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Climate change and the operation of power: intersectionality, dispossession, and knowledge politics in pastoral communities

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ABSTRACT

This paper employs a feminist political ecology (FPE) framing to show how adaptation processes result in shifting intersectional subjectivities that reshape peoples' relationships to resources and communities. Drawing on cases of pastoralists affected by conservation efforts in Kenya and India, we argue that these shifts create marginalisation while also offering possibilities to challenge existing, gendered subjectivities. We show how maladaptive outcomes result from systemic and deliberate processes, exemplified through loss of land access and control, knowledge politics, and changes in social relations. Using FPE illustrates how top-down adaptation becomes maladaptive and fails, but also offers opportunities to counter marginalisation.

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1. Introduction

Adaptation to climate change is now firmly established as a global concern and goal, but there are still many gaps in our understanding of how adaptation processes unfold, and their outcomes (Taylor 2015). Top-down approaches, removed from people's lived realities, can exacerbate vulnerability to climate change and lead to maladaptation (Eriksen et al. 2021). They are often dominated by technical solutions as 'fixes' to address the bio-physical manifestations of climate change rather than the socio-political bases of vulnerability (Borras et al. 2022; Mehta et al. 2021; Nightingale et al. 2020). In this article, we argue that adaptation reshapes intersectional subjectivities, people's relationships to their resources and the state, and reframes what 'marginalised' means. These re-framings, when viewed through a feminist political ecology (FPE) lens, helps to show how power

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operates within adaptation to create both risks of maladaptation and possibilities for positive transformation.

We advance a fine-grained analysis by bringing in a FPE lens to unpack how power operates within responses to climate change and adaptation processes in agrarian settings, and how uncertainty and existing vulnerabilities shape the inclusions and exclusions that result (Nightingale 2017). Feminist political ecology has made vital contributions to agrarian studies by uncovering the gender-based power dynamics in contexts of resource contestation (Elmhirst 2018; Rocheleau et al. 1996; Mollett and Faria 2018; Sultana 2020). FPE has in particular focused on how its analyses can be used to challenge existing power inequities and open up spaces for their renegotiation to create more just and equitable outcomes (Harcourt et al. 2023; Nightingale 2018; Rocheleau 2008; Rocheleau et al. 1996). Given that climate change may both increase uncertainty and exacerbate capitalist inequities in rural settings (cf. Mehta, Adam, and Srivastava 2022), FPE is well suited as a framework to explore the question of how adaptation responses to it are affecting equity across different social groups in agrarian settings (see also Borrás et al. 2022).

We explore this through two case studies of pastoralist communities living on the borders of conservation areas, the Maasai Mara in southern Kenya, and Fakirani Jat and other pastoralist groups in western India. Like pastoralist communities around the world, there is a growing focus on the implications of climate change in both these cases. While there are obvious reasons for adding climate change concerns in all aspects of development, less is known about the longer-term implications of this in terms of shifting the ability of pastoral communities to adapt to climate change. Given the growing evidence and concern on maladaptation (Eriksen et al. 2021), we are particularly interested in how this occurs, and the possibility of pathways for equitable, transformative adaptation.

Interventions to change pastoralist livelihoods in our cases were initially justified in the name of conservation and development, but increasingly framed as adapting to and strengthening resilience to climate change. Our research finds that contrary to the development and adaptation 'win-win' rhetoric of these interventions, new restrictions and opportunities associated with conservation processes fracture communities along existing and new intersectional differences, compounding vulnerabilities and adding to the adaptation challenges people face. They also increase the uncertainties and vulnerabilities faced by different social groups already grappling with the uneven dynamics of agrarian change and climate change.

We take inspiration from recent FPE contributions that show how intersectional subjectivities are a potent conceptual tool to unpack not only uneven relations within households and communities in contexts of contested access to land and water, but to more fundamentally explore how climate change and responses to it are shaping vulnerability, institutions, and possibilities for emancipatory change (Gonda 2019; Nightingale 2017, 2018; Sultana 2021). FPE theorises how power operates within intersectional subjectivities and contextualises that within wider processes of capitalist development, agrarian change and development politics. In studies of the commons, FPE scholars have focused on how intersectionality shapes participation, resource sharing and community dynamics. Many have emphasised the positive possibilities for women and marginalised people (Agarwal 1998; Clement et al. 2019; Singh 2018), others have shown how intersectionality can also fracture communities and lead to inequalities in the commons (Nightingale 2019).

