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Mountains of inequality: encountering the politics of climate adaptation across the Himalaya

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ABSTRACT. There has been a widespread call for the development of transformative adaptation knowledge and strategies in the Himalayan region because of the intensifying onset of climate change impacts. But such transformative thinking is absent in much of Himalayan climate knowledge production, which builds on environmental deterministic and techno-managerial renditions of exceptional precarity; advocates for an increase in the scientific and expert driven projects on the ground; and remains rooted in the scalar realities of the nation-state. This paper contributes to the rich scholarship that counterbalances depoliticized renditions of climate change adaptation, by presenting "everyday stories of adaptation" that have emerged from the authors' work alongside Himalayan communities. In this work we ask, who is the subject in Himalayan climate adaptation discourse and policies? And how can their stories help us envision an adaptation praxis, which challenges regional narratives of crisis and provides alternatives to climate reductionist thinking/planning, by foregrounding the intersectionality and plurality of communities and ecologies? The stories come from three parts of the Himalaya: Uttarakhand, Khumbu, and Assam, and highlight the daily labor for adaptation and its mercurial relationship with the labor for survival. We find that intertwined with changing climate-society relationships are, historical caste privileges and changing generational relationships to land; the complicated engagements between indigeneity, communal sovereignty, and exclusionary institutional mandates; and life with ethnoreligious othering in an aqueous and geopolitically fluid borderland. Together these stories witness the relational social-ecological worlds of regional inhabitants, challenging their powerless and pejorative depictions through climate reductive framings. We conclude with a set of objectives to enable more hopeful and just adaptation futures.

Key Words: *climate adaptation; climate justice; climate politics; Himalaya; political ecology; social dimensions of climate change*

INTRODUCTION

Himalayan communities are living with the wide-ranging manifestations of climate change (CC), many of which are already visible across scales. They include glacial shrinkage due to increasing temperatures and reduction of winter precipitation; elevational movement of species with rising temperatures, which has also pushed the tree line higher; increase in erratic and extreme precipitation events; and an unpredictability in seasonal climatic occurrences that has transformed a variety of human-nature relationships, including agrarian livelihoods, disaster preparedness, and sustainable land use (Agrawal et al. 2014, Sharma et al. 2019a, Wester et al. 2019, Adler et al. 2022).

The assessment work done by techno-scientific experts about regional CC, has in recent years been accompanied by voices of change from indigenous people and local communities (IPLC). These stories and reports, some presented by the communities through informal avenues and others through more formal scholarship, reveal a wide range of social-ecological transformation. These accounts weave together cosmological and material processes and artifacts and human and more-than-human beings. They represent Himalayan social-ecological systems under threat, not just from CC, but also from exploitative and extractive governance and land use practices, intergenerational and intra-communal ruptures of stewardship, and a decay of ethical relationships with our human and more-than-human kin (Gergan 2017, Wangchuk and Wangdi 2018, Gagné 2020, Chakraborty and Sherpa 2021, Yü 2021).

National and regional scale climate change adaptation (CCA) in the Himalayan region has been overwhelmingly focused on two objectives. First, on creating knowledge products to assess the vulnerability or risk of different communities, industries, and ecologies, and second, on managing hydrological resources and preparing for projected rises in temperature and spatio-temporal changes in precipitation regimes (Mishra et al. 2018). Managing glaciers, rivers, and lakes (among other resources) has been a central goal of the various national adaptation plans of the region (Hussain et al. 2019, Lord et al. 2020). On the other hand, local adaptation practices remain highly diversified and unlike climate-specific interventions of national institutions, they respond to an indivisible, tangled set of social-ecological factors that are affecting place-based communities and ecologies (Aryal et al. 2018, Pandey et al. 2018, Maharjan et al. 2021). Considering such diverse and disparate mobilizations, the highly influential Hindu Kush Himalaya (HKH) Assessment report notes that climate change adaptation policies and practices must intensify in the HKH, and must become transformative, changing systems and behavior to generate inclusive change, rather than coping only with climate impacts (Wester et al. 2019). The objectives of this HKH Assessment report are to "(1) establish the global significance of the HKH, (2) reduce scientific uncertainty on various mountain issues, (3) lay out practical and up-to-date solutions and offer new insights for development of this region, (4) value and conserve existing ecosystems, cultures, societies, knowledge, and distinctive HKH solutions that are important to the rest of the world, (5) addresses contemporary policy questions, and (6) influence policy processes with robust evidence for sustainable mountain development" (Sharma et al. 2019b:5).

The "transformative" thinking emphasized in the report is absent in much of Himalayan climate knowledge production and mainstream adaptation strategies. These strategies remain rooted in environmental deterministic and techno-managerial renditions of exceptional precarity; they advocate for an increase in the scientific, statistical, and expert driven projects on the ground;

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and finally, they are biased toward the scalar realities of the nation-state, marginalizing the multitude of place-based, dynamic, multispecies relationships and their aspirations (Satyal et al. 2017, Ojha 2020, Chakraborty et al. 2021). And although there is a burgeoning domain of scholarship being produced on regional CCA with local communities, much of this work remains extractive, where the knowledge of Himalayan interlocutors is mined to support the vision of national adaptation policies and a global environmental science (Ojha et al. 2016, Nightingale et al. 2020).

Our work provides a counterweight to these vastly depoliticized renditions of adaptation by building on the wellspring of critical, feminist, and radical visions of human-nature scholarship from the region (Eriksen et al. 2015, Gagné 2016, Nightingale 2016, Rumbach and Németh 2018, Joshi et al. 2019, Gergan 2020, Ghimire and Chhetri 2022). In this work, guided by such debates, we witness diverse Himalayan subjects and situate their adaptation responses within their intersectional engagements with a much broader web of social-ecological relationships. We argue that any attempts at meaningful and inclusive adaptation must move beyond determinist and reductionist tropes. Keeping this in mind, we ask, who are the subjects in Himalayan adaptation discourses and policies? Are they organized into a monolithic category, pursuing certain "legitimized" responses to changing climate-society relationships? Or, do the multitude of spatially and temporally varied power differences elicit different responses? Ultimately, can such complicated stories help us envision an adaptation praxis that challenges regional narratives of crisis and provides alternatives to climate reductionist thinking/planning?

To accomplish this process, we wield a framework inspired by recent scholarship on challenging hegemonic mainstream environmentalism (Carrara and Chakraborty, in press). In this framework the authors juxtapose hegemonic mainstream environmentalism, an elite project built on colonial ecology, eco-modernist tools, and modern state building to that of non-elite-more-than-colonial-environmentalism, which highlights the mobilizations to encounter the elite projects of both conservation and development. This difference in elite vs. non-elite strategies is at the heart of our exploration. We consider this as we highlight how the machinery of mainstream adaptation functions akin to the machinery of development, further entrenching elite control in the region (Eriksen et al. 2015). We refer to the regional elites benefitting from a hegemonic adaptation ethos, rewarding techno-managerial solutions, unequal resource control, and practices that echo national/international climate aid solutions, as the "adaptation elite." Correspondingly, "non-elite" subjects whose communal relationships with their ecologies defy both the aspirations of modern state building and neoliberal economic exchange and who willfully confront expert techno-managerial aspirations in their quest for a meaningful existence, are termed as the "adaptation non-elites." This categorical binary is not set up as a watertight heuristic, but instead as a spectrum along a web of power that holds together Himalayan people and places.

