

Exploring Sub-national State-led Responses to Climate Change: A Critical Case Study of the Assam State Action Plan on Climate Change

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Abstract

Governing climate change is a mammoth task which involves complex interaction and cooperation among various actors and various forms of institutionalized authority within the state, business, and civil spheres. However, the state, owing to its coercive power, still remains the most dominant actor in controlling and mitigating the effects of climate change on both the environment and on people, as policies and regulatory norms, to a large extent, create the space and the framework within which climate change is tackled.

In November 2015, the Assam State Action Plan on Climate Change (SAPCC) was formally launched as a part of the Centre's initiative to tackle climate change through tailor-made state-level action plans. Assam, according to several studies, "falls within areas of greatest climate sensitivity, maximum vulnerability, and lowest adaptive capacity". Adding to this very observable vulnerability of Assam is an often under-recognized factor – *demographic shifts and associated economic, social, political, and security-related pressures arising from climate change-induced internal migration within, and external migration into Assam.*

Dealing with this problem requires a two pronged approach – first, there arises a need for defining terms like "environment refugees" and/or "climate migrants". Second, it not only requires the state to be active in rehabilitation efforts, it also requires conceptualization and creation of alternative livelihoods and/or sustainable infrastructure in climate change "hotspots" so that inhabitants have other alternatives to migration. Thus, while the adoption of the SAPCC marks a progressive step in the battle against climate change, is it broad enough in its scope? Does it only take into account the effects of climate change in relation to economic growth, natural resource management, and the environment, or does it adopt a

more dynamic approach wherein it factors in social costs like the effects (good or bad) of climate change-induced migration? Is the policy a genuine attempt at addressing these under-addressed effects of climate change in their observable totality, or is its focus influenced in varying degrees by other agendas?

The study will attempt to assess the situation from the government's point of view, while also attempting to take into account the political undercurrents behind the formulation of the policy and the implications of these undercurrents on the robustness of the policy (if any). For this, government reports, policy documents, media reports, and other relevant publications have been examined. The research is done through an exploratory approach and with qualitative methods. Keeping in mind the primacy of the state with regard to governing climate change, and keeping in mind the trajectory of the climate change debate in the geopolitical arena, and by extension, its effect on national policy, an attempt has been made to explore how and to what extent the Assam State Action Plan on Climate Change (SAPCC) is looking to adapt, mitigate, and control the effects of climate change in Assam in general, and (if at all it is cognizant of, and trying to) address the issue of climate change-induced displacement and migration in Assam in particular.

Introduction: Origins of, and linkages between, global, national, and sub-national legislations and policies on climate change

A changing global scenario

Climate change, over the last few decades, has gained prominence as an increasingly important global concern, complete with its own politics and direction. *The international climate change negotiations born out of this recognition of climate change as a long-term global disruptive force has, in turn, influenced national governments across the world to take a stance on climate change.* The result of these developments has been an explosion in the formulation and adaptation of climate change and climate-related legislations across the world in the last two decades. Comprehensive studies have shown that the total number of climate change legislations in 164 countries across the world have seen a massive 20-fold or 2000% increase since 1997, thereby reflecting the growing importance of the climate change narrative in the geopolitical arena (Nachmany, Fankhauser, Setzer, & Averchenkova, 2017).

However, *owing to the skewed pattern of economic development and associated power relations across the world, countries differed considerably in their approach to climate*

change. On one end of the spectrum, developed countries, owing to their historical contribution to environmental degradation and their larger resources, have adopted legislations aimed at reducing emissions and mitigating climate change. The least developed countries (LDCs), on the other end of the spectrum, are increasingly becoming cognizant of their vulnerabilities to climate change, and are thereby adopting legislations and policies whose primary foci are adaptation to climate change and enabling green growth (Nachmany, Fankhauser, Setzer, & Averchenkova, 2017).