We add to this a focus on ruptures and uncertainty in the commons to show how vulnerability is not a condition, but rather a complex outcome of the operation of power which is not only 'top down' but also shaped by resistance and refusals from 'below'.

In both case study sites, the entanglements of capitalist development with climate adaptation and conservation goals play out on the commons and in people's livelihoods. Both are contexts of multiple crises, deep uncertainties, and unequal social-political governance of agrarian change. And, both demonstrate how climate change intensifies agrarian crises and precarity for pastoralists (cf. Matthan 2023), but also open up new possibilities which fracture communities in uneven ways. The cases thus illustrate our broader argument in different ways: among pastoralists in Mara, Kenya, we show how community conservancies, justified based on biodiversity conservation and, increasingly, adaptation goals, are reshaping the subjectivities of pastoral women, both limiting their access to grazing resources, but also opening up new economic opportunities. People do not passively respond to these changes, but rather actively resist and reshape the operation of power in adaptation which manifest in changed social norms and institutions. We find that even in a context with considerable social, political and economic inequality, there is potential for pastoralists to negotiate the operation of power in ways that combine to produce bottom-up adaptation action, and forge linkages to broader state-citizen relationships. Similarly, the example from India shows how the challenges of climate change uncertainty is perceived in very different ways across scales of governance and across different social groups. State action both promoting industrialisation and mangrove conservation, the latter justified as an adaptation action, is framed and implemented in a top-down way, all but ignoring community-level perspectives and experiences. Interventions have thus side-lined and created new vulnerabilities for marginalised peoples by disrupting relationships between farmers and herders, discrediting and displacing pastoralists. At the same time, we found that even in these contexts there are opportunities emerging for strategic, hybrid alliances with pastoralists, civil society actors and policymakers to help support transformative change in marginal drylands.

The cases show how a focus on the operation of power demonstrates how subjectivity is central to navigating the ruptures and uncertainties of climate change – first, in terms of living within current structural inequalities, which shows people's capacity to cope with climate and environmental change. Second, we also see many signs of incremental adaptation, in the sense that people in both sites are negotiating – resisting, and in some cases slowly changing – their bargaining position within existing structures. Third, and arguably much less prominent, we suggest that there are traces of emancipatory spaces that could lead to deeper, more systemic and transformative adaptative changes. These are split over intersectional subjectivities such as gender, race, class and education, as well as three different livelihood dimensions, notably resource access, socio-natural entanglements, and social relations.

We argue that an understanding of intersectional subjectivities can give important insights into how power operates in dynamic agrarian settings that are highly exposed and very vulnerable to both climate change and external, state-led environment, climate and development responses. Our research demonstrates how everyday embodied experiences of climate change are shaped by the operation of power, which construct and maintain hegemonic gender ideologies, and perpetuate

intersectional inequalities, but which may in some cases also be resisted and offer spaces for negotiation.

The remainder of the paper is structured as follows: first, we explain the background and develop the theory framework, building on FPE and literature on intersectional subjectivities, including how this work emerged out of the EC-funded ITN-WEGO¹ project. Elements of this framework are then discussed in relation to the two cases in Kenya and India, analysing the different arenas where adaptation interventions meet realities on the ground, and the associated processes where power relations are reinforced, new ones are created, but also challenged. The final section reflects on these findings and their future implications.

2. Framework and methodology

The past decade has seen increasing critical inquiry into the equity and justice implications of adaptation processes (e.g. Dewan 2021; Eriksen et al. 2021; Eriksen, Nightingale, and Eakin 2015; Newell et al. 2021; Paprocki 2022; Pelling and Garschagen 2019). Despite equity being reflected in the goal for adaptation under the UNFCCC, benefits of adaptation finance and action for the most marginalised cannot be assumed. Research dating back to the droughts and famines during the 1970s and 1980s show that adaptation interventions themselves can be harmful and maladaptive (Ribot 2014; Watts 1983) by reinforcing or exacerbating rather than addressing vulnerability drivers. The question then becomes how to address increasingly urgent adaptation needs without reproducing mistakes made to date. Theoretically and practically, it remains an open question: how long-term equitable outcomes can be ensured.

