, Al Qaeda and fossil-fuel based energy systems."[24] Trade-offs also exist between resilience in the short term and in the long term. According to Smith and Stirling, for instance, "The focus on building resilience to shocks and ignoring long term stress may lead to robustness which inhibits adaptability and transformability."[25] Trade-offs may also exist between different objectives or between human wellbeing and environmental services, with improved human development conditions historically often coming at the cost of the degradation of ecosystems.[26]

A key critique therefore argues that resilience stresses the scientific, the technical and the rational while paying inadequate attention to the human and social. [27] Underemphasising 'people' in resilience thinking results in blindness to the inherent political complexity in issues of managing risk.[28] Limited attention is then paid to the structures and forces that shape these challenges. As Swanstrom explains: "Resilience tends to treat stressors as generated by basically unpredictable forces in nature, such as storms, climate change, or forest fires. A forest cannot prevent fires or stop climate change. Humans can."[29]

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[18]Swanstrom (2008)
[19] Smit, Burton, Klein and Wandel (2001)
[20] Smith and Stirling (2010) page 10
[21]Smith and Stirling (2010)
[22] Adger, Arnell, and Tompkins (2005)
[23] Berkhout (2008)
[24] Berkhout (2008), page 11.
[25] Smith and Stirling (2010), page 4.
[26] Turner (2008).
[27] Cannon and Muller-Mahn (2010).
[28] Kuhlicke (2010).
[29] Swanstrom (2008), page 18.

The emphasis on systems (within resilience thinking) for understanding interlocked social-ecological-technological processes across multiple scales can also be critiqued for failing to populate these system with individuals. Different people and groups frame or seek systems that are resilient for realising their particular needs or the persistence of their institutions,[30] mediated by the ways through which different framings of resilience acquire "...credibility, legitimacy, authority and power"[31]. The existence of different framings means that resilience as a term and narrative can be hijacked by particular interests to marginalise particular actors in a particular setting.[32] There can be trade-offs among different groups seeking resilience where resilience for one could lead to heightened vulnerability for another.[33]

This failure of resilience thinking to engage with the political nature of social systems may also be due to the difficulties of translating concepts developed in ecological systems, such as creative destruction, the adaptive cycle or Panarchy[34] into social systems[35]. Ernston and colleagues argue from an urban systems perspective that while environmental systems are functional and "...take the form of food-webs that transfer energy and genetic information", social systems are "...self-constructed by society allowing different people to understand each other, share values and beliefs", and therefore the two systems have structurally different compositions and dynamics. [36]

The tendency to focus on perturbations in natural systems may also be at the expense of other risks and crises that affect people linked to the ecosystem, imposing a rationality that is incongruent with the complex reality of how socio-economic issues combine with ecological systems.[37] In the urban context, Leichenko says, "...climate change is one of many types of shocks that cities face...promotion of urban resilience will thus require that cities become resilient to a wider range of overlapping and interacting shocks and stresses".[38]

Examining the resilience of metropolitan areas, Swanstrom argues that in analysing governance through the lens of ecology, resilience thinking ignores the role that political authority plays in designing institutions and structures within which resilience-building interventions take place. Risks, disturbance and responses are socially constructed and "...we do not start from a state of nature but from a civil society in which resilience is shaped by laws, policies, and very human institutions...when applied to human systems, ecological resilience overlooks the crucial role of authorities in both nurturing and undermining resilience,"[39]. By contrast, Satterthwaite emphasises the importance of civil

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[30] Turner (2008); also Jasanoff (2008).
[31] Berkhout (2008), page 12.
[32] Kuhlicke (2010).
[33] Leach (2008).
[34] The Adaptive Cycle describes how eco-systems go through cycles of growth, conservation, release and renewal (Gunderson and Holling 2001). The concept of Panarchy, draws attention to how such cycles of creative destruction take place non-synchronously at various levels within a system (ibid).
[35] Turner (2008).
[36] Ernston, Leeuw, Redman, Meffert, Davis, Alfsen and Elmqvist (2010), page 357.
[37] Cannon Mueller-Mahn (2010).
[38] Leichenko (2011), page 165.
[39] Swanstrom (2008), page 16.