India's trajectory

India's initial stance on climate change, to different extents, was motivated by a sense of lack material resources, the principles of historical responsibility for GHG emissions and related questions of equity, and by a strong sense of the primacy of national sovereignty over shouldering an international burden. Consequently, for a significant part of the last two decades, India refused to accept internationally deliberated emission reduction obligations, but rather advocated greater responsibility for developed nations in addressing the issue of climate change. However, 2007 onwards, India abandoned its traditionally defensive stance in favour of a more activist stance on climate change – a shift which would manifest itself in the creation of the NAPCC and the SAPCCs. As the importance of India as a fast growing economic force in the world increased, India's broader foreign policy goals changed. Global recognition as a dominant player, geopolitical alignment with powerful nations, concerns regarding regional security and larger economic objectives, etc. became important. India recognized that establishing itself as an influential actor in international climate change negotiations would be a step towards actualization of its larger foreign policy goals (Atteridge, Shrivastava, Pahuja, & Upadhyay, 2012).

As a result, in 2008, the Indian government drafted the National Action Plan on Climate Change (NAPCC) in a bid to outline an eight-point action plan aimed at adapting to and controlling climate change. The eight missions under the NAPCC included the National Water Mission, the National Solar Mission, the National Mission for Enhanced Energy Efficiency, the National Mission for a Green India, the National Mission on Sustainable Habitats, the National Mission for Sustainable Agriculture, the National Mission for Sustaining the Himalayan Ecosystem, and the National Mission on Strategic Knowledge on Climate Change. As of January 2017, talks were underway to include three new missions to

assess and address the impact of climate change on coastal zones, on health, and waste-to-energy plants (The Hindu, 2017).

Owing to the federal structure of the Indian government, actualization of the NAPCC required sub-national or state level policies on climate change to be formulated and implemented. The exercise was thus undertaken under directions from then-Prime Minister Manmohan Singh in 2009, making India one of the first countries in the world to make such a move. States were asked to prepare plans for addressing climate change within the framework of the NAPCC while also keeping unique conditions of each state in mind. Most states, in consultation with relevant experts, thus prepared their plans between 2010 and 2011, giving birth to the State Action Plan(s) on Climate Change (SAPCCs). The SAPCCs, while following a uniform structure in general, highlighted each state government's plan to deal with the localized effects of climate change, extant or expected.

While this marked a progressive step, at least nominally, in the battle against global climate change, the NAPCC, and by extension, the SAPCCs, were designed keeping mind "development objectives while also yielding co-benefits for addressing climate change effectively" (Prime Minister's Council on Climate Change, 2008). In other words, climate change was relegated to being an environmental issue of secondary importance, and not seen as a long-term impediment to development itself. The result of this attempt to balance "development objectives" with addressing climate change was reflected in the policies themselves, with the SAPCCs varying considerably across states with regard to the amount of detail they contained. As a result, vulnerability assessments as well as budget estimates differed widely across states, with only those invested in actualizing the plans carrying out comprehensive assessments and allocating larger budgets. The focus became adaptation to the adverse effects of climate change brought about by economic growth, rather than mitigation and control, and resulted in a lack of uniformity of political will in implementation. Implementation was also plagued by a variety of other factors such as the lack of a clear action plan, poor quality of planning, problems in securing funding, and institutional bottlenecks (Gogoi, 2015).

A critical case study of the Assam State Action Plan on Climate Change

Understanding the context: Climate change, displacement, and migration in Assam

Assam has had a long history of environmental disasters, particularly floods and river erosion, ever since the 8.7 magnitude earthquake in Arunachal Pradesh in 1950 altered the topography of the Brahmaputra river valley, thereby greatly affecting drainage in the region. While the Brahmaputra provides livelihoods to hundreds of thousands living on its banks, floods and river erosion over the years have affected and displaced millions of people, a problem which continues to get worse by the day. On an average, over 2.6 million people in Assam are affected by floods annually, and over Rs 128 crore worth of crops, housing, public utilities etc. get damaged (The Economic Times, 2017). Contributing to this flooding is a combination of several factors, both natural and anthropogenic. The primary reason, however, remains that surplus water generated by Assam's dynamic monsoon regime is no longer draining away through the earth's natural channels due to the altered physiographic setting of the Brahmaputra basin post-1950 (Centre for Natural Disaster Management).