The stories we present come from three parts of the Himalaya. These "everyday stories of adaptation" emerge from years of working alongside regional communities and span from Uttarakhand in the west to Assam in the east. They are animated with encounters between the human and more-than-human world. They highlight the unresolved tensions stemming from trans-regional modernization programs, changing agrarian cultures and the ongoing assault of industrial nation building, attempting to control and domesticate the unruly and feral borderlands (see Davis et al. 2021, Yü 2021). But, they also reveal moments of powerful agency, highlighting alternative ways of being modern, that build on place-based attachments (Gergan 2017).

We continue this paper by providing a brief review of pertinent scholarship, followed by a section about our methods. This leads up to the empirical heart of this work, the three stories, illustrating the complicated nature of CCA in the Himalaya. A discussion follows to situate them in emerging scholarship and to highlight some important insights. We end with a conclusion along with some thoughts for future work.

LITERATURE REVIEW

CCA has been a key focus of climate change scholarship and policy over the past two decades (Sherman et al. 2016). CCA, defined by the IPCC as, "adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts" (Burton et al. 2001:879), became a prominent issue post the 2001 Marrakesh Accords, and since then has emerged as both "an influential discourse and a powerful political concept" (Klepp and Chavez-Rodriguez 2018:3). While acknowledging its influence in reframing political agendas, developmental policies, and interstate relationships, many scholars have noted that overwhelmingly adaptation has been defined and pursued in an apolitical manner (Ribot 2011, Taylor 2014, Nightingale et al. 2020). To address this situation and re-politicize CCA, as a "multi-sited arena of negotiation" (von Benda- Beckmann et al. 2005:9), emerging scholarship has pursued three points of intervention. First, it has challenged CCA's biophysical science roots, resting on the foundation of hazards theory, ecologically formulated concepts of resilience and agency diminishing constructs of vulnerability (Agrawal et al. 2012, Ribot 2014, Kehler and Birchall 2021). Second, it has critiqued CCA's political and scalar limitations, revealing how a focus on the nation state has inherently reproduced hegemonic developmental policies, practices, and discourse along trans-national fault lines that remain entrenched in global colonial and capitalist relationships (Ciplet et al. 2013, Morchain 2018, Scoville-Simonds et al. 2020). Third, and probably the most critical mobilization, has questioned the marked absence of place-based anxieties and aspirations of an assemblage of entangled human and more-than-human agents, to engage with transforming climate-society relationships. These relationships cannot be seen in isolation from their ongoing struggles with powerful historical processes (Goldman et al. 2016, Klenk et al. 2017, Comberti et al. 2019, Castro and Sen 2022, Eriksen et al. 2015). Building on this, Mike Hulme has highlighted the perils of climate reductionism, which he refers to as "the increasing trend to ascribe all changes in environment and society to climate change" (Hulme 2011:255-256). Such encountering of hegemonic climate change discourse has been pursued through different avenues. Kashwan and Ribot (2021) ask for an "ungagging of history" challenging adaptation planning to reconcile with the colonial present, tethering social vulnerability to structural causes

a lot more complex than the weather. Dewan (2021) presents the idea of "climate reductive translations," which examines how development and aid brokers connect their ongoing activities as responses to climate change, thereby ensuring an allocation of funds from the development industry, which is increasingly earmarking funds to aid in the fight against climate change. Barnes et al. (2013) highlight the ways in which an anthropological framing can aid in the development of more holistic and meaningful adaptation and mitigation policies. This happens in three important ways. First, by drawing focus to the cultural and political forces at play in the creation of climate knowledge production and interpretation, often enabled through "intensive data-collection" tethered to fieldwork methods like ethnography; second, is an apprehension of the historical processes that underlie current climate related conversations; and third, through anthropology's more expansive view of nature-society relationships that allow for insights into a variety of contingent social, political, and cultural transformations. Cons (2018) looks at how adaptation projects and development interventions in the Bangladesh borderlands advance a dystopian vision of a climate-affected future, while foreclosing other more grounded and less exclusionary visions of development, resilience, and community. Finally, Paprocki (2019, 2021) delves into the idea of "anticipatory ruination," which explores the ways in which the anticipations of a certain CC driven dystopic future restructures the ways in which communities and ecologies are governed in the present. How does this mobilization to re-politicize adaptation help achieve the transformative adaptation that regional assessment reports and scholarship prescribes for the Himalayan region?

Mainstream CCA scholarship in the Himalaya, echoing a global predicament, is often caught in the "technical trap," a frame of reference that visualizes climate change as an external threat to social-ecological systems, that further emphasizes the society and environmental split by advocating for detection and attribution of climate change, and positively biases research premised on disaster risk reduction through techno-managerial means (Nightingale 2016, Ojha et al. 2016, Ensor et al. 2019, Nightingale et al. 2020). Additionally, in response to climate denialist challenges, there has been a call to arms, often made by regional experts, to pursue a more objective, instrumental, and ultimately algorithmic research and policy process (Chaudhary and Bawa 2011). This has catalyzed a wealth of scholarship that either actively or inadvertently has reduced the complex and dynamic actions and aspirations of regional individuals and communities, as aiding, or exacerbating climatic impacts. Therefore, the prevalence of certain natural resource management decisions, livelihood strategies, or human-wildlife relationships are often characterized as instances of adaptation (Hoy et al. 2016, Pandey et al. 2018, Meena et al. 2019, Chhogyel et al. 2020, Tiwari et al. 2020). Although they may well be actions taken to adapt, and despite what the scholars might claim, the question remains, adaptation to what? Is it simply to climatic transformation or are the actions of individuals and communities in response to an unfolding assemblage of processes, within which the climate is inextricably embedded?

Responses to such thinking, which ascribes an inordinate amount of faith in detection and attribution methodologies prescribed for the extraction of climatic impacts, from all other social-ecological processes, has emerged in the form of myriad critical and humanistic scholarship. This work, much like wider critical scholarship on CCA, attempts to present the complicated lifeworlds of regional inhabitants through climate ethnographies (Crate 2011). It also critiques the epistemic limitations of mainstream CCA scholarship and, reveals the ongoing subjugation of regional communities and ecologies through political and ideological frames, that advocate narratives of exceptional regional risk and precarity (Gagné et al. 2014, Sapkota et al. 2016, Ensor et al. 2019, Huber 2019, Lord et al. 2020, Chakraborty et al. 2021).

A majority of these can be categorized under one of two main themes. The first interrogates the various organs of the state and their role in the governance of the relationships between human and non-human subjects, through a variety of boundaries. Nightingale (2018) refers to this as the "socioenvironmental state," a conceptualization built on the foundations of contested boundaries between state-society, society-nature, and citizenship-belonging. Scholarship developing such ideas wield insights from critical developmental studies and political ecology, among others, to explore how power and politics in the context of CCA emerge from struggles over discursive and material governance and ownership of values and resources (Eriksen et al. 2015, Ojha et al. 2016, 2019, Nagoda and Nightingale 2017, Nightingale 2017, Wong 2020, Rampini 2021a).