society and citizen mobilisation in creating the pressure and partnerships for enhanced urban resilience.[40] The lack of attention to the role of politics and the government has also led to critiques of resilience as a neo-liberal concept that charges populations living in poverty with using their own resources to support themselves through crises.[41]

In common with much climate change policy, there remains limited understanding of how resilience thinking relates to prevailing politics, policy processes, and how these factors play out in different institutional environments.[42] Garschagen[43] and Bahadur and Tanner[44] present case studies from Vietnam and India respectively demonstrating that resilience, with its emphasis on foresight, flexible systems and the acknowledgement of uncertainties, is incongruent in policy environments that are dominated by centralised command and control strategies, short-termism and preservation of the status quo, manageable steady states, and predictability. Despite robust empirical evidence of organisations and institutions changing to enhance resilience following shocks, there is little empirical study of how radical institutional change can be induced prospectively, based on foresight or minor creeping changes before disasters events occur.[45]

Although it has a pragmatic appeal as an intuitively understood term with potential for integrating different actors and narratives,[46] resilience as a technical concept remains difficult to communicate and operationalise, despite growing efforts of international practitioners in the urban sphere.[47] Complex concepts such as multiple stable states or Panarchy can be difficult to translate into concrete guidance for decision making, a difficulty further compounded by an absence of a common resilience metrics.[48] For urban areas, Chelleri concludes that there is therefore a need for "…tools to bridge and put urban resilience analysis findings into urban planning, economy, and policy realms and practices."[49]

A number of these gaps in resilience thinking become even more problematic in urban contexts. Trade-offs between different groups seeking resilience become particularly accentuated in densely populated urban contexts where an increase in one household's resilience can lead, very quickly, to the enhanced vulnerability of another.[50] Within the Indian urban context, trade-offs between scales at which resilience is being built are also particularly important. This is because limited processes of decentralisation have left Indian provincial (State) governments with substantial control of governance processes at the city level. Any effective initiative to build city resilience must necessarily therefore also engage with politics and policy at higher levels of governance.[51] Moreover, urban political governance contexts in India are particularly complex and fragmented for a

[40] Satterthwaite (2013).
[41] Boyden and Cooper (2006).
[42] Tanner and Allouche (2011).
[43] Garschagen (2011).
[44] Bahadur and Tanner (2013).
[45] Garschagen (2011); also Pelling (2011).
[46] Bene et al. 2012
[47] Wardekker, Jong, Knoop and Sluijs (2010); also Brown, Dayal and Rumbaitis del Rio (2012); and Tyler and Moench (2012)
[48] Boyd, Osbahr, Ericksen, Tompkins, a Lemos, and Miller (2008).
[49] Chelleri (2012), page 300.
[50] Leach (2008).
[51] Chamaraj (2009).

number of reasons including the problematic role of para-statal agencies. These agencies have a powerful remit on particular urban sectors (with a direct link to the 'resilience' of the city) but do not effectively come under the control of city governments.[52] As a result, urban Indian contexts pose particular challenges for operationalising systems thinking and collaboration that characterise resilience approaches. Finally, community involvement has been widely understood to be vital to processes of building resilience.[53] Yet engaging communities through established participatory methods is notoriously difficult in urban areas as the community is dynamic and heterogeneous, with people from different castes and regional backgrounds residing in the same neighbourhoods.[54] The next section will now explore the manner in which a number of these issues were evident in a program to build urban climate change resilience.

4 EMPIRICAL LESSONS ON RESILIENCE GAPS: THE ACCCRN IN INDIA

How are these critiques reflected in operational attempts to enhance urban resilience? In this section, we reflect on these challenges, drawing on case study research carried out with the Asian Cities Climate Change Resilience Network (ACCCRN). Funded by the Rockefeller Foundation, its goal is "…to measurably enhance the resilience of ACCCRN cities' institutions, systems and structures to current and future climate risks, and through this, measurably [to] improve the lives of poor and vulnerable people."[55] The network operates across ten cities in four countries to build the resilience of city systems. This paper draws on two case studies (one from Gorakhpur in north India and one from Indore in central India), based on a single resilience initiative, and as such, attempts to draw generalizable results on resilience thinking from a specific empirical context.