Given this as yet unalterable physiographic reality, climate change is poised to exacerbate this problem of flooding and erosion, and in consequence, the problem of displacement of populations and property damage. Assam, which "falls within areas of greatest climate sensitivity, maximum vulnerability, and lowest adaptive capacity", is, according to climate projections, set to undergo significant increases in precipitation levels, extreme rainfall days, drought weeks, and flooding. Projections indicate that between 2021 and 2050, most districts in Assam will see an increase in rainfall by as much as up to 25%, extreme rainfall days are expected to see an increase of up to 38%, drought weeks are expected to rise by 75%, while flood occurrence is expected to increase by 25% (especially in southern Assam) (Department of Environment, 2015). To put the problem into perspective, 31.05 lakh hectares of land or 39.58% of the total land area of Assam is prone to floods, and, since 1950, 4.27 lakh hectares of land or 7.40% of the area of the state has been eroded away by the Brahmaputra and its tributaries (Water Resources Department, Government of Assam). While work on the Central government's proposed Rs 40,000 crore dredging project of the Brahmaputra, spanning the length of Assam from Sadiya to Dhubri (891km), will reportedly begin this winter, the efficacy of the project in addressing the flood and erosion problem remains to be seen (The Economic Times, 2017). Apart from doubts raised by hydrological experts, it is also unclear as to whether the dredging project to increase the Brahmaputra's carrying capacity is short-sighted and meant to address immediate concerns, or whether it has factored in the climatic projections and their possible effects on flooding and erosion in the long-run.

As established by the discussion above, displacement and migration resultant from flooding, erosion, drought and other environmental factors is arguably one of Assam's biggest *localized* climate change concerns. Compounding this problem of internal displacement and migration is the fact that Assam also faces large scale immigration from across the border, a part of which may be attributed to climatic changes in Bangladesh. Therefore, in the absence of any certainty regarding the long-term success of the Brahmaputra dredging project in mitigating the effects of flooding and erosion, and considering the projected increases in precipitation levels and drought weeks, preparing for climate-change induced displacement and migration should ideally be a top priority in the formulation of any policy on climate change in Assam. This would require a two-pronged approach – that of identification, and of state intervention. First, there arises a need for defining terms like “environment refugees” and/or “climate migrants” for identification purposes. Second, it not only requires the state to be active in rehabilitation efforts, it also requires conceptualization and creation of alternative livelihoods and/or sustainable infrastructure in climate change “hotspots” so that inhabitants have other alternatives to migration.

Scope and objectives of the Assam SAPCC

In November 2015, the Assam State Action Plan on Climate Change was formally launched as part of the Centre's initiative to tackle climate change through state-level action plans (The Times of India, 2015). Assam's SAPCC drew support from the Department for International Development (DFID), UK, which assured Assam and five other state governments (Bihar, Chhattisgarh, Kerala, Maharashtra, and Odisha) of technical assistance and access to climate finance with a particular focus on kick-starting implementation of priority adaptation issues like climate smart agriculture, efficient use of water in industrial plans and so on (Gogoi, 2015). The main focus of the SAPCC, as detailed by the policy document, is adapting to climate change or making the state more climate resilient without “hamper[ing] the State's development aspirations”. The principle strategies identified in pursuit of adaptation, in accordance to the larger framework of the NAPCC, are “Ensuring sustainability of water resources”, “Ensuring sustainability of agriculture systems”, “Protection and conservation of forests and bio resource within”, “Making habitats climate resilient”, “Ensuring energy sufficiency and efficiency”, and “Addressing the enhanced impacts of anticipated extreme events”.