Adaptation action includes a broad spectrum of activities, from 'autonomous' responses by individuals and households, to planned interventions by international and national agencies. These actions lie on a continuum from interventions addressing vulnerability, to adaptation interventions targeting specific climate change impacts (McGray et al. 2007; Orlove 2022). In some cases, they include interventions specifically addressing distinct climate shocks and stressors, but more commonly they consist of activities that, at times obliquely, combine development needs and vulnerability as well as a range of impacts from climate change. The literature has decisively shown that adaptation actions and their outcomes reflect existing power relations, shaped by political processes and the agency of actors involved (Eriksen, Nightingale, and Eakin 2015; Mikulewicz 2019; Nightingale 2017; Taylor 2015). Further marginalisation of social groups – i.e. maladaptation – results when local contexts and power relations are ignored or insufficiently considered (Blythe et al. 2018; Eriksen et al. 2021; Newell et al. 2021). Cross-scale dynamics that arise from such processes have been shown to subsume local knowledge, capacities, needs and priorities (Mehta, Adam, and Srivastava 2022; Nightingale 2017).

In many cases, gender and other intersectional markers of social difference and power relations frame who is included and who is excluded from adaptation interventions (Carr and Thompson 2014; Garcia et al. 2022; Nagoda and Eriksen 2014). Top-down processes in particular tend to target the national level, failing to adequately integrate with local

¹'Well-being, Ecology, Gender, and cOmunity' (WEGO), <https://www.wegoitn.org/>.

government and community institutions (Khatri, Nightingale, and Ojha 2022; Mills-Novoa et al. 2020). Any adaptation action, whether autonomous, planned or top-down, also happens within existing inequitable processes such as land-, water- or green-grabbing, and other diverse ways in which capital penetrates lands and livelihoods in rural landscapes (Borras and Franco 2018; Gonda et al. 2023). The literature thus points to the need for a more fine-grained understanding of the mechanisms through which power is exercised in climate change and adaptation responses (Nightingale, Gonda, and Eriksen 2022).

The ability of different social groups to adapt to changing biophysical and social-political processes is determined by factors ranging from: access to resources to support livelihoods, socio-natural relationships, and social relations (Nightingale 2018). Climate change cannot be isolated from long-term capitalist, development and socio-ecological processes that play out in very unequal ways in rural settings (see Borras et al. 2022; Matthan 2023). In many cases, climate change and the anticipation of future crises may emerge as an ‘alibi’ for powerful actors to perpetuate and intensify slow violence and histories of accumulation and dispossession, a process that Paprocki (2022) terms ‘anticipatory ruination’; processes that in turn help justify technocratic and top-down responses that exacerbate exploitation of lands and livelihoods.

Building on these emerging insights from the adaptation literature, we add an intersectional subjectivity lens, drawing on work from Feminist Political Ecology (FPE), including recent conceptual and empirical work by Garcia et al. (2022), Nightingale (2017) and Gonda (2019). FPE has long explored how power operates through intersectional social differences – such as gender, race, class, ability, age – to relationally shape socionatures and produce uneven access to and control over resources and knowledges (Elmhirst 2011; Gururani 2002; Harcourt and Nelson 2015; Mollett and Faria 2018; Nightingale 2006, 2011; Rocheleau 2008; Sultana 2011; Sundberg 2004). In FPE work, there is often an ‘an explicit commitment towards tackling gender disadvantage and inequality’ (Elmhirst 2015, 519) and enabling more just and caring relations between humans and more-than-human others that allow all beings to flourish and thrive (Mehta and Harcourt 2021). Applying these insights to climate change concerns, Garcia et al. (2022)’s review of adaptation and resilience literature found that power is still on the periphery of analyses and represents an important barrier to improving processes and outcomes. In her case study of Nepal, Nightingale (2017) shows how adaptation processes can lead to further marginalisation of poor social groups, in sharp contrast to the expressed goals in international adaptation discourses. Gonda’s (2019) analysis of adaptation efforts in Nicaragua reiterates the importance of putting politics and power at the heart of the analysis. Together, they show the value of FPE for comprehending adaptation processes.

FPE work suggests how uneven power relations are not merely unfortunate side effects, but rather constitutive of how adaptation plays out across scales (Eriksen, Nightingale, and Eakin 2015; Garcia et al. 2022; Gonda 2019; Nightingale 2017; Sultana 2021). A central argument in these debates is that subjectivities are produced and transformed through adaptation processes (Gonda 2017; Nightingale 2017). It is in this sense that intersectionality and subjectivity are concepts used to understand the operation of power (Mollett and Faria 2018). The subject is formed as power operates through hegemonic discourses, and by the internalisation and resistance to them by the subject (Butler 1997); or as Butler puts it, ‘the effect of power in recoil’ (1997, 6). Individuals are subjected in

multiple ways which can change over time, captured through the term 'intersectionality' (Crenshaw 2017). Subjectivity differs from identity in being a performative concept, implying that the subject emerges in everyday interactions and is not static.