In Gorakhpur, the Gorakhpur Environmental Action Group (GEAG)- a local NGO implements resilience building activities funded by the ACCCRN. In Indore, TARU- an Indian consultancy company is charged with the same task. A City Advisory Group has been established in both cities, this is a steering group of experts from different fields charged with overseeing the plans and activities of the project. Each city has seen the development of a vulnerability assessment and 'City Resilience Strategy'. These have formed the basis of a number of resilience building interventions being implemented in these cities. In Gorakhpur, this includes building climate change resilience of the Maheva neighbourhood, an informal settlement where GEAG is working closely with the community to reduce water logging, water stagnation, prolonged flooding and consequent impacts on health, livelihood and infrastructure. In Indore, the main intervention analysed in this paper is the pilot project on 'Conjunctive Water Management'. This is an initiative in four neighbourhoods of the city that aims to reduce water scarcity through water harvesting, waste management and judicious use. Increased flooding and stress on water resources are well recorded urban problems that are likely to worsen with climate change.[56]

Limited conceptual engagement with the trade-offs involved in the processes of building resilience,[57] as discussed in the previous section, was reflected in the ACCCRN

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[52] Mukhopadhyaya, Jayal, and Meenakshisundaram (2000); also Chamaraj (2009).
[53] Norris and Sander (2008); Bahadur et. al. (2013).
[54] Korf (2002).
[55] Rockefeller Foundation (2010), page 3.
[56] Satterthwaite, Huq, Pelling, Reid, and Lankao (2007)); also Wilbanks et al. (2007).
[57] Berkhout (2008); also Smith and Stirling (2010); and Turner (2008).

programme. In Gorakhpur, the intervention targeted one slum community, representing just one of seventy municipal wards in the city. Even within this tightly defined geographical space, increased resilience for one section of the population living in this area often meant reduced resilience for another section. This was because some wealthier households had built boundary walls around their homes to prevent floodwaters from entering. This led to greater risks to those more vulnerable adjacent households who could not afford boundary walls. Those charged with building resilience within Maheva were therefore faced with finding pathways of resilience that negotiated these social and economic fault lines at the community level. The ways that different people and groups frame resilience and the need to negotiate trade-offs between groups is a factor in any program of building resilience.[58] While issues of trade-offs receive inadequate consideration within resilience thinking in general, this problem is particularly important when building resilience in densely populated urban areas.

The cross-scalar trade-offs from resilience building[59] discussed in the previous section were also illustrated in the ACCCRN interventions. Substantial progress was observed with resilience thinking gaining traction at the city level, but far less at higher scales of governance, particularly at the national level, where policies and programmes frame and determine city conditions. The mid-term evaluation of the ACCCRN noted, "…there was little attention paid to the national-level governance and policy context. National policy was not prioritized, as the ACCCRN theory of change emphasized building a body of credible practice in cities as a driver for urban climate change resilience."[60] While this may be an inevitable trade-off for interventions with scarce resources, concentrating time and resources on affecting change at one level left the ACCCRN less able to foster resilience building actions at higher scales. As mentioned at end of section 4, this is particularly problematic in urban areas; due to inadequate political and administrative decentralisation in India, the resilience of cities is dependent on governance decisions taken by State governments at the sub-national level.[61] For this reason, resilience thinking here especially needs to take into account contextual political dynamics and power relations.

The importance of considering issues of people, power and politics was visible within the processes of the ACCCRN in attempting to secure the participation of the most marginalised social groups in Maheva. Volunteers who conducted the household survey (the primary data gathering exercise in Maheva) reported that they had not included any individuals from the *Harijan Basti* or the locality where the lowest castes lived. As a consequence, their concerns were not adequately recorded and they did not form a part of the participatory exercises. At the same time ACCCRN staff noted that securing the participation of those belonging to the *Brahmin* caste (the highest caste) had also been difficult as many of them were uneasy about being physically seated at the same level as the rest of the community in project meetings and participating as 'equals' within decision making processes. In part this relates to operational problems common to many development initiatives, but it also stems from the under-emphasis on local level aspects of power within the apolitical systems view adopted by resilience thinking (as discussed

