Deconstructing the Climate-Conflict Nexus in Urbanising India

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ABSTRACT   Will climate change lead to the eruption of violence in fast urbanising societies such as India? Proponents of the climate-conflict linkage have suggested that climate change has the potential to exacerbate resource scarcity and thus lead to the incidence of violent social unrest. However, the complexity of the climate-conflict thesis has rendered it unsupported by compelling empirical evidence. This paper investigates the various contours of the urban-climate-conflict link in an attempt to reformulate the problem for a rapidly urbanising India. As the interaction between urbanisation, climate change, and conflict is neither linear nor homogenous, oversimplifying their links often ignores the role played by socio-political dynamics, contextual histories, culture and economic realities. This paper argues that responses to climate-induced disasters have been shaped by the motivations, perceptions, and interests of different political constituencies to gain power and social ascendancy. Future urban policies need to recognise the complex interplay of political governance, environmental justice, economic development and ecological integrity.

INTRODUCTION

The 21st century is witness to rapid urbanisation at unprecedented rates and amidst increased environmental vulnerabilities to climate change. It is increasingly being argued that climate-change-induced impacts such as resource depletion, floods, droughts, and changes in precipitation pattern, might aggravate wars, civil unrest, or violent conflict—and, in fact, even cause them. Such view is being endorsed by many in the western academe, as well as security analysts and international media.[1][2][3][4]   In 2007, UN Secretary General Ban Ki-moon labelled the Darfur conflict in Sudan as the world's "first climate change conflict."[5] According to this analysis, it was climate change that brought about a prolonged period of erratic precipitation patterns in the country, causing water scarcity and eventually leading to social unrest in Darfur. This explanation was widely received by a huge section of the international community. A wide range of literature is wired to this explanation, which also predicts similar societal responses to climate-induced disasters. A United States National Academy of Sciences report of 2009 notes that "Warming increases the risk of civil was in Africa", linking the rise in temperature, influenced by

climate change, with the chances of war in the continent.[6] The Pacific Institute, for its part, has found a four-fold increase in violent confrontations over the last decade.[7] While this modest yet frightening description of the climate change-conflict link is evolving, a similar view is emerging of fast urbanising societies, such as India, being subject to similar violent events.

Other analysts, however, prefer to remain more wary in attributing direct links between climate change and conflict. Vesselin Popovski, for example, who heads the United Nations University, argues that there might be only an indirect relation between climate change and conflict. He suggests instead that "the causes of conflict are primarily political and economic, not climatic."[8] This school of thought finds limited support in the literature and among media practitioners, perhaps because it would inevitably lead to discussions on the deep-rooted issues of poor governance, and lack of environmental justice and social equity. Other responses to the impacts of climate change could, therefore, be either cooperation or a combined effort to realise collective action, which have so far been the subject of less scholarly examination.

A caveat in the two schools of thought is how 'conflict' is defined. It is important to understand at this juncture the distinct interpretations of conflict, stress and tension arising out of climate change. 'Conflict' could simply imply an opposition between two differing views and interests, or it could refer to a large-scale organised form of protest (either violent or peaceful). Water conflict between its competing uses such as agriculture, industry and domestic, is another example of the former and the Narmada Bachao Andolan, a social mass movement to protest against the Narmada dam in the 1980s, is an illustration of the latter. Implication of conflict invariably depends upon the context, location, and intensity of the discord. Conflict could limit itself to stresses or tensions between competitive groups or turn into a social violent strife. For instance, the disagreements between Delhi, Punjab and Haryana over

entitlement to the Yamuna waters have created what is termed as 'tensions' which are socio-political in character and do not necessarily pose a national-security threat. S. Janakrajan explains 'conflict' as a 'modality of coordination' which can contribute to a change – both negative and positive; instead of categorising it as 'physical violence, war, or polarised protest against establishments'.[9] Accepting the disparate clarifications on the term 'conflict', it would be safe to assume that conflict induced by climate change does not necessarily mean war or armed unrest. Nonetheless, stresses or tensions could arise as a consequence of resource scarcity, or an increase in frequency of natural disasters such as droughts and floods, which could in turn be blamed on climate change.