Our framework focuses on three aspects of intersectional subjectivities that tie together gaps in the adaptation literature with contributions from FPE, namely: resource access and control, the politics of diverse knowledges, and changing social relations. *First, resource access and control.* Subjectivities are about the operation of power in social relations; how individuals are perceived by others or perceive themselves in relation to the roles they perform – gender, race and class are iconic (Larson et al. 2018; Mollett and Faria 2018; Nightingale 2006, 2011, 2017). For example, women are often subjected as care givers for household members in relation to reproductive activities of providing food and water, subjectivities they both readily embrace and find difficult to resist. It is possible to hold multiple, contradicting subjectivities, which change depending on location, time, space, and place (Probyn 2003). Resource use and access is an especially potent arena wherein subjectivities are renegotiated and reconstituted, helping to show the relational and fluid nature of subjection processes (Nightingale 2006, 2011; Sultana 2009). Subjectivities are embodied, and therefore material, and constituted in relation to the non-human (Nightingale 2006). In our cases here, the ways that subjectivities emerge from work practices and are shaped by who has access to which resources and spaces becomes starkly evident.

Second, the politics of diverse knowledges. The operation of power through processes of subjection shape what knowledge is counted as valid in adaptation governance processes and who is considered to require 'capacity building' (Gonda 2019). Despite lip service to contributions of local and indigenous knowledge in adaptation, framings from science continue to dominate the logic of adaptation efforts, viewing local or indigenous knowledge narrowly as inputs to formal science (e.g. Naess 2013, 2017). This view is often internalised in the subjectivities of marginalised social groups, perceiving their own knowledge as 'backward' and in need of 'modernisation', as we demonstrate in the case of pastoralists in Kutch. Hegemonic discourses around natural resource management and agriculture similarly subject people as 'unproductive', 'inefficient' and 'destructive' (cf. Borras and Franco 2018; Mehta and Srivastava 2019).

And *third*, we look at *changing social relations* through the lens of intersectional subjectivities, and how this may help policy actors better support marginalised citizens 'to (re)negotiate pervasive inequalities in practice' (Garcia and Tschakert 2022, 652), and employ 'emancipatory spaces' (Garcia and Tschakert 2022; Gonda et al. 2023; Nightingale, Gonda, and Eriksen 2022). Here we build on a large body of research that shows how marginalised groups have knowledge and skills not only to cope with and adjust to change, but also – including through deliberative processes – resist and engage with formal and informal institutions (Chakraborty 2018; Naess 2017; Ojha et al. 2016).

This paper is a product of the WEGO-ITN network,² where the FPE framework has motivated research and practice. Two of the authors have recent empirical work in Mara, Kenya, and Kutch, India (Wangari-Muneri and Mehta).³ The sites are contexts affected by growing precarity due to the intersection between climate change and uneven socio-ecological and

²Well-being, Ecology, Gender, and cOmmunity' (<https://www.wegoitn.org/>), funded under European Union's Horizon 2020 research and innovation programme.

economic processes. In both cases, people are responding within their existing constraints as well as ongoing interventions that are justified in part as measures to improve adaptation and strengthen resilience. We do not aim to provide a directly comparable and exhaustive account of interconnections in the case studies; rather, we use the cases to highlight particular aspects of what we believe are key contributions of an intersectional subjectivity understanding to climate change and adaptation in contexts of agrarian change.

In Kenya, research in the Mara case study was conducted in three villages of Talek, Il-Baan and Fig-Tree over a period of 6 months in 2019-2020. These villages are in the Mara ecosystem, with most residents being Maasai pastoralists in what are now community conservancies. Like others in the Mara, the inhabitants of these villages have lost access to their grazing lands and experience recurrent and increasingly variable and unpredictable weather patterns. The research involved qualitative methods, including semi-structured interviews with key informants and pastoralists, life history narratives, focus group discussions and participant observations.

Research for the Indian case in Kutch was conducted for TAPESTRY and related projects.⁴ Fieldwork was carried out in stages, the latest in 2021-2022, in three coastal villages in the Abrasa block. The villages are inhabited by Muslim Fakirani Jats who breed camels, buffalos, goats as well as engage in fishing, industrial labour, and agriculture (Jha 2023). The Kharai camels link them with other pastoralist groups, especially coastal Hindu Rabari who also breed the Kharai. All the study villages have witnessed major land use changes due the loss of grazing lands, increase in salinity and loss of biodiversity. These are largely a result of aggressive industrialisation on the coast, combined with a changing climate. Qualitative research included in-depth interviews with different pastoralists, focus group discussion, participant observation, digital ethnography during Covid-19 lockdowns, in addition to visual approaches such as digital diaries and photovoice.