Now, with regard to the discussion in the preceding section on climate change-induced displacement, the focus of this analysis will be geared towards the Assam SAPCC's conceptualization of the effects of climate change in Assam, and not the sector-specific plans and measures to deal with the projected effects of climate change. This has been done with the assumption that a comprehensive conceptualization, identification, and understanding of an issue is a precursor to any meaningful action. Therefore, the point of entry for this exercise is the "Vulnerability of the State" section of the Assam SAPCC.

The section begins with a definition of "vulnerability" as defined by the IPCC Working Group II report – "vulnerability encompasses a variety of concepts including sensitivity or susceptibility to harm and a lack of capacity to cope and adapt". The policy document then details the prevalent socio-economic conditions such as incidence and rural-urban distribution of poverty, developmental gaps such as lack of access to electricity, drinking water, and sanitation, and the contributions of various sectors to Assam's economy. It asserts that, with 86% of Assam's rural population dependent on agriculture and related activities, the agricultural sector (which contributes 34% to Assam's GSDP) will continue to be the mainstay of Assam's economy in the foreseeable future and thus requires special attention. It goes on to explore how climate change might negatively impact other resources like water and forestry, and the economic implications of the same. What follows then is an estimation, based on data from South Asia, of how adversely climate change might affect Assam's economy in its totality, based on estimations of the negative economic impact of climate change on the various sectors contributing to Assam's economy. This estimated negative economic impact is expressed in terms of expected percentage point decreases in Assam's GSDP by 2050 (Department of Environment, 2015).

Problematizing the Assam SAPCC's approach

While the importance of estimating the macro-economic impact of climate change on Assam can never be trivialized, this vulnerability assessment approach adopted by the Assam SAPCC can be problematized on two very visible grounds. This becomes particularly important because solutions or strategies are devised based on identification of vulnerabilities – the more comprehensive the assessment, the more holistic are the solutions devised.

First, when a section on "Vulnerability of the State" conceptualizes vulnerability only in terms of macro-economic output and ignores the myriad ways in which climate change has the potential to negatively affect its resident population, the implication is that the state's

primary way of viewing the problem is through a lens of maintenance of economic growth. For instance, when vulnerability arising out of climate change is estimated in terms of GSDP percentage points, it fails to account for the various ways in which this decline in GSDP will affect different sections of the population. The simplistic statement made in the policy document that “the effects of climate change will be felt most strongly by the poor” fails to capture the magnitude and the seriousness of the issue. In other words, by using GSDP projections as a measure, “Vulnerability of the State” here is being generalized instead of being contextualized. Here, a question arises – if climate change is disparately affecting different sections of the population, how can the vulnerability it produces be generalized? Climate change is a slow, lumbering beast, an environmental problem with wide reaching and long-term consequences on natural resources and socio-economic existence. It operates on, and thus exacerbates, extant inequalities in society i.e. those who have the resources and power to be immune to climate change are unaffected, while those who don’t slip further down the socio-economic order. Therefore, *the actual vulnerability of the state lies in how climate change affects those who cannot, due to socio-economic reasons or otherwise, adapt to changing climatic conditions.* Hence, a nuanced assessment of vulnerability is required to have nuanced, targeted, and effective action plans.

Second, in a state where frequent environmental disasters (floods, river erosion, droughts, extreme rainfall etc.) and the resultant large scale damage to human life, property, livelihoods and natural resources has become a documented annual occurrence, any action plan on climate change should ideally have two objectives in mind – prevention or minimization of damage as the first step, and a contingency plan in case preventive measures fail. Flooding has been given particular importance in the SAPCC’s “Vulnerability of the State” section, albeit again from an economic point of view. The problem is framed in terms of how much cost the state would have to incur as a percentage of GSDP in order to deal with the projected increase in incidents of flooding. A significant number of strategies with the aim of studying, preventing and managing floods have also been presented in the policy along with budget estimates. However, there is little to no exploration of how such calamities temporarily or permanently affect the life chances of those who are affected, especially with regard to displacement or forced migration. Neither is there any discussion or strategization on how to ameliorate the misery of affected populations in the event of a failure of preventive measures. In fact, the words “displacement” and “migration” feature only twice each in the entire 93 page policy document, despite widespread acceptance and documentation of climate-related

disasters and their disruptive effects in Assam. The entire focus is on prevention with no contingency plan, despite past evidence pointing towards the state's inability to prevent large scale natural disasters.