The second, digs deep into a locality, revealing a multitude of subjectivities, engaged in a plethora of climate-society relationships. These are nurtured through both material manifestations of climate impacts, such as reduction in winter snow or increasing floods, and through discursive ones, which weave together techno-managerial narratives provided by national/international experts with place-based cosmologies of human/nature relationships. This scholarship challenges the erasure of communal plurality and highlights the multi-scalar, multi-temporal encounters between the communities and ecologies of a region, still in production, through unfinished projects of colonial ideology, industrial state building and regional geopolitical insecurities (Gagné 2015, Campbell 2017, Gergan 2017, Chakraborty and Sherpa 2021, Kvanneid 2021, de Maaker and Yü 2022).

In both these connected conceptual trajectories there is a significant focus on what Kyle Whyte calls "crisis epistemology" (2020). The epistemologies of crises assume the imminence of an impending or ongoing crisis, addressing which is unprecedented and which is of utmost urgency. This unprecedentedness and urgency can catalyze and validate responses that sacrifice ethics and justice. In the Himalayan region, many narratives of crisis emerge from the Theory of Himalayan Environmental Degradation (THED). The THED developed in the 1970s by scholars and development practitioners from the minority world is a Malthusian, environmental deterministic theory that causally links population growth in rural Himalayan communities to widespread deforestation, leading to massive downstream impacts that include siltation, water scarcity, and other forms of hydro-ecological collapse (Guthman 1997, Metz 2010). This is supplemented with much older anxieties around territorial control of borderlands as well as racialization of highland people and places, both as a colonial and a regional imperial process

(Gergan 2020). Some scholars have even pointed to the emergence of a "new Himalayan crisis," which is a production of the technocratic responses to the supposed ecological crises in the region as well as the undermining of local institutions and human/nature relationships through their subjugation by various powerful elites (Mathur 2017, Satyal et al. 2017). The critical scholarship mentioned above challenges such crisis thinking and provides us with conceptual and empirical tools with which to understand the Himalayan Anthropocene and think through not just the spatial peculiarities, but also the temporal ones.

We position our work within the analytical confines of "climate ethnographies" (Barnes et al. 2013), which allows us to simultaneously explore the ways in which climate knowledge is constructed while also exploring how various regional subjects are engaging with the strategies emerging from CC mobilizations. Such strategies often build upon the enduring legacy of the THED supplemented by elite political anxieties tied to territorial and resource control. In doing so, they support a host of strategies that actively and/or inadvertently aid in the propagation of historical power inequities. Such inequalities lead to the emergence of two disparate entities. The first is the adaptation elite, an individual or a community that responds to the extracted, often isolated impacts of change, and is also receptive to, and can access adaptation knowledge and aid transfers. This subject is enabled and validated by the aspirations of a post-truth climate science, which in collaboration with the current remnants of THED, pursue a climate knowledge and adaptation agenda rooted in algorithmic thinking and digital environmental governance. This is a small minority that exists at the intersections of various identities that include indigeneity, caste, gender, religion, and national identities, and wields them to accumulate privilege through resource capture, cultural domination, and political presence within various state institutions (Mathur 2015). This form of elite adaptation is minimally present within communities. This seeming lack of adaptation practices in everyday labor of local communities, is explained by the usage of techno-managerial adaptation evaluation metrics. These metrics are overwhelmingly trained to only look for the presence of formal, expert validated, climate specific interventions, responding to the climate stimuli extracted from dynamic social-ecological worlds (see McDowell et al. 2019). Seen through this lens, community-based adaptation action is currently deemed inadequate and the solution is presented as more techno-managerial control, albeit including some pre-ordained participatory engagement (Agrawal et al. 2014, Nightingale et al. 2020). The second is the adaptation non-elite, the individuals or communities who occupy intersections of historical precarity within a regional power hierarchy and whose access to focused adaptation support is limited. These subjects are policed and their access mediated through the industrial needs and sociocultural anxieties of the post-colonial nation states, which in collaboration with capitalist markets and international institutions, are involved in multiple projects of territorial and subjective control (Khalikova 2017, Davis et al. 2021). The adaptation labor of such subjects emerges in response to the unique demands made by politically powerful elites motivated by specific ethnic, religious, caste, and gender (among other) identities. Their everyday adaptation stories can also be read as stories of everyday resistance (Scott 1985, Johansson and Vinthagen 2016) as Himalayan individuals and communities engage in innumerable, stubborn, persistent, yet anonymous micro-acts of climate change adaptation against the backdrop of and in response to techno-managerial CCA ideologies (Lindegaard and Sen 2022). Additionally, although certain climate reductionist evaluations of ongoing community or household scale adaptation actions deem their labor insufficient to address the climate change crisis (Pandey et al. 2018, Sharma et al. 2020, Tiwari et al. 2020), it is often their lack of direct engagement with techno-managerial state and aid institutions that allow these subjects to pursue their suite of adaptation actions. These actions, along with responding to changing climate-society relationships, also attempt to subvert (or mitigate) historically unequal power relations.

Finally, this work also embodies the analytical contentions of choosing to invoke the Himalaya as a material and discursive entity. Questions such as where do the Himalaya begin and where do they end? And, how does one ethically and equitably present scholarship as representative of the many worlds of the Himalaya, and address regional encounters that remain unresolved? Although adequately exploring these two questions is beyond the scope of this paper, we would like to state that we acknowledge the multiple attempts made, politically, theoretically, and materially, to bound the Himalayan region. These range from the colonially constructed geopolitical boundaries that remain hotly contested (Davis et al. 2021), to state projects driven by visions of ethnonationalism and unruly frontiers (Shneiderman 2010, McDuie-Ra and Chettri 2020), and more biophysically rooted attempts at following watersheds and ecological zones (Agrawal et al. 2014). These attempts foreground different elemental realities about the region. It can be argued that the concept of the Himalaya as a regional unit of analysis remains underdeveloped, with problematic questions of sovereignty, belonging, and autonomy unresolved and historically unreconciled. Therefore, all attempts, including this one, present just a limited vision of Himalayan communities and ecologies and should be engaged with accordingly.

Ultimately, we remain ambivalent about the utility of using the Himalaya as a spatial frame. On one hand, the glaciated, steep river valleys, punctuated by terraced fields, resting on geologically restless plate boundaries, are home to Asia's "mountain core," a global climate-altering entity that nourishes the 10 great, unruly, silt laden, rivers that serve a fifth of humanity (Amrith 2018). This tectonic theater is notably sans humans and in insidious ways supportive of a certain avatar of environmental determinism. The reality is that such a framing is deemed important and used as a heuristic in both science and policy for climate change (Agrawal et al. 2014, Rajbhandari et al. 2017, Sekhri et al. 2020). Although this can be seen as a counterweight to the colonial and imperialist nation state boundaries that carve the region into artificial socionatural units that fail to address the governance needs of transboundary flows (Mathur 2015, de Maaker and Yü 2022), it also inadvertently supports a form of "methodological nationalism" (Gellner 2013), rendering invisible the plural human-nature negotiations from which certain subjectivities emerge. The authors' collective work wrestles with these contentions, rooted in the fertile soil of this scholarship and extending it further by witnessing the everyday labor of Himalayan subjects.