3. Mara, Kenya

3.1. Context

The Mara ecosystem of Narok County in Southern Kenya is an Arid and Semi-Arid Land (ASAL) home to the Maasai pastoralists⁵ whose mainstay is keeping of livestock like cows, sheep, goats, and donkeys, as well as non-livestock- activities like waged labour (Burnsilver et al. 2007).⁶ The Mara is a highly dynamic area that has undergone rapid social, economic, and physical transformations in recent years (Burnsilver 2009; Catley and Iyasu 2010; Eriksen and Lind 2009; Homewood 2008; Mwangi 2007). It forms the northern part of the Serengeti national park, widely known for its annual wildebeest migration. Due to the rich biodiversity and large numbers of wildlife, the Mara hosts a

³This includes, respectively, PhD as part of the WEGO project and work under the project 'Transformation as Praxis: Exploring Socially Just and Transdisciplinary Pathways to Sustainability in Marginal Environments' (TAPESTRY) project (<https://tapestry-project.org/>).

⁴<https://tapestry-project.org/>.

⁵Pastoralism is understood here as 'a broad range of non-livestock livelihoods and productive activities existing in drylands, as well, which nonetheless may be associated with pastoralism through a variety of social and economic relationships' (Lind et al. 2016: 3).

⁶See also <https://www.narok.go.ke/about-narok/>.

thriving tourism sector that sees a regular influx of conservation researchers, international tourists and migrant workers.

As documented by Marty et al. (2023), pastoralists are diversifying their livelihoods in multiple ways, but the benefit of this diversification is unequal and socially differentiated. Populations in the Mara are also faced with increasingly uncertain and extreme weather patterns with prolonged droughts and recurrent floods (Kenya Meteorological Department 2021). The severity of these changes, combined with wider social and economic changes and historical and ongoing marginalisation of the Maasai, have compromised their traditional responses to climate variability and change.

3.2. Community conservancies: fragmentation and dispossession

The Mara ecosystem comprises the state-owned Maasai Mara national reserve, 16 community-owned conservancies (as of 2020) and pockets of human settlements. The Maasai have historically been marginalised, dating to the colonial era. They are under-represented in decision-making, excluded from many development agendas, have had their livelihood delegitimised and lost large tracks of their grazing lands (Burnsilver et al. 2007; Catley, Lind, and Scoones 2013; Kipuri and Ridgewell 2008; Mwangi 2007). The land is an essential resource for livestock production, hence processes of sedentarisation and restricting the mobility of the Maasai's severely affects access to fodder and water for their livestock and their ability to adapt to drought (Catley, Lind, and Scoones 2013; Niamir-Fuller 1998; Niamir-Fuller and Turner 1999; Nori 2019). Such changes have resulted in the disappearance of an estimated 70% of pastoral land from its traditional distribution (Burnsilver et al. 2007; Mwangi 2007). At their core, displacements and exclusions are sharply divided by gender and generational differences (Bedelian and Ogutu 2017; Mwangi 2007; Thompson and Homewood 2002). By portraying pastoralism as 'unproductive', colonial and post-colonial administrations have often demarcated pastoralist land for mineral extraction, agricultural production and wildlife conservation.

The history of pastoral land loss, fragmentation and displacement due to conservation is well documented, but most of the work has looked at the macro scale rather than how these changes in pastoral land loss fragments within the community (Brockington 2008; Mwangi 2003, 2007). In recent years, community conservation, commonly called 'conservancies', has been established in the Maasai Mara, increasingly justified as an adaptation response to climate change (Wangari-Muneri 2024). The long and convoluted processes leading to the sub-division of community-owned land into individual parcels of land, known as 'group ranches', and their subsequent conversion to conservancies, are often contested (Bedelian 2012; Homewood, Kristjanson, and Trench 2009; Mwangi 2007). Conservancies comprise individual landowners forming groups and leasing their land to tour operators in exchange for periodic payments. This model builds on neoliberal ways of conceptualising nature that commodifies nature and sells its services using market-based approaches to conservation (Duffy and Moore 2010; Roe, Huntsinger, and Labnow 1998).