[58] Jasonoff (2008); also Kuhlicke (2010).
[59] Adger, Arnell, and Tompkins (2005).; also Berkhout (2008); and Leach (2008).
[60] Barr (2011), page 21.
[61] Chamaraj (2009).

in section 3). This reflects the notion that resilience, based on a technocratic idea of change, relates to changing practices, rather than addressing the structural causes of risk and vulnerability. [62] Even though the ACCCRN attempted to introduce practices around participatory decision making on issues of managing climate impacts, it faced significant challenges in engaging with the deep rooted political structures that impeded full and fair participation.   This issue also resonates with an existing body of literature around the manner in which heterogeneity of urban communities makes meaningful community participation difficult to achieve.[63]

Collaborative engagement across the system was also problematic at higher levels of governance. While the resilience initiative brought an emphasis on systems thinking, complexity and cross-sectoral collaboration, this clashed with the prevailing compartmentalised policy making and weak cross-sectoral collaboration within elements of the city government [64]. This clash was clear through the evident acrimony in collaborative meetings arranged by the project team at the city level. Never before had systems thinking been employed in policy processes within Gorakhpur to bring together representatives of different government bodies and ordinary citizens –each with their own agendas and interests. This resulted in disagreements between the different parties involved that had to then be managed by reducing the diversity of participants. This in turn, negatively impacted the diversity of opinions garnered in policy making. Ideas of complexity and systems thinking embodied within resilience thinking make for an elegant heuristic, but this experience provides insights into how difficult they are to operationalise in real policy contexts imbued with individuals and their values.[65] As noted at the end of section 3, this issue is markedly important in urban areas in India, which have particularly fragmented policy environments.[66]

Engagement of local politicians in the resilience initiative also created conflicts with existing clientelist relationships at the community level. These explain the negative attitude of the *pradhan* (the locally elected political leader) towards the ACCCRN in one of the four neighbourhoods in Indore in which the Pilot Project on Conjunctive Water Management (PPCWM) was being rolled out to help alleviate the problem of water scarcity. Local residents who were members of a 'water users group' formed as part of the project reported that the *pradhan* had no interest in solving the water issue, as during times of shortage he supplied water via mobile tankers to his 'near and dear ones'. Thus maintenance of the status quo, rather than solving water scarcity, was in the interest of the *pradhan* as this provided him with an effective currency with which to secure voter loyalty and election funds.

A few kilometres down the road in another neighbourhood where the PPCWM was being implemented, networks of patronage were again evident. The members of the water user group felt no need for an external project to reduce water scarcity as their political patron was providing them the services that they needed. Attempts to operationalise resilience therefore need to look beyond procedures and practises for community engagement on

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[62] Cannon and Muller-Mahn (2010); also Kuhlicke (2010).
[63] Korf (2007).
[64] Bahadur and Tanner (2013).
[65] Boyd, Osbahr, Ericksen, Tompkins, Lemos, and Miller.(2008); also Chelleri. (2012).
[66] Mukhopadhyaya, Jayal, and Meenakshisundaram (2000); also Chamaraj (2009).

tackling climate impacts towards an understanding of urban politics and its complex networks of clientelism and vested interests. [67] This empirical evidence supports the conceptual critique, noted in the previous section, around the inadequate engagement of resilience thinking with the political nature of risk and resilience.

Section 3 also discussed the manner in which resilience thinking is at odds with organisational and institutional culture. This too was evidenced within the ACCCRN initiative[68], mainly through the limited engagement of Urban Local Bodies. There was only limited interest in the initiative on the part of the Municipal Corporations of Gorakhpur and Indore and their participation in the project was piecemeal at best. This too was due to a fundamental divergence between the assumptions of resilience thinking and the reality of how these bodies were run. For instance, resilience is concerned with preparing for a range of disturbances that may occur, tantamount to the ability of systems to deal with uncertainty.[69] This principle was embedded within the ACCCRN in a number of different ways. The ACCCRN aimed to spread awareness amongst city level actors (governments, civil society organisations, citizens and businesses) about the nature of climate change and the surprises that the future holds that could combine with present day problems to exacerbate vulnerabilities. Those running the ACCCRN did this by developing and employing 'climate scenarios' within the policy contexts in which it was unfolding. This future orientation of the ACCCRN initiative was also evident from the fact that the project team engaged local communities in iterative learning sessions that, among many topics, focused on 'trends' in rainfall, temperature and other climatic patterns; and that fostered an understanding of how changing patterns were impacting their lives and livelihoods.