METHODS

The empirical data for this work comes from years of (ongoing) engagement with Himalayan communities. The stories presented emerge from a mixed-methods toolkit. We embraced a situated knowledges outlook, looking beyond mere triangulation when mixing data types, to the silences and incompatibilities that emerged from diverse methodologies brought together (Nightingale 2003). The authors, rooted in three separate though entangled disciplines (socio-cultural anthropology, human geography, and environmental studies), used a variety of methodological tools to conduct their separate field work. These spanned both quantitative and qualitative elements, and included semi-structured interviews, oral histories, participatory observation, ethnography, structured household surveys, census data from respective national/regional repositories, focus groups, spatialized hydrological and land use data, climate models, and localized precipitation measurements. The interlocutors include rural families, scientists, government officials, civil society actors, small business owners, and tourists to the region. Each story was written through careful thematic and textual analysis of this field data, coded to highlight the elements of every day adaptation (Nowell et al. 2017). We also took the decision to present individual author engagements with the field as different stories in this article. This was deliberate to ensure that the place-based co-production of knowledge that had occurred between author and communities retained its autonomy and was not marginalized in the effort to create an overarching narrative, and to highlight the social-ecological diversity and complexity of the Himalayan region, which is often subsumed by certain scales of references (Ahlborg and Nightingale 2012).

RESULTS

The following stories come from three regions of the Himalaya: Uttarakhand in India (central/Western Himalaya), Khumbu/Mt. Everest Region in Nepal (Central Himalaya), and Assam in India (Eastern Himalaya). However, in no way are they representative of the plurality of communities and ecologies that constitute the region. We present the stories with the above caveat, exploring different aspects of the politics of adaptation as performed by an intimately connected set of human and non-human subjects. Next to each title in parenthesis are the initials of the author who wrote it.

Generational chasms, caste privilege, and land futures (RC): Uttarakhand, India

Deep inside the Tons valley, on the western edge of Uttarakhand state, apple trees have been replacing wheat, barley, and buckwheat crops on the glacier fed terraced fields. Families have sold their livestock, taken out personal loans, and done crash courses in horticultural management, to learn how to plant, nurture, harvest, and sell this fruit. Most of the people tending to the apple trees are older men (over 40 years), who spent their lives ploughing these terraces and tending to sheep and goat herds that are now mostly gone. Multidecadal spatial rainfall patterns highlight a significant reduction in winter precipitation in this region of the state, with climate models predicting changes in the westerly disturbances that bring winter snow to the region. Additionally, driven by industrializing India's exploding energy needs and the growing international pressure to address in-country carbon emissions, the central government has planned a variety of clean development mechanism (CDM) projects in the region, spearheaded by hydropower and afforestation. Furthermore, the national economy's structural adjustment and liberalization in the 1990's has led to a burgeoning and often illegal market for rural land in Uttarakhand (Minten et al. 2012, Suryanarayana and Mamgain 2018, Chakraborty et al. 2019).

A few years ago, I was sitting in the milking shed of one upper caste, apple farmer, Mahesh, inside the Govindh Pashu Vihar National Park. He said, "The fruit business is only going to grow. Apples are just the beginning. But try explaining that to Kundan." Kundan was Mahesh's son, high school educated, trained in mountaineering at the district capital of Uttarkashi, and had spent some time working with tourism operators in big metropolitan centers in India. He kept moving between city offices down in the plains and up here in the mountains where he took clients on treks to snowy summits near his village. On that day, I found him sitting in the small marketplace that had sprung up where the cars and buses stopped near his village of Shaili. Shaili was a typical village in the region with households split 80/20% between upper caste (GC) and lower caste (SC) families. Communally owned land, private land, and government forests were laid out in a patchwork, each bordering the other (Negi et al. 2018). The government's conversion of the areas around the village into a National Park meant that the historic dependence on forest products was under constant surveillance and regulated by a set of rules arbitrated often by the employees of the Indian Forest Service. However, when it came to tourism the guards were quite lenient, allowing certain infrastructure such as the teashop where Kundan was sitting to be built. He was on the phone arguing with some forest rangers, when he saw me. He ended the call soon after and said,

> *These guys are like mosquitoes, always looking to suck my blood. Now they want their commission from the tourists I am bringing into the park. But, our deal for years has been that they get a cut during the high-volume times of the season, when tourists come to see the snow. What can I do if now there is snow at all kinds of unpredictable times and so our season is yearlong?*

I mentioned to him what his father had just said about the apple and fruit trade. Kundan cut me off before I had finished and added,

> *That old man doesn't shut up about his apples. But, did he tell you that half the orchards he works in are owned by some fat* seth *[businessman] from New Delhi? He is just the caretaker. They pay him to spray pesticides and keep the children away from the fruit. He is just a servant. I don't want to be that. As you know, I run my own trekking business.*

To this, Sanjay the tea-shop owner added, "Horticulture isn't easy. This year it hailed during March and half the flowers fell off the tree. What kind of profit can you get from that?" But, just then, Mahesh's brother who was listening to us talk, came to his defense and said,

> *Yeah it isn't easy, but what else are we going to do? Sell all this land and move to Dehradun [the state capital in the plains] and then wash dishes at a restaurant somewhere and get typhoid? The old farming is gone.*

> *There is barely any snow in the winter, and if it's there it's too much. There is no one to take care of livestock, now that all of you are educated and too ashamed to work hard. We can't sell wool, we can't grow food, so what other option do we have?*

This conversation soon became an argument that interestingly divided the tea shop along generational lines. The younger men saw their livelihood futures tied to entrepreneurial ventures, which would weave together their knowledge of both village and city life, and would ensure adaptation to emerging climate-society relationships. On the other hand, the older men were adamant that commercial agriculture, bolstered by some in village food processing, was critical in creating a sustainable income source for the community. Their future aspirations remained more intertwined with pacifying powerful public/private entities, who they saw as key allies in ensuring long-term security for their households.

A few days later at the village forest council meeting, attended by only GC families, the question of land sales dominated the proceedings. Multiple people from the plains were trying to buy village land, to convert it into orchards and into quaint cottages to rent to tourists. Mahesh was vociferous at the meetings and said to me as we concluded and people milled away, "Land is what protects us, keeps us safe, and ensures that we are not beggars on a train platform somewhere in a city. Kundan's generation has no understanding of this."

Later that day while Mahesh and Kundan were at work I walked down the mountain, to the last remaining patch of native Oak forest, around which many of the SC homesteads were clustered. There I ran into Danveer, about Mahesh's age, carving a piece of pine into the wooden-lock that formed the earth-quake proof skeletons of the ancestral wooden houses in the area. The moment I sat down Danveer's son, who I hadn't met yet, called out from inside the house, "Who is it? Is it that ADO again? Tell him we don't need what he is selling from the government, and we have all the electricity we need."

Danveer, noticing the confusion on my face explained that some people from the Block Development Office had met with the village regarding a solar power initiative. Families would allow the government to put PVs on their land the cost for which would be shared 10/90 by families/government. These "power farmers" would then use the free electricity produced from these panels and sell the rest back to the grid. "But, why are they coming to us," added Danveer, "all the land belongs to the *thakurs* (GC families)."

This was true. Despite being 20% of the village, SC families only had 5% of the land. Additionally, most of the land they had was often lower in the valley, away from the road head, where topsoil laden water washed down from the newly cultivated GC orchards during the increasingly frequent intense rainfall events.