These transformations of pastoral lands into community conservation are touted as 'win-win' because, as local people transfer their rights to property and natural resources for biodiversity conservation, biodiversity is protected, and livelihoods improved from the proceeds made from conservation (Bedelian 2012; Bedelian and

Ogutu 2017; Roe 2008; Thompson and Homewood 2002). Due to the increasingly unpredictable extreme weather events like prolonged droughts and floods in the region over the last 15 years, community conservation has also increasingly been framed as an approach to strengthening resilience to climate change by development agencies, conservation actors and the Kenyan government (Igoe and Brockington 2007; McShane et al. 2011; Roe 2008).

Our research revealed that these projects rarely address both conservation and livelihood objectives. On the contrary, the processes of forming conservancies have often led to dispossessions of poor women and men, with those leasing their land relinquishing rights to access resources from the land. Elites accrue the most benefits, and different social groups navigate customary and government-imposed subjectivities to live with processes of dispossession, along intersectional lines. For example, as per customary laws and institutions, Maasai women are excluded from land ownership. Recently, conservancies have been trying to correct what they euphemistically refer to as ‘an oversight in the original allocation’⁷ by registering widows as official landowners upon the death of their husband. Within families, sons and women themselves both adjust as well as resist these changes, illustrating well the complexities of how power operates through subjection. Some women believed that accepting to be registered as landowners would increase conflict within the family and possibly lead to their sons neglecting them in old age.

The Maasai therefore do not necessarily feel empowered by having land registered in their own names, but rather find it subjects them to power in new ways, in this case making them vulnerable to resentments by their sons. Families are navigating this complex situation by allowing their sons to be the registered landowners, which the older women perceive as a way of maintaining family unity as well as securing support when they need it. By asserting their subjectivities through mutual gains and reciprocity within the family – albeit in ways that can seem disempowering to well-intentioned land rights advocates –, women gain legitimate claims of support from their sons, despite lacking formal recognition as landowners.

Since all women and some young men were excluded from the land allocation, they also lost out on any compensation from leasing out land for conservation purposes. In some cases, this created a double loss, in that benefits from the conservancy failed to ‘trickle down’ within the household. As Laimosi,⁸ a young, educated respondent, whose father has leased land to the conservancy said:

I had a very difficult childhood although my father was not poor ... He had land in the conservancies, and I was often sent away from school for not having fees and books ... All my sisters were given away (married off) like daughters of poor families, yet we were not poor ... There is a lot of money here (Mara), but it does not even help the families.

Several other respondents had similar sentiments, indicating the inequitable ways these conservancies’ benefits are distributed both within and between households. The unequal distribution of benefits also extends to tour operators, who lease conservancies to operate high-end tourist campsites.

⁷Interview with a conservancy leader, Talek, 5 November 2019.

⁸Names are changed to protect respondents’ anonymity.

In response, some have challenged and tried to change the conservancy benefit sharing arrangements. For example, during a youth day organised by the conservation association to sensitise the students on environmental conservation, university student representatives called out the conservancies for short-changing landowners, demanding that the leasehold terms be renegotiated to redistribute the benefits to more community members rather than placing them in the hands of a few people. This narrative was repeated on several occasions when speaking to young, educated men who compared the overall benefits obtained by the tour operators vis-a-vis the little that trickles down to the rest of the community, including within households. As one young, educated respondent, Lenku, exclaimed,

They (conservancies and landowners) say it is Kes 42,000 per month, but that is for a unit of 150 acres. So, they pay a paltry Kes 283 per acre each month, which is peanuts considering the average tourist pays at least Kes 20,000 per day for accommodation.

Women respondents attributed the unfair compensation to their head of the family's (patriarch's) lack of education. Ultimately, they believe the tour operators preyed on the landowner's ignorance to tie them down to unfair leasehold arrangements. Thus, they strongly emphasised and supported their children's education to secure their future and avoid being duped in land agreements.

Taken together, the above shows how analyses that focus only on the exclusions that take place at the community level miss how conservancies are fracturing communities from the inside, because of how power operates through intersectional subjectivities within families and the community. Contrary to the government's win-win rhetoric on biodiversity and adaptation, conservancies are seen to involve delayed payments during tourism low seasons, lengthy and convoluted lease agreements, and restrictions to use the land to collect provisions like firewood and water. These challenges ultimately increase the vulnerability of particularly women and youth, undermining community members' ability to effectively respond to climate shocks and stressors.