However, these activities were in stark contrast to the prevailing discourse in the local policy context that focused on dealing with present contingencies. In both Gorakhpur and Indore, a multitude of cascading civic problems unfolded every day on which the local governance machinery was sharply focused. The dominant narrative circulating among those charged with running the two cities lacked a strong future orientation. Climate change is not understood to be a pressing priority for key political actors and civil servants. The reasons for this were steeped in local political dynamics; action to help vulnerable communities become more resilient is seen as mitigating future adverse events, usually beyond the next election or civil service transfer and hence, not politically expedient. Conversely, these actors in the rapidly expanding cities such as Gorakhpur and Indore are faced with a multitude of immediate problems and not attending to them can have tangible negative consequences for their careers. To have traction, operational approaches to resilience thinking therefore need to work within and transform the institutional incentive structures underpinning urban governance. This requires those designing and executing urban resilience initiatives to engage more rigorously with power and politics within institutions.

5 DISCUSSION: CAN TRANSFORMATION BRIDGE GAPS IN RESILIENCE THINKING?

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[67] Cannon and Muller-Mahn (2010); also Landé (1977).
[68] Garschagen (2011); also Bahadur and Tanner (2013).
[69] Folke (2006); also Norris and Sander (2008).

Recognition of these gaps and critiques has led to calls for resilience thinking to be used in conjunction with other concepts.[70] The evidence from the ACCCRN supports the proposition that transformation as a concept could help fill some of these gaps by putting issues of people, power and politics centre stage. This section reviews the contribution from the burgeoning field of 'deliberate transformation' and demonstrates how the ACCCRN also started to demonstrate early signs of embodying and operationalising transformational change[71].

Drawing on the field of social protection, Devereux and Wheeler[72] argue that programmes become transformative if they move beyond a focus on targeted income and consumption transfers to also enhance equity and rights in protecting the lives and livelihoods of the marginalised. Transformation is thereby equated with, "...the need to pursue policies that relate to power imbalances in society that encourage, create and sustain vulnerabilities."[73] This conceptualisation is reflected by most writers on transformation in a climate change context, with transformational adaptation typically requiring fundamental changes in institutional arrangements, priorities, and norms,[74] and, in O'Brien's words. "...changes to entrenched systems maintained and protected by powerful interests."[75] These facets of transformation can help address the rational and technocratic understanding of change implicit within resilience thinking and foreground the political complexity in issues of managing risk.[76] Also, through its focus on equity, rights and entrenched power, transformation draws attention to the importance of political authority and leadership in reducing vulnerability- another gap in resilience thinking identified in section 3.[77]

Pelling extends these insights into managing risk from climate change.[78] He observes that "conscientisation" or critical awareness is important for a transformational approach to dealing with climate change, breaking away from malignant institutionalised positions such as the "…dominant preference for maximizing personal economic wealth beyond aspirations for social or environmental aspects of well-being or sustainability… The result is a sense of lock-in with the institutionalised status quo generating feedback loops that support further entrenchment." He also argues that for climate risk management to be transformative it must be a tool for "…opening dialogue and contributing to wider, inclusive forms of governance."[79] The author makes a distinction between 'transitional' and 'transformational' adaptation, observing that the latter carries the potential for climate change adaptation to be a mechanism for shifting the balance of political and cultural power in society. This centrality of dialogue and inclusiveness to transformation addresses the problems of resilience thinking in considering how different individuals within this system frame and conceptualise issues of vulnerability, itself an issue that