Danveer continued:

> *As you know unseasonal rains have gotten so heavy over the last few years that they have brought down these new houses of the* thakurs. *Who fixes these houses? Not their sons, but my boy. They are too ashamed to work with their hands in the village. So now thanks to the rains and cheap houses, my children have employment year-round.*

In Shaili, caste, age and gender all play significant roles in deciding the ways in which different subjects engage with various forms of social-ecological transformation. Men are ubiquitously in control of communal decision making, but generational differences catalyzed by changing negotiations with the modern state and capitalist markets, has produced significant chasms between fathers and sons (see Chakraborty 2018). Village adaptation elites, such as Mahesh's family, while positioning themselves as conduits to receive public/private investments focused on "adaptation as livelihood diversification," remain fearful about their potential loss of control over their traditional material assets. However, SC households, who have historically been excluded from most forms of spatial and cultural governance and ownership, choose to pursue activities that are often beyond the purview of the elite. These forms of non-elite adaptation strategically eschew more formal institutional strategies, which bring with them additional tools of surveillance. Instead, their adaptation labor exemplifies their historical attempts at subverting elite control over their lives, by disguising their activities as novel responses to emerging social-ecological realities.

Representing voices and challenging extractive cultures (PYS): Khumbu, Nepal

By October, monsoon clouds in Khumbu (Mt. Everest region) clear up to reveal the majestic mountains that make the region popular. The sky is blue, and the sun is bright. The only other time of the year that rivals the autumn tourist season (September to November) is the spring tourist season (March to May). In pre-COVID days, during tourist seasons, no one in the village would have had any time to spare. Teahouse owners would have been busy hosting their guests, *zopkio* (cross breed of yaks and cows) owners would have been busy transporting their clients' load on the backs of their bovine, porters would have been busy carrying tourists' backpacks stacked one on top of another, farmers would have been busy making rounds to the teahouses and lodges with their freshly harvested, green-house grown vegetables and fruits, shopkeepers would have been busy restocking popular items like Tang juice mix, Redbull energy drink, rice, and chicken, imported to this high-mountain region from the capital city on chartered flights. October 2021 was different. The region was opening for business, but it had not happened as fast as the tourism-dependent villagers wanted to see it. So, when the pre-COP 26 event titled, "Voices from the Everest," was organized at the end of that month, it was oddly pleasing for Khumbu residents to see some activity.

The event took place outside in the open air on the Sagarmatha National Park Office grounds in Namche Bazaar. The panel of speakers sat on stools with microphones. One-by-one, they shared their thoughts on the cause and effect of climate change. Behind the speakers, Mt. Everest peeked from above Mt. Nuptse and Mt. Lhotse. Mt. Ama Dablam stood as beautiful as ever like the jewelry box it resembles to the right corner, and to the left corner Mt. Khumbila, the protector deity postured watchfully over Khumbu. The audience present in person sat on mats in front of the speakers soaking in the view and the messages. The audience at home watched live-streamed videos of the event on the Sagarmatha Pollution Control Committee's (SPCC) Facebook

page. The SPCC was one of the local partner organizations of this event along with Sagarmatha National Park (SNP), Sagarmatha National Park Buffer Zone Management Committee (SNPBZMC), and Yeti Airlines. The event was initiated and supported by United Nations Development Program (UNDP), and hosted by the Khumbu Pasang Lhamu Rural Municipality office.

As the title suggests, this event was conceived to shine light on local voices from the Everest region. Speakers included the heads of local partner organizations, senior officials from UNDP, and their guests from Kathmandu. Ani Choyang Dolma, the widely cherished Buddhist nun singer participated in this event at the invitation from UNDP. The speakers reiterated the need for the COP-26 leadership to pay attention to the effects of climate change in the Himalaya because, as many speakers pointed out, what happens to Khumbu is not an insulated experience. It also effects communities living downstream. The melting of glaciers in the Himalaya and the sea-level rise in Sri Lanka are connected, the speakers mentioned.

By the time I watched the videos at my home in Seattle the following day, it had already circulated widely on Facebook in the diaspora. The most viewed (2.2k), liked (59), commented (10), and shared (8) video from this event at that time was the closing remarks by Namche resident *au* (Sherpa: uncle) Sonam Gyalzen, advisor to the SPCC. His speech was sharp. It was directed to everyone in the audience from the UNDP, to the local government, the national park, and to his fellow villagers, particularly Sherpa youth and women. His speech resonated with many listening to him. One of the things he spoke about was the UNDP project that drained Imja Tsho (glacial lake) in 2016. This one-time project had left a store-house close to the Imja Tsho and equipment in multiple villages without proper arrangements for their care-taking. From his assessment, the project had fallen short on recruiting local participation. *Au* Sonam Gyalzen said, speaking in Nepali so he could reach his audience,

> *We don't do things we talk about. My request to the UNDP is that this talk about "public," please do it yourself. All this climate change work, please do it yourself ... Don't talk about public and locals ... Because the way you have worked on Imja, you said you would involve locals but we don't see involvement of locals. This is why the way you have put the sirens, look at its current discarded state. Look at the discarded state of the house you have built. For an example of local participation, look at organizations like the SPCC.*

The SPCC is a community run nonprofit organization that has been managing waste in the region for the past 30 years. It stands in stark contrast to other institutions like the UNDP that are based outside the region and come with pre-designed projects to be implemented in Sherpa homeland. From the perspective of the Khumbu residents, this is what institutional CCA activity looks like. The pre-COP 26 dialogue happens to be one more CCA activity that does not address local needs. Instead, it is an activity that fulfills the needs of national and international institutions based elsewhere.

The frustration in *au* Sonam Gyalzen's words stem from decades of foreign organizations' arrival in the region for CCA activities touting local participation, but failing to follow through with sustained effort to include local communities. Local participation occurs in the form of delivering results to passive recipients at the end of a project, or through hiring of a handful of staff members to carry out the day-to-day activities in limited-term projects. Local participation does not occur in the form of long-term involvement of local people as equal partners in decision making roles. As *au* Sonam Gyalzen highlighted, if the local needs were taken seriously, there would have been conversations about the ways material remnants of previous UNDP sponsored CCA activity could be taken care of, instead of sweeping it under the rug only to be forgotten.

The irony of an institutional event like this, organized to raise local voices, is that not all local voices are uplifted. The voices that align with institutional narratives, of the adaptation elite, are selected to be shared, and thereby heard. *Au* Sonam Gyalzen's remarks of the complex social-ecological-political-economic everyday experience of Khumbu residents remains within the local community's networks, and do not show up in the techno-managerial messaging of institutions that position themselves as representatives of local voices in globally dominant climate policy spheres like the COP-26.

Fluid citizenship, undulating riverscapes, and shifting adaptation culture (CR): Assam, India

I first visited the floodplains of Assam in 2011, as a doctoral student interested in the impacts of climate change on the Brahmaputra River. For the following four years, as part of my research, I met with dozens of actors working for transnational organizations, such as the World Bank, the United Nations, and ICIMOD, as well as Indian research institutions, NGOs, and government agencies—together they constituted the climate change adaptation elite working in Assam. My goal was to understand the extent to which households living along the Brahmaputra River were prepared to live with increasingly harsher floods, caused by the accelerated melting of Himalayan glaciers (Apurv et al. 2015, Alam et al. 2016, Mohammed et al. 2017). At that time, the most difficult conversations centered around the role of hydropower development in Arunachal Pradesh in worsening floods downstream in Assam (Vagholikar and Das 2010, Baruah 2012, 2016), Sino-Indian hydropolitics along the Brahmaputra river basin (Rampini 2021b) and dams mimicking the expected effects of climate change in the region (Rampini 2021a). When I returned to Assam in 2019, after several years of absence, I was surprised to see that there was a new and even larger elephant in the room amongst the local climate adaptation elite: the National Registry of Citizens (NRC).