3.3. Livestock control and mobility

Pastoralists rely on mobility to access and utilise shared pasture resources from the drylands, and as a way of adapting to climate variability and change (Scoones 2021). Mobility takes many shapes and forms, and it has been changing with changes in land-use for conservation purposes as well as increasingly erratic weather events in the region (Goldman, Daly, and Lovell 2016; Niamir-Fuller and Turner 1999; Nori 2019; Scoones 2021). In the study site, the main observed shift for livestock mobility was the increasing prevalence of night grazing, typically involving wealthy male pastoralists hiring poorer men to graze their livestock illegally overnight in the neighbouring national nature reserve.

Accessing the reserve is shaped by intersectional subjectivities as it entails crossing the Talek river by wading through it and ensuring that the cattle are not attacked either by crocodiles in the river or other wildlife throughout the night. Hence, only strong young men with immense local knowledge of the river and the park take on herders' jobs. These young men also leverage their local knowledge of specific wildlife locations to help tour guides locate wildlife for a fee. At the same time, since the night grazing practice

is outlawed, it is effectively only available to the richest (male) older pastoralists, as they can afford to pay the trespassing fine in the event their herds are impounded.

Other forms of mobility include sending hired herders with the steady herds, in search of water and pastures while the families remain settled in one location. Often the herders move through the traditionally known routes and are put up each night in a clan man's homestead. This movement with livestock is determined by the availability of water and pastures, and its durations vary depending on rainfall, and further serves to create inter-sectional differences within the community (see also Nightingale 2006).

Women contribute significantly in establishing the need to move livestock based on livestock appearance and milk production, which they monitor each morning and evening as part of their roles. Whereas mobility is a crucial aspect in pastoralism (Catley, Lind, and Scoones 2013; Niamir-Fuller 1998; Niamir-Fuller and Turner 1999; Nori 2019), many women associated it with painful memories. They recounted how packing all their belongings, and trekking for several weeks at a time in poor weather, took a toll on them. Mobility in pastoralism is thus fractured in complex ways by embodied subjectivities that mean it is inadequate to only look at the categories of women or men. Rather, the case here shows how some young men gain access to resources by being strong and having specialised knowledge, while some women have been resisting the mobility demands of pastoralism through the new opportunities for sedentarisation opened up by state policies. However, as we show below, these changes also serve to put some people more at risk from the uncertainties and ruptures from climate change than others.

3.4. Changing social relations: cultural manyattas

The Mara is a case of changing gender relations accompanied by changes to the operation of power surrounding household roles and values. Traditionally, the Maasai people have lived communally in a *manyatta* (village), which is formed by several household and sub-households. A household comprises the man's huts, sub-households belonging to each of his wives, and a shared livestock shed in the middle. Over recent years, the set-up of households in the Mara have been changing, with individual wives now seen to move their sub-household to a different location, to form what is referred to as 'cultural' manyattas.

The main activities carried out by the women in cultural manyattas are tourism related, like entertaining tourists and selling trinkets, bead work, and artifacts to generate income. Many women reported experiencing relative autonomy in cultural manyattas compared to their marital homes, and can more easily exercise their agency. They make decisions on how to spend money themselves, what economic activities to engage in, how to discipline their children and whom to associate with and make their own rules; none of which they are able to do in their marital homes. As explained by Nairishu, an elderly woman:

I am very happy here and prefer it this way. I have freedom to do what I want. I decide what to do with my money. My money is my money. I decide where to take my children to school. And I can even buy my own sheep. It is impossible to do all this when living in the marital homestead. My co-wives who live there (marital homes) envy me. Some are looking for ways to come and build here. (Interview, 16th Nov 2019)

Women in these villages are also able to purchase cattle and parcels of land as collectives, which is otherwise restricted by customary laws and institutions. Hence, the cultural manyattas become arenas where women are able to assert new subjectivities, defying the institutional laws that restrict them from engaging in activities like trading in livestock and land or owning land and finding new ways to redefine the household.

These new forms of subjectivity are grounded in commoning, where the women pull resources together to purchase assets like water tanks to store harvested water, which are quite expensive for individuals to purchase. Tanks are a key strategy to adapt to the ruptures and uncertainties caused by recurrent droughts. Several interviewees indicated that if they tried as individuals, they would face challenges installing the tanks on land they did not own due to existing gender-based land ownership rules. So while above, many women perceived refusing land titles as the most empowering move, for women living in cultural manyattas, their lack of individual land rights negatively affects their ability to cope and adapt to erratic weather events. By engaging in collective practices, in essence overcoming the hegemonic operation of power through asserting a collective subjectivity, commoning helps these women navigate barriers posed by social norms and institutions, while also helping them cope with increasing uncertainties from climate change.