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[70] Adger (2008).
[71] O'Brien (2011); see also Kates, Travis and Wilbanks (2012); Parks, Marshall, Jakku, Dowd, Howden, Mendham and Fleming (2012); Tanner and Bahadur (2013); Tanner and Horn-Phathanothai (2013)
[72] Devereux and Wheeler (2004).
[73] Devereux and Wheeler (2004), page 9.
[74] Kate, Travis and Wilbanks (2012).
[75] O'Brien (2011), page 4-5; see also Pelling (2010) and Béné, Wood, Newsham, and Davies (2012)
[76] Cannon and Mueller-Mahn (2010);also Kuhlicke (2010).
[77] Swanstrom (2008); also Boyden and Cooper (2006); Tanner and Bahadur (2013)
[78] Pelling (2010), page 10.
[79] Pelling (2010).

needs to be negotiated and mediated.[80] As a concept hinged on shifting political and cultural balance, transformation also argues for a rigorous engagement with institutional cultures that are, in turn, underpinned by political interest.[81]

The vision of transformation as 'political enterprise' is closely linked to Kapoor's definition of transformation.[82] On one hand he sees it as a process of engagement with issues of power in affecting changes in the social structure and, on the other, as changes in individual values, capabilities and choices. This definition can help to add the 'people' currently missing from much resilience thinking. Alterations in consciousness at the individual level are therefore also important in bringing about wider transformation, consistent with Pelling's calls for "conscientisation".[83] These insights into the nature of transformation reflect the challenge of transplanting resilience from natural systems to engagement with the social, integrating an understanding of the way in which individual values, meanings and beliefs play a critical role in any program of managing risk.[84]

The ACCCRN began to embody some of these tenets of transformation as political change by initiating processes that started to reconfigure imbalances in power at the local level. Volunteers helping deliver the ACCCRN in localities such as Maheva, Gorakhpur started to challenge the coercive grip on power that local politicians enjoyed. One of the key roles of the volunteers was to spread awareness on climate change resilience issues amongst residents of local neighbourhoods. As part of this, they talked about a wide range of topics ranging from sanitation to agriculture, as well as the role that Urban Local Bodies were to play in helping solve related problems. This process of awareness raising with residents resulted in increased demands and greater pressure on the 'Corporator', their representative in the Urban Local Body, helping to enhance accountability and address power imbalances considered essential to transformational change.[85]

As part of their actions to raise awareness, volunteers helped convene large 'community meetings' where they discussed problems that the community was facing with a view to finding solutions to a range of civic problems, thereby contributing to 'conscientisation'.[86] These meetings also helped challenge the dominance of local politicians. Before the commencement of the ACCCRN and the consolidation of this cadre of volunteers, the Corporator was the sole port of call for residents of Maheva facing such problems. Moreover, the volunteers also started to harm the Corporator's material interests. For instance, Maheva's lack of adequate solid waste management was addressed by ACCCRN volunteers through new arrangements for collection and disposal in order to protect drains from blockage and facilitate the ejection of storm water. These arrangements threatened the existing, malfunctioning system of waste management that was allegedly a source of kickbacks for the Corporator. In this way, the ACCCRN started

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[80] Jasonoff (2008); also Berkhout (2008); and Kuhlicke (2010).
[81] Pelling (2011); also Garschagen (2011); and Bahadur and Tanner (2013).
[82] Kapoor (2007).
[83] Pelling (2010).
[84] Turner (2008); also Ersnton, Leeuw, Redman, Meffert, Davis, Alfsen and Elmqvist (2010).
[85] Devereux and Wheeler (2004); O'Brien (2011)
[86] Pelling (2010).

to tangibly challenge political power in the local communities and to embody adaptation as transformation through the generation of new rights claims.[87]

Moving away from the community level, it is also possible to see that the ACCCRN began to address power imbalances in the broader public policy environment through the formation the City Advisory Committees (CAC) in Gorakhpur and Indore. These brought together prominent citizens, including eminent lawyers, architects, businessmen and civil society leaders, as advocates of the ACCCRN and guides for individual resilience building initiatives. Prior to the ACCCRN, policy environments in Indore and Gorakhpur were largely closed to public participation in any substantial way and were dominated by policy elites such as civil servants and politicians. While there remained major deficits in the involvement of Urban Local Bodies in the ACCCRN, the CAC started, in a small way, to claim spaces for citizen's voices in these erstwhile closed policy processes. The claiming of such a space was evident when the Municipal Commissioner of Gorakhpur (a key functionary in the governance of the City) acted to help conserve a local water body after outreach by the GEAG and its CAC. Similarly, members of the Urban Local Body in Indore noted that the collective weight of credible voices on the CAC had started to make inroads into the town's urban planning process. In this way, the ACCCRN started to open dialogues and contribute to wider and more inclusive forms of governance, thus widening policy spaces and participation in line with characteristics of transformation.[88]