The NRC was first prepared after the 1951 census, and it contains the names of all Indian citizens living in Assam at the time. In 2013, the Indian Supreme Court mandated that Assam update its NRC for the first time, in accordance with the 2003 amendment to the Citizenship Act (NIC 2014). Although the NRC is a process led by the Supreme Court, the election of Narendra Modi as India's Prime Minister and the rise of his right-wing political party, the Bharatiya Janata Party (BJP), as the country's ruling party in 2014, and as Assam's ruling party in 2016, provided the enthusiastic political backing needed to kickstart the colossal process of updating the registry (Daniyal 2019). In August 2019, Assam finished updating the NRC largely in an effort to identify,

disenfranchise, and potentially detain people of Bengali origins, who migrated from today's Bangladesh and settled in Assam after 25 March 1971. Understanding the origins and the potential ramifications of the NRC and its relationship to climate change impacts and floods is no simple task, particularly for an outsider to the region, like myself. The implementation of the NRC in 1951 can be traced back to key events in the history of Assam, such as the 1826 treaty of Yandabo, British rule over the Assamese territory (1826–1947), and their demographic engineering and land exclusion practices, which brought people from Bengal to work in the region while keeping indigenous tribes out of British tea plantations. It is also tethered to India's independence and the Sylhet partition in 1947 (and the massive movement of people that followed), the Indo-Pakistani war, the independence of Bangladesh (1970–1971), and the signing of the Assam Accords in 1985 (Baruah 2018, Deka 2018, Misra 2018).

The NRC embodies the geopolitical complexity of Assam's history as a border region and former colonial territory. Nonetheless, efforts to update the state registry amount to a government-driven project of "othering" (Deka 2018), backed by many Assamese who fear being demographically, politically, and culturally overtaken by Muslim migrants from Bangladesh (Dasgupta 2000), but who willfully ignore the shared history of people living in the Brahmaputra River watershed. By requiring over 33 million residents to submit "legacy data," such as birth and land records, to prove that they and their families had settled in the Assamese floodplains prior to March 1971 (NIC 2014), the NRC process creates an artificial yet legally, socio-politically, and psychologically meaningful separation between people, who together hold a wealth of collective experience and knowledge about living with heavy summer floods in this highly dynamic landscape. And this, at the precise time when the looming impacts of CC makes the shared yet diverse everyday practices of adaptation of flood-affected people in Assam seem most important. As such, when I visited Assam in early 2019, I was surprised to notice that the climate change adaptation community has managed to largely stay out of the debate that the NRC was engendering in other circles (see Donthi 2018, Gogoi and Saikia 2018, Gohain 2018, Misra 2018, Saikia and Gogoi 2018). For example, one of my longtime collaborators who has worked on floods and climate change impacts in Assam for decades, and who asked to remain anonymous, readily told me that (*personal communication*, 9 January 2019):

> *Being excluded from the NRC will add another layer of vulnerability for flood affected families and Bengali Muslim families, in addition to the added anxiety and the possibility of losing voting rights. At the same time being included in the NRC will not reduce people's vulnerability to floods except perhaps by providing some emotional relief.*

But then added that, "The NRC is none of your business, frankly."

As Nasreen Habib, a journalist for the Assam Tribune, explained to me during an interview (*personal communication*, 8 January 2019), "No one is questioning what will happen to people not included on the NRC for fear of being seen as being pro 'illegal' immigration."

Her words, though aimed at the Assamese community at large, also accurately describe the deliberate erasure of the issue of human migration and national citizenship from scientific discussions of climate change impacts in Northeast India and in the greater Himalaya (Chakraborty et al. 2021). And yet, it is not hard to see the many ways in which the NRC intermingles and interacts with the issues of floods and climate change impacts in the region. For example, as Sinha (2019) points out, land records are invalid if the land has been lost to floods or erosion, two phenomena that are increasingly frequent and intense as a result of climate change. Moreover, when floods wash away people's land and they are forced to move to new areas, they run the risk of being seen as intruders by others, who can then report them to one of Assam's Foreigners Tribunals. At the same time, having one's name listed in the NRC might give people a certain sense of security and perhaps even increase their capacity to access and benefit from state-run programs (Misra 2018), such as disaster relief during floods. But, as Dr. Mirza M. Irshad, Project Manager for the Assam State Disaster Management Authority (ASDMA), points out, the opposite is also true (*personal communication*, 10 January 2019): "If the government provides flood assistance on the basis of NRC listings, then NRC-excluded people will not be able to benefit from it."

The compounding of NRC and climatic stressors is most evident when looking at Assam's *chapori* and *char* dwellers. *Chars* and *chaporis* are riverine sandbars, islands, and low-lying riverbanks formed by the process of sediment deposition and erosion of the Brahmaputra River (Kumar and Das 2019, Agarwala 2020). They are unstable temporary land masses, highly vulnerable to floods, and constantly reshaped by the push and pull of the river (Boruah et al. 2021). Though *chars* can be under water for months out of the year, or even disappear overnight at the whims of the Brahmaputra, they also provide valuable fertile land for cultivating crops, such as mustard, poppy, jute, sugar cane, as well as vegetables and leafy greens (Saikia 2019, Boruah et al. 2021). Historically, these "undefined and undulating lands" were settled only temporarily during the dry winter months, and *char* dwellers practiced shifting cultivation in 2- to 3-year cycles before having to evacuate (Saikia 2020). By the mid-20th century, *char* areas became more densely and permanently populated with new migrants, who were encouraged to settle in these flood-prone "wastelands" by locals and the British colonial state, to help maximize agricultural yields and revenue-generation from land (Kumar and Das 2019). Most of these new migrants belonged to the Muslim community of East Bengal (today's Bangladesh), especially those who settled in the western parts of the Brahmaputra valley (Kumar and Das 2019).

Today, 5–10% of the Assamese population lives on *chars* and *chaporis* (Kumar and Das 2019, Boruah et al. 2021), and these settlements are marked by low human and economic development indices (Agarwala 2020). Though other communities such as Misings, Deoris, Kocharis, and Nepali grazers also occupy these islands, since most *char* dwellers are Muslims of Bengali origins, for much of the Assamese public, *chars* have become synonymous with "illegal migration" and "dubious nationality" (Agarwala 2020). Changes in the Assamese agrarian political economy, which have made land more valuable and scarcer, in conjunction with statewide efforts to update the NRC and create a list of Indian Assamese "sifted from the illegal immigrants," have put every *char* dweller at risk of being evicted or reported to the authorities (Boruah et al. 2021). This creates situations, such as the one

described by Gupta (2019), where *char* dwellers must worry not only about surviving the next flood, but also about safeguarding important legacy documents from the floodwaters.