Collaborations between older women and younger men to navigate social norms further show the complexities of how power operates within land use in Mara communities. For example, women send young men to trade livestock on their behalf, in line with cultural norms. In exchange, men purchase items like bead work that are traded in the predominately women-only spaces. There are various negotiations in sharing household chores between women and men in these relations. On several occasions, young men in these villages were observed participating in activities like childcare, cooking and washing dishes that they had previously considered to be women's work. Changes in settlement patterns, land use, and land ownership have thus opened up possibilities for new subjectivities that give some women and some men new forms of autonomy and economic empowerment, while at the same time, further fracturing the community along gender and age lines and subjecting the entire community to the vagaries of global capitalism in the form of conservation and tourism on their lands. All of these changes also shift who is vulnerable and how, in the face of ruptures and uncertainties caused by climate change.

4. Kutch, India

4.1. Context

Kutch, the largest district in Gujarat, is India's second largest dryland tract and is home to a rich and dynamic ecosystem as well as a culturally vibrant society imbued with religious syncretism (Ibrahim 2004; Mehta 2005). Kutch is known for its ecological diversity, ranging from wetlands to thorn forests and the desert. Pastoral communities along the coast have harnessed this variability and developed a symbiotic and cultural relationship with the mangrove habitats over several centuries (Srivastava and Mehta 2021). Mangroves (locally known as *cheria*) are one of the main sources of fodder for pastoralists or *mal-dharis* ('one who owns livestock') living on the coastal belt. This is particularly so during

the summer months when the sources of fodder are few and far between. Mangroves on the coast bear significant importance for Kutchi pastoralists, especially the Jat and Rabari camel herders who rear the indigenous *kharai* (salty) camel. These camels are known for their ability to graze both on land and to swim to mangrove islands called *bets*.

Living with seasonal variability, uncertainty and droughts are part of the ecological rhythms of drylands such as Kutch (cf. Mehta 2005). Yet, the rapid rise of extreme weather events such as droughts followed by floods, changes in rainfall patterns and temperature extremes, combined with increased marginalisation due to top-down environment and development processes have increased rural people's precarity and vulnerability (Srivastava et al. 2022).

4.2. Development and dispossession in Kutch

In recent years, pastoralism in Kutch has been undermined and is in rapid decline, further exacerbated by both increasing climate variability and top-down climate policy. State policies and programmes have systematically ignored the dynamics around variability and uncertainty, as well as the intersectional experiences and expertise of local communities, especially pastoralists, to deal with these, displaying what may be termed 'dryland blindness' (cf. Mehta 2005; Srivastava et al. 2022). For example, policies have largely focused on irrigation and agricultural development, not dryland agriculture or promoting pastoralism. They have largely been driven by reactive and fire-fighting measures such as providing drought relief, rather than focusing on long-term drought and climate resilience. Even though Gujarat has one of the first climate change departments in the country, it has focused more on mitigation and so called 'green energy' projects that have often led to land acquisitions and displaced local people such as pastoralists from the land (Srivastava et al. 2022).

As a border region, Kutch has traditionally been subjected as 'remote' and 'backward' by the state, marking its distinctiveness as well as its marginality. A massive earthquake in 2001 was a turning point for Kutch. The reconstruction period after the event opened up the region to a project of aggressive industrialisation, which also paved way for the rapid integration of Kutch into the so-called Gujarat model of development. This has led to infrastructure expansion (e.g. roads, ports, industries) as well as top-down modernisation processes. However, these processes have been uneven and exclusionary, promoting crony capitalism, and have not led to advancements in human development, such as on education and gender equity (see Breman 2014; Sud 2020).

As in the case of the Mara, dominant development policies in Kutch reflect a sedentary bias that is largely directed at cultivators (read: irrigators), and more recently also focusing on conservation and marketisation. Building on colonial legacies, key coastal resources such as so-called 'wastelands', pasture and mangroves that are linked to the identity and wellbeing of pastoralists who are subjected as 'unproductive', has resulted in depleting and privatising the commons, and in turn marginalising pastoralism in Kutch. These are often justified by powerful scientific discourses that label herders as the primary cause of resource depletion and their livelihoods as archaic and unprofitable (cf. Srivastava and Mehta 2021).

Infrastructure projects include ports, factories and special economic zones (SEZs)⁹ and mining. These have rapidly transformed the district's ecology, especially the coast, and have undermined the rights of pastoralists to common property resources (CPRs) such as land and water (Srivastava and Mehta 2021). As a result, pastoralists have lost access to grazing lands that are either destroyed, encroached upon or made off bounds for them (Srivastava and Mehta 2021