While the climate-conflict link thus remains contested, urbanisation adds another layer of theoretical and conceptual complication in the now three-tiered equation. Increase in rates of urbanisation is associated with the threat of population growth, surge in consumption levels, infrastructure expansion, economic growth and consideration of the carrying capacity of the earth.[10] This old Malthusian narrative has gained two additional components: one, climate-prompted resource scarcity and extreme weather conditions; and two, resource competition leading to armed unrest.[11] The neo-Malthusian understanding of the interactions between urbanisation, climate change, and conflict is problematic both empirically and conceptually. It even runs the risk of muddying the debate between economic development and environment sustainability.

This paper investigates the different contours of the urban-climate-conflict linkage in an attempt to reformulate the problem and derive effective solutions for a rapidly urbanising India. The paper is divided into four parts: the first section evaluates the circular connection between climate change and urbanisation; the second reviews literature on the climate-conflict association and its applicability in India; the third discusses

responses through illustrative examples of past disasters in India; and the final section concludes the paper's arguments.

THE CAUSE-EFFECT OVERLAP

Climate change and urbanisation are bound together in a circular orientation of cause-and-effect. Urban centres are vulnerable to climate change impacts; and these impacts, in turn, are aggravated by increased urbanisation and its associated carbon emissions. Urban implications for climate change and the impact of climate adversity on urbanisation have been studied in considerable detail. It was brought into focus with the Greenpeace Report in 2007 – *Hiding Behind the Poor*, and subsequently emphasised by several Indian scholars.[12][13] The studies find that carbon emissions for an urban area in India accounts for up to 2.5 tonnes of Co_2e as compared to 0.85 tonnes of Co_2e of an individual in a rural area.[14]

Urban areas are not only contributors to global warming but also sites for increased vulnerability and threat from impacts of climate change. Decreasing water availability,[15] exposure to greenhouse gas induced radiative forcing,[16] urban heat islands,[17] and threat to food security are some of the major challenges that are likely to add stress to urban areas. India has a 5,700-km coastline and is expected to suffer the consequences of a rise in sea levels. Three major coastal cities in India—Mumbai, Chennai, and Kolkata—stand in such a reckoning as they are expected to be exposed to increased incidence of flooding, high tides, and saline intrusion.[18] Climate change will also impact the incidence of environment-related diseases such as malaria and other vector-borne illnesses.[19] The urban infrastructure and the population will also be at risk from climate-induced storms, floods, droughts, and other extreme meteorological events.

The urban sector contributes 63 percent of India's GDP, a rise from its 45-percent share in 1990, and is considered to be one of the country's main engines of growth.[20] The McKinsey Global Institute (MGI) report of 2010 submits that Indian cities could produce 70 percent of GDP by 2030, given the required capital investments and progressive urban development policies.[21] Evidently, cities are key centres of economic growth, major carbon emitters, and are most susceptible to changing climate.

Climate change and urbanisation are further challenged by overlapping concerns for inequality and the dilemma of preservation vs. prosperity . The apparent inequality in income and access to resources (such as water, energy, and education) is a central challenge for urban development and building resilience against climate impacts. The relative sense of deprivation, injustice, and vulnerability potentially could affect the social fabric in severe ways. Some of the major challenges for the government will therefore be about providing basic services to all its citizens while reducing vulnerability to the impacts of climate change. Developmental planning will also have to be considerate of the trade-offs between economic development and environmental preservation. There are socio-political complications in this process, which moves beyond techno-managerial approaches to solution building. This predicament has been repeatedly put forward by several Indian leaders at the very inauguration of global climate negotiations.[22] India has been demanding an equitable space for development, financial and technological, capacity building support for climate mitigation and adaptation. India has in fact pursued several initiatives for clean energy development and certain adaptation policies to build resilience against climate adversities. For instance, the National Action Plan on Climate Change (NAPCC, 2008) sets out eight missions that align with the goals of combating climate change and pursuing sustainable development. In the recently concluded climate negotiations in Paris, India attempted to manoeuvre the bargaining between economic development and climate action for a win-win situation.[23] Recent government initiatives to address urban

development and climate change include Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and Housing for all by 2022.

Domestic politics, however, respond to the climate-development juxtaposition differently. Vote bank politics, the colonial legacies for resources management, different jurisdictions (states control most of the resources) and the appeal of short-term economic thinking continue nonetheless to dominate the space of climate and urban development policies. Repercussions of this are visible in the form of unplanned urbanisation, disparate access to resources, and increase in vulnerability to environment-led disasters. In order to guise these abysmal techno-managerial hiatuses, political leaders have tended to present simplified versions of statistics to shore up public anxieties and lend legitimacy to actions they might decide to take. The UN's projection models suggest that there will be an addition of 2.5 billion people in the urban areas by 2050, mostly from Asia and Africa.[24] Mirroring the trend are the numbers from India, with an expected absolute increase in its urban population, which will exceed its rural population for the first time since 1947.[25] As per the UN estimates, India's urban population will reach 600 million by 2030 (40 percent of the total population).[26] A direct consequence of this is analysed in terms of the already limited resources, rural-urban migration, and in turn, urban security.[27 28]

Climate change is predicted to further exacerbate extreme weather events such as heavy rains, storms, cyclones, and hurricanes, causing further strain on resource availability. Freshwater systems are principally vulnerable to climate change. Increase in the frequency of floods, droughts, changes in the precipitation patterns, and sea-level rise can have dire consequences on water supply and sanitation, agriculture, energy production, transportation, ecological services, and tourism, among other sectors.[29] Indeed, the water supply situation in urban areas is already showing signs of visible stress. The per capita

availability of water in India is 1588 m3/yr, which dropped from 1816 m3/yr in 2001.[30] According to current international standards which have fixed the threshold value of per capita water availability at 1700 m3/yr, India is projected to be fast reaching the 'water stressed' situation,[31] a response to which may be seen in the form of social unrest, armed conflict, or war (as predicted by security studies).[32 33 34]

These quantitative assessments can be understood as piecemeal, at best, for their calculations and the resultant prescriptions, for two main reasons: one, the scientific projection models and studies on climate change are assumptive, simulated, and have a considerable margin of 'uncertainty'. These figures are contested even within different government-affiliated agencies credited to different methodologies, growth scenarios, risks and assumptions. For example, the International Water Management Institute predicts the total water demand for Business As Usual (BAU) scenario to increase by 22 percent in 2025 and 32 percent by 2050.[35] The Ministry of Water Resources forecasts domestic water demand to constitute seven percent of the total water consumption in 2025 and nine percent in 2050.[36] These quantitative analyses are powerful in influencing and shaping official policy and public opinion, and alarms can often derail deliberative democratic decisionmaking.

Two, quantitative assessments tend to underestimate socio-cultural complexity and the role of institutions and governance. They undermine the significance of different agencies involved and undercut socio-political factors which may act as catalysts for cooperative response to stresses and disasters. Several scholars have attempted to emphasise on the complex interplay of different factors in the climate-conflict linkages, more for rural areas than urban ones.[37 38]

CHALLENGING THE NEO-MALTHUSIAN NARRATIVE

The neo-Malthusian narrative focuses on the human security aspect in relation to climate change dangers. Here, conflict or security threat refers to large organised forms of violent or non-violent protests, wherein threat to security is heightened. Proponents of this climate-conflict narrative, such as Homer-Dixon, argue that conflicts will arise and increase due to structural scarcity of resources, perception of relative deprivation and the existing antagonism between different social-identity groups.[39] However, this view overlooks dynamics that affect conflict such as historical relations between communities involved, politics over resource allocation and distribution, inequity among different groups, and perhaps, the kind of institutions and the way in which they function. In 'naturalising' violence as a response to resource shortage, the problem is oversimplified.

David Satterthwaite (2009), for his part, delinked population growth and greenhouse gas emissions by arguing that "it is not the growth in (urban or rural) populations that drives the growth in greenhouse gas (GHG) emissions but rather, the growth in consumers and in their levels of consumption."[x41] Despite having the world's second largest population, India's per capita carbon emissions is one-third of global emissions.

Mass protests, movements, and state failure as a result of environment-induced vulnerability arcs over wider processes of power transitions and a global securitisation agenda.[42] For instance, reports on the Darfur conflict, the Sudanese civil war,[43] and the more recent Syrian conflict have been linked to climate change, while concealing the long-standing political dynamics and power struggle between different national agencies in these countries.