Although I expected transnational actors such as the World Bank and ICIMOD to steer clear of the NRC debate to avoid a diplomatic faux pas, upon my last visit, I was disheartened to notice that the topic was just as easily brushed aside when speaking with people working with flood-affected communities on the ground. The separation between elite CCA strategies, which artificially cleaved hydrological phenomenon to ensure its palatability across scales, exists in stark contrast with the non-elite anxieties of regional inhabitants, whose responses to untimely flooding accompany their vigilance about their political, cultural, and spatial legitimacy. It is unacceptable for the climate adaptation elites to stand on the sidelines of the NRC debate, when this chauvinistic process is specifically targeting a group of people, whose "dubious nationality" is the direct result of their need to adapt to constantly changing riverine, climatic, and geopolitical configurations.

DISCUSSION

From mining to forestry and from commercial agriculture to hydropower, the Himalaya are an extractive frontier (Besky 2014, Bennike 2017, Kikon 2019, Gergan 2020, Paudel and Le Billon 2020, Asher and Bhandari 2021). Managing this space becomes critical to ensure the ongoing extraction of value from communities and ecologies, be it through ethnic and religious othering as is ongoing with the NRC or through the state capture of communal land under the auspices of carbon management in Uttarakhand, or the implicit biasing of certain institutional processes in decision making pathways in the Khumbu. Enabling this form of management are discourses of apocalypse, both natural and anthropogenic, in many ways echoing the fears and frustration of dealing with an unruly social-ecological landscape. Such epistemologies of crisis are intertwined with the framing of the Anthropocene, which "perpetuate colonial and imperial destruction" (Gergan et al. 2020:101), and whose novelty is questionable, given its roots in half a millennium of global colonization (Ghosh 2021).

The nuanced realities of the changing climate seem woven into the fabric of everyday life in the Himalaya. Both as a discourse, representing political and economic aspirations of stakeholders positioned at various intersections of the science-state-market continuum, and as a material artifact, disrupting critical agrarian systems and presenting an unpredictability that mirrors the anxieties of historically unequal power relations. Such a predicament leads to an emergence of CCA that can seem to oscillate between novel forms of spatial and cultural governance. Some leverage regional and global anxieties to consolidate elite control over communities and ecologies, others characterize CC induced indeterminacies as part of an ongoing project of elite control, challenging attempts at distilling CC impacts out of the relational web of precarities. With this in mind we present two provocations that emerge from our stories.

Managing unruliness: risk, fragility, and extraction

The elite control over territory and over the futures of regional communities and ecologies is ubiquitous in the region. This is not a novel proposition as many others have noted the plethora of anxieties associated with state building, bordering, and "undomesticable" human and more-than-human Himalayan subjects. The indeterminacies associated with CC further legitimizes a search for solutions to such spatial and temporal unruliness. Guided by this vision, the political machinery of regional nation states is engaged in a global environmental politics centered on maintaining social-ecological hierarchies (Lord 2016, Ojha et al. 2019). In the Khumbu this emerges as an exclusionary politics that eschews plural subject positions as well as authentic knowledge co-production with involved communities for an institutional solution, forged through geopolitical negotiations that undermine community led efforts (Sherpa 2014). Ironically, it is the cultural capital extracted from colonially and imperially constructed tropes of the Himalaya, and the exoticization of Indigenous groups like the Sherpa that catalyze economic and emotional responses among donors, activist, and aid workers across the world (Sherpa 2022). In this model where vestiges of "participation as adaptation" are flaunted as necessary attributes of creating an adaptation infrastructure that is in sync with certain elite directives, there is an ongoing turmoil. The ongoing exclusion, as voiced by *au* Sonam, Gyalzen is a result of the unruliness such non-elite participation entails. This is seen by the adaptation elite as untenable with their management of regional risk management.

Much like the aspirations of mainstream CCA, elite aspirations for the region are also intimately tied to the production of a territory at any scale, which is simultaneously amenable for extraction and can also serve as a conduit for hegemonic adaptation strategies. But such machinations undermine the subjective fluidity of regional inhabitants (Toffin and Pfaff-Czarnecka 2014, Murton 2019, Boruah et al. 2021). In many ways, the multi-scalar institutions often forced upon them, either by a state mandate or by a form of participatory governance, with preordained degrees of freedom, fail to represent this fluidity (Zou and Kumar 2011, Whitmore 2018, Lord et al. 2020). Colonial cartographic remnants, or state constructed district revenue boundaries, or stereotypical agrarian household profiles within welfare schemes, or the very description of what constitutes land and what is water, are all negotiated and re-negotiated daily. Mobility and fluidity as a CCA strategy is legitimized using tools that ensure the categorization of both communities and ecologies in a form that is legible to elite institutional mandates. The unveiling of rural solar farms or flood resistant crops, or diversification of agrarian livelihoods, all come with the promise of access to novel solutions that embody such elite visions of adaptation. Non-elite adaptation subjects pursue an agentive fluidity because of their institutional ignorance of regional forms of resource control and their exclusion from a multi-scalar architecture of governance. Therefore, rural lower caste youth or *char*/*chapori* dwellers, remain absent from both institutional assessments of regional CCA, and narratives of the Himalayan Anthropocene. It almost seems as if, there is a vision of the ideal adaptation subject (arguably representing aspirational biopolitics), as exposed by state adaptation plans and international aid programs (Government of Arunachal Pradesh 2011, MoFE 2018, Heath et al. 2020). The fluidity and almost shape-shifting quality, of regional inhabitants, which emerges through their relationships with their dynamic ecological, political, and spiritual worlds,

unsettles and defies such visions of control. Such defiance comes at a price.

Ultimately, the extractive tendencies that are at work across the region are omnipresent at various important moments in the CCA ecosystem, be it through the ongoing threats to communal land ownership in Uttarakhand, dysfunctional participatory arrangements in the Khumbu, or the myriad attempts at harnessing the social-ecological shape-shifting of the Brahmaputra delta. The impacts of such extraction are inseparable from the ongoing climate-society changes, and therefore serve as a viable cover of obfuscation, under the guise of climate reductionism. This furthers the historical project of retaining the Himalayan region as both a culturally extractive artifact of global climate change and as a materially extractive frontier to simultaneously aid both visions of adaptation and development.

Belonging in the Anthropocene: precarious lives, non-elite adaptation futures and a politics of hope

As the loss and damage dialogues in the recently concluded COP-27 illustrate, conversations around responsibility, accountability, and addressing the ongoing inequities of history will continue to be a key part of CCA in the coming years. These concerns about identifying the subjects, the agents responsible for our planetary predicament are accompanied by a litany of doubts around the legitimacy of the subjects/institutions making such claims. As much as such conversations are about contesting ideological and political relationships, they are also strategically set up to subsume the aspirational plurality of non-elite subjects, while simultaneously profiting from their labor and their low carbon lives. Therefore, the question of belonging, folded within which is the question of legitimate identities, comes to the forefront of our stories.