These two specific points apart, the policy, in essence, conceptualizes the impact of climate change in Assam from a top-down one-dimensional economic lens. Such a conceptualization has both advantages, as well as disadvantages. On one hand, formulating the issue of climate change as a risk to economic growth allows powerful stakeholders like politicians and state institutions to take notice. In the absence of such a formulation, climate change concerns often go unheeded as they are not short-term or visible concerns. However, on the other hand, looking at the impact of climate change from a purely economic stand point understates, or even camouflages, the ground reality of those having to deal with it. This detachment from the reality of the people affected by climate change hides the human cost of the phenomena, thereby reflecting poorly on the state's responsibility towards its people and limiting the possibility of coming up with solutions to these problems in the policy space.

Linkages to national and supra-national interests

Yet, this top-down approach and its preoccupation with conceptualizing the impact of climate change through an economic lens can possibly be attributed to the contradiction inherent in the ideational basis of the NAPCC. The NAPCC, as explained earlier, was born out of India's willingness to build an international reputation. At the same time, India was resistant to efforts by advanced industrial countries to impose emissions regulations on large, emerging economies, as such regulations would have imposed a limit to economic growth. The contradiction inherent in these principles of global status and equity pull India in opposite directions, and is probably best expressed by the NAPCC document's aim of giving primacy to "development objectives while also yielding co-benefits for addressing climate change effectively". This inclination is also reflected in the SAPCCs, with each state climate policy being built around each state's development priorities and historical development trajectories. For instance, states like Gujarat with high levels of economic development and favourable investment environments are focusing on mitigation strategies like a shift towards solar energy. On the other hand, states like Assam and Orissa, which have witnessed lower levels of economic development are aiming for adaptation strategies to minimize the negative economic impacts of climate change on their economies. (Atteridge, Shrivastava, Pahuja, & Upadhyay, 2012). Thus, considering that limited resources are available to each state, it is not

surprising that economic risks and opportunities arising out of climate change are given primacy over other concerns of social justice, responsibility towards citizens, welfare measures and so on. It is for the same reason that ideas which have a direct bearing on macroeconomic growth such as sustainability, energy efficiency, technological advancement etc. have become important parts of the contemporary climate change policy discourse in India. Pursuing goals related to efficiency and sustainability serves the dual purpose of advancing macroeconomic growth while also giving credence to India's international commitment towards battling climate change.

Conclusion

The NAPCC's strategies, and by extension, the SAPCCs' strategies towards climate change are, to a large extent, shaped keeping their core developmental aspirations of high economic growth and industrialization intact. As a consequence of this inclination, and owing to resource constraints, climate change policies prioritise only those areas which have a direct bearing on macroeconomic outcomes such as sustainability of agriculture and water resources, energy efficiency, renewable energy etc. – other considerations such as the human cost of climate change and its implications on society are relegated to being issues of secondary importance. While this might not be the most desirable or the most holistic approach to tackling the impacts of climate change, it enables India to maintain its goal of high economic growth while also honouring its international commitment to battling climate change.

However, consequences apart from economic ones cannot be ignored in the long run. As the effects of climate change intensify in the years to come, socio-economic consequences such as forced migration, inequality, vulnerability and the like are likely to affect more and more people and become more pronounced. In such a situation, the narrow conceptualization of the impacts of climate change which dominates climate change policy in India today is unlikely to be favourably received by people. Climate change, in the long run, would affect almost every sphere of life, and therefore, policies would have to be dynamic in taking into account both economic and non-economic impacts and devise strategies to mitigate, control, adapt, and address emerging issues.

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