Mark Zeitoun (2007), in his study of the dynamics and levels of conflict in the 'sharing' of groundwater between Palestinians and Israelis,

explains that cooperation and conflict could exist simultaneously, creating a paradoxical situation.[44] For instance, a Joint Water Committee between Israel and Palestine continued their work and interaction despite destructive military actions. At the same time, it is noted that the fact that authorities on both sides are working together does not mean that they are cooperating; it could in fact be that they are in a conflicting situation. Therefore, due consideration needs to be given to dynamics and level of the conflict and the complex political context of the situation (asymmetric power relations, presence and effectiveness of institutions, levels of development, and securitisation). Henrik Urdal's work on population, resources and political violence conducted from 1956 to 2002 also could not support the direct link of structural scarcity of resources, rural inequality, and high urbanisation, to the incidence of political violence.[45] He confirmed through his time-series study of 27 Indian states that high rate of urbanisation, in fact, significantly lowers the risk of violent conflicts. He concludes thus: "It is not overall scarcity as such that matters, but states' and individuals' inability to overcome local scarcity issues due to political, economic and social factors."[46] Central to this inference, is the significance of effective local governance in mitigating conflicts and managing disasters.

In light of the above assessments, it would be naïve to posit strong and simple linkages between climate change and security through quantitative projection models, that are in particular based on demand and supply of natural resources. An overview of past incidents of natural disasters in India may be useful to contextualise and reformulate existing hypotheses.

DISASTER RESPONSE IN INDIA: ILLUSTRATIVE CASES

There is a range of complex socio-political and ecological factors that obfuscates the climate-

urban conflict equation. Jared Diamond's work, 'Collapse: How Societies Choose to Fail or Succeed', for example, revealed that some societies in the past managed to avoid perilous political consequences despite their ecological vulnerabilities.[47] This gives a push towards investigating, more critically, the responses to some of the past environment-led disasters in India, which may or may not have been caused by climate change but still gives an insight into country-specific responses to natural disasters.

In 2008, the Kosi River flooded north-eastern Bihar causing deaths and damage to livelihoods and infrastructure in both urban and rural areas. Valuation of the damage stood at approximately US$34 million.[48] A perception survey was conducted by the UNDP to evaluate the impact of, and recovery strategies for the floods. The survey revealed that the government played a significant role in evacuation and rescue operations and provided support for rebuilding and re-establishing infrastructure and livelihoods through existing and new policy initiatives such as MNREGA, Indira Awaas Yojana (IAY), and provision of debt relief for populations Below Poverty Line (BPL).[49]

Of greater magnitude was the Uttarakhand floods in 2013 but the government response was slow and inadequate. Multiple cloudburst and torrential rains caused high casualties and widespread destruction in infrastructure, agriculture, and tourism. The death toll reached 4,000 and four districts out of the 12 affected were hit badly.[50] The army, air force, border security force, national disaster response force, and local administrations carried the rescue operations collectively. However, according to the audit report by the Comptroller and Auditor General of India(CAG), "immediate response of the government and district administration of the affected districts was not adequate".[51] The report also listed out the factors'" which intensified the disaster: unplanned development, lack of regulation on the use of explosives, rapid growth of hydroelectricity, illegal mining, and river

diversions. Several official investigations were commissioned following the disaster to review the existing policies of development, strengthen disaster management, and recommend preventive measures.

During the more recent Chennai floods in 2015, government deployed the armed forces, the NDRF battalions, paramilitary forces and the state police to rescue the victims. India's disaster management structure was applauded for its decisive interventions. Still, the economic losses were reported to be more than US$ 1 billion,[53] structural damage was recorded on more than 50,000 houses, and the death toll was 470.[54][55] The floods trained the spotlight on the various issues that contributed to the massive scale of the disaster: illegal constructions, absence of prevention and mitigation measures, and overlapping jurisdictions and functions of government agencies.[56] Rather than facing head-on the questions on accountability and responsibility for the disasters—including possibly the state's failure or a breakdown of institutions, the state declared the Chennai floods as a completely 'natural phenomenon' attributed to climate change or other weather aberrations.[57]

A recent rural case demonstrates similar themes in political responses to disaster in India. Water scarcity in a remote village in the drought-stricken Bundelkhand region of Madhya Pradesh triggered a caste conflict after members of upper castes objected to dalits fetching water from a dug well.[58] The trouble was in Kiratpura village which is 100 km from the district headquarters of Chhatarpur.[59][60] A significant section of the media, as well as political rivals in the Federal and State governments, immediately branded the local caste conflict as an "armed resistance" and "a protest against climate change."

The above cases emphasise two main crucial issues: one, the role of the state and its institutions are critical for preventing and responding to climate-led disasters. While India has mechanisms to respond to natural disasters (floods, earthquake, and cyclones) by way of deploying

security forces and police, disaster 'prevention, preparedness, and mitigation' policies remain inadequate, especially in the face of increasing frequency of such events. Civil society and non-state actors have been more active in addressing the latter through training workshops, capacity building initiatives, and raising the debate on adaptive measures with the government. Formalisation and long-term sustainability of their initiative would still require buy-in from the government. Two, 'climate metaphors' have been used to evade deep-seated issues of governance, especially that of accountability. The cases above highlight how climate-conflict can be utilised to gain either social advantage or political clout. However, climate metaphors have also been useful in raising the pitch of the debate and demanding for immediate climate action and long-term disaster management strategies. It is the contrast between the two approaches to climate metaphor which needs critical assessment and careful consideration.

CONCLUSION

The increasing rate of urbanisation and climate change has given way to global anxieties toward conflict. The recently concluded post-2015 Sustainable Development Goals incorporated Goal 11 to make cities and human settlements inclusive, safe, resilient and sustainable; and the Paris agreement on climate change sets out the aspiration for reducing disasters and risks through nationally determined prioritised actions. The two global agendas interlock in their tasks to reduce the vulnerability of people, places, and ecosystems and help achieve sustainable development. India mirrors these aims through its National Action Plan on Climate Change (2008), among other initiatives. The NAPCC sets out eight missions that align with the goal of combating climate change and sustainable urban development. The National Mission on Sustainable Development aims to 'make habitats sustainable through

improvements in energy efficiency in buildings, management of solid waste and a modal shift to public transport'. The enforcement of these, however, is a challenge that cannot be underestimated. Policies and actions on urbanisation and climate change are intrinsically linked to the broader debate on governance, equitable development, justice, and ecological sustainability.

While stresses and tensions exist in coping with the interaction between the two, a serious urban security threat or violent conflict is non-existent in India. Nonetheless, a direct climate-conflict nexus has been propagated by a section of analysts using simplified data and statistics. The simplification of numbers-based analyses appears more appealing than dealing with difficult social, ecological, and political problems. These causal factors thus get obfuscated by dominant opinions and propaganda used by both state and non-state actors.

In the absence of scientific evidence on a direct causal linkage between climate and urban conflict, opinions and biases have shaped socio-political responses to the issue. These perceptions differ significantly according to agencies' knowledge inputs, biases and socio-political motivations. For instance, civil society frames the debate in a manner that raises the sense of urgency to act on climate mitigation and adaptation, and demands government's accountability towards such objectives. Government or state actors, on the other hand, have used climate change as an excuse to blanket administrative lapses, institutional failures, and improper decisionmaking processes.

Making an assessment using past natural calamities in India, it is clear that the role of state and centre is of utmost importance for effective response and relief to the victims. Over the years, however, the focus on preventive and mitigation measures have not been adequate. By blaming climate change for the damages caused during extreme weather events, the state or national authorities have tended to evade issues of

governance, allocation and distribution politics, and socio-economic disparities.[61] This is not to suggest that climate worries are not real or that due attention is not required to looming stresses and tensions, but to simply put into focus the deliberate omissions in understanding the climate-urban development dynamics.

Over-simplification could also instil anxiety among the population and act as a validation for non-participatory decision-making process and securitised planning for resources management at different levels of operation.[62] None of these practices could possibly be justifiable in a progressively inclusive, connected, and politically awakened urban world. A more sensitive, informed, and participative mechanism is required to deal with the trade-offs between urban development and climate change, and the consequent stresses and tensions, if not violent conflict. Future investigations, therefore, need to understand the motivations, behaviours, and organising mechanisms underlying urban

society's relationship with nature and the physical world. This would provide important insights into comparative public opinion about the environment, diffusion of environmental institutions, the effect of values on individual environmental behaviour, and the role of culture in shaping environmental exploitation and regulation. Social interests driving consumerism and high resource production systems, and capacity of societies to learn and practice sustainability will be important to understand the drivers of climate change and its bearing on the development of urban societies. ⓡRF

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