ACCCRN's transformative potential was also evident in the greater collective sense of community and social bonds in the neighbourhoods where it was operating, the result of building stronger associative spaces. For example, Mahalaxmi Nagar neighbourhood in Indore has houses with walled compounds and scant spaces for public gatherings. All the members of the Pilot Project on Conjunctive Water Management User Group in this neighbourhood agreed that the project had provided them with a unique space in which to discuss and share issues as a springboard for action. The User Group Secretary noted that the group allows them to learn from each other and in these meetings he had understood that collective rather than individual action would help raise the depleted water table in their neighbourhood. They felt that such a space was unique and had never really been attempted before in their neighbourhood. This sentiment is also mirrored in Rahul Gandhi Nagar, Indore, where the community underlined that their involvement in the User Group had helped consolidate a shared identity and a collective conscience. The ACCCRN thus started to change not only social structures but also individual values and belief (around the value of community association)- the two elements of transformation as identified by Kapoor.[89]

Overall, our findings suggest that climate change initiatives which 'transform' must understand resilience from the perspective of the marginalised sections of the community. In doing so, they must identify root causes of vulnerability and barriers to resilience, and actively challenge the institutions, vested interests and power relations which create these conditions. They must therefore challenge entrenched ways of thinking and working. These findings provide a snapshot over a 13 month period, so longer term transformational impact once external support ends is hard to gauge.

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87 Pelling (2010).
88 Tanner and Bahadur (2013)
89 Kapoor (2007).

Nevertheless, there is initial evidence here of the potential for transformation through the challenges posed by community members to the coercive grip on power of local politicians, through the beginning of citizen participation in urban planning processes, and through coalescing of a collective 'community conscience' in the areas of the initiative's operation.

6 CONCLUSION

This paper began by exploring the rapid ascent of resilience thinking as the dominant lens for analysing and responding to climate change across both rural and urban contexts. It then went onto explore an emerging body of work critiquing resilience thinking, arguing that the concept, as generally presented, has an inadequate engagement with people, power and politics, and putting these critiques in the context of urban challenges. These gaps were explored further by drawing on the empirical example of the ACCCRN initiative to build the resilience of the urban poor. The paper then suggested that greater attention be paid to 'transformation' as a concept coupled with resilience thinking to bridge the gaps identified, demonstrating aspects of transformation evident in approaches adopted by the ACCCRN. In so doing, the paper calls for embedding such features in other initiatives to enhance the resilience of vulnerable communities.

This paper employs empirical data to further support arguments that resilience and transformation be treated as concepts that lie along the same continuum.[90] The fact that an initiative to operationalise resilience such as the ACCCRN not only embodies the features and gaps of resilience thinking but also integrates aspects of transformation within it, supports the practicality of consciously coupling these concepts to effectively reduce vulnerability in some of the world's most marginal contexts. This is critical particularly in light of the growing likelihood of future dangerous levels of climate change and associated large scale step changes. [91] Resilience, with its emphasis on preparing for an ever shifting range of uncertainties in a complex world, provides unique tools for engaging with a protracted crisis such as climate change. At the same time, transformation, with its sharp focus on addressing the structures that drive vulnerability and risk, helps identify pathways of deep and sustainable change.

Therefore, this paper does not argue for discarding one concept and promoting another, but for reimagining resilience as a concept that includes useful tenets from the body of knowledge on transformation. Doing so can yield valuable tools to be deployed in the battle against climate change in some of the world's most marginalised contexts.

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[90] Pelling (2010); also O'Brien (2011).
[91] Kates et. al. (2012)

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