In Uttarakhand, despite being denied access to land, institutions, and public assistance, Danveer's SC family is nevertheless pursuing their own adaptation trajectory. The increasing demand in cement and rebar houses provides an alternative to elite surveilled "natural" landscapes, necessary for the upkeep of their climatically better suited wooden/slate houses. This provides an income source for their children, while also restructuring local economic relationships along the caste hierarchy. Such non-elite adaptation challenges intra-village power relations, but despite such subversion, is also cognizant of the limits of their agency within formal institutions. In a state that has seen an amplification in casteist violence and the incursion of a variety of Hindutva politics, the caste lens provides a much-needed decentering of climatic changes as the most important and imminent threat to the well-being of regional populations (see Sharma 2017). The escalation of casteism raises the question about the effectiveness of any institutional CCA in the region that fails to address this. For Danveer's family, belonging to Shaili has always been at the whims of GC families. The coming indeterminacies of CC remain as artifacts of that same world order and his family, along with many others, continue to adapt to such provocations as they have done for generations.

Similarly, over in Assam, the Indian state's National Register of Citizens has effectively completed the historical process of manufacturing a political other. This has exacerbated the vulnerabilities experienced by regional inhabitants, along colonially constructed and ethnonationalistically executed fault lines. This along with the disastrous consequences of hydropower development, has radically transformed hydrosocial relationships for certain marginalized communities (Huber 2019, Das 2021). Again, in this instance, the labor of everyday adaptation is inextricable from the exhausting and daunting burden of proof, one that legitimizes national (and cultural) belonging. Such a burden is nurtured by hegemonic attempts to create a subjective hierarchy, whose goal is the social-ecological control of territory. For many in this predicament, the whims of the state appear to be just as mercurial as erratic rainfall events, and just as culpable of swallowing their lands as the increasingly frequent floods of the Brahmaputra. By failing to address the issue of human migration across post-colonial borders, and by skirting the NRC debate, the CCA elite in Assam are allowing the erasure of the rich cultural heritage that *char* dwellers hold related to agriculture and to the Brahmaputra River (Agarwala 2020). With 40% of the Assamese territory prone to riverine floods (NRSC 2016), and as the region heads toward novel climate-society relationships, there is a lot the local adaptation elites can learn from non-elites such as *char* dwellers. The permanent settlement of *chars* in the Brahmaputra valley of Assam, largely by Muslims of Bengali origins, is in itself a form of everyday adaptation and resistance to a fluctuating geopolitical terrain, and the result of the historical experience of being religious and linguistic outsiders (Kumar and Das 2019). The varied livelihood strategies of *char* dwellers, and their flexible land ownership arrangements, have allowed them to follow the rhythms of the Brahmaputra flood regime, and live a life of dignity in impermanent riverscapes (Phukan 2013, Kumar and Das 2019, Saikia 2019).

At this point we revisit the question that began this collaborative conversation for us: Are Himalayan adaptation subjects organized into a monolithic category, pursuing certain "legitimized" responses to changing climate-society relationships, or do the multitude of spatially and temporally varied power differences elicit different responses? Ultimately, can such complicated stories help us envision an adaptation praxis that challenges regional narratives of crisis and provides alternatives to climate reductionist thinking/planning?

The answer to the first question emerges quite clearly in our work. The plurality of community and ecology relationships across the region when engaging with situated historical processes elicit quite different adaptation strategies. However, the institutional positioning of CC within elite visions of techno-managerial control gives rise to a similar set of CCA aspirations. The second question is harder to answer, in part because non-elite adaptation praxis is made possible by its ability to remain just beyond the purview of formal institutional structures. Therefore, envisioning a more equitable set of adaptation strategies requires either reformation of contextual power relations across a variety of subject positions, quite a tall order, or what is more possible, building adaptation interventions that provide strategic allyship to non-elite aspirations. Overall, with the three stories, we hope to further advance important discussions of CCA by (a) contributing to work that calls for the repoliticization of CCA, (b) highlighting the perils of climate reductionism and showing that adaptation is not just in response to weather, but rather an ongoing response and resistance to an unfolding assemblage within which the climate is inextricably embedded, and (c)

challenging the crisis mentality that permeates CCA narratives and characterizes climatic changes as unprecedented, while undermining spatial and temporal peculiarities.

Ultimately, a politics of hope for regional non-elite communities would require a more symbiotic relationship with such mobilizations, through a focus on rights, access, and accountability (Sultana 2022). This could manifest as codified non-extractive best practices memorandums for CC knowledge production, as capacity building through political and financial literacy projects for non-elite youth, and as investment in design and planning for fluid landscapes that are not constrained by an imposed "sedentarity," echoing elite territorial realities. However, if such efforts are not matched by a sustainable regulation of the ravenous machine of development, whose industrial arteries are acting as conduits of all manner of extraction, non-elite futures will remain in precarity.

CONCLUSION

CCA in the Himalaya when examined as a techno-managerial artifact remains tethered to visions of the apocalypse and suffers from climate reductive thinking and strategies. Additionally, there is a growing prevalence of disaster capitalism, this is exemplified in the weaponizing of CCA aid as a form of state granted legitimacy, separating "legal" subjects from "illegal" ones in Assam. In Uttarakhand, this emerges as the latest attempt in a colonial process of dispossession through acquisition of land for carbon management, as well as redrawing conservation boundaries. In Khumbu, the push to create institutional elites when recognizing CCA knowledge and action is a strategic tool that seeks to undermine the local labor. Such attempts support the process of elite capture while supporting more climate reductionist interventions, which silence ongoing historical inequalities.

Despite such attempts, the strategies of non-elite adaptation complicate the prevalence of such elite mobilizations. This reveals Himalayan subjects, laboring on very different timescales, inspired by situated cosmological and political aspirations, hopefully, toward dignified lives. Whether or not such labor produces the needed adaptation cannot be fully understood unless CCA is reframed as a socio-political process. The emerging climate-society relationships bring into sharp focus the need to decenter "climate" from narratives of CCA, not just in the Himalayas, but across the world. We argue that adaptation stories should foreground the various lives of power as manifesting through regional human-nature relationships, which include contestations over commons, the enduring presence of casteism, patriarchal domination over resource governance, the populist attempts to produce model citizens, and the extractive culture of knowledge production. Ultimately, grounded in such a re-centering of non-elite stories we have a few suggestions about the future. First, CCA should be assessed through measuring the overall well-being of different demographic units (household, community, village) instead of tethering CCA successes to reductionist measures of crop yield or household income. Second, the global environmental politics conjuring certain images of loss and risk undermine non-elite strategies by evaluating their ethical and material consequences within a politically confined spatial and temporal space.

The adoption of a relational paradigm in Himalayan climate change research and action can provide alternative adaptation stories, based on relational ways of being, knowing, and acting that better unpack the complex realities of Himalayan communities. Because relational thinking emphasizes continually unfolding processes and relations and sees change as integral to these assemblages, this approach can help researchers develop more holistic accounts of human-nature connectedness and climate change transformations (West et al. 2020, Walsh et al. 2021). Inclusive adaptation futures would work with the relationally different burdens and precarities, challenging the efficacy of a "planetary focus" to one that supports more intimate, non-elite, interventions. This restructuring would support the emerging mobilizations around climate justice and more ethical and inclusive responses to the Anthropocene.

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Data Availability:

The data/code that support the findings of this study are available on request from the corresponding author, RC. None of the data/code are publicly available because they contain information that could compromise the privacy of research participants. Ethical approval for this research study was granted by University of Wisconsin-Madison IRB number 2015-0760-CR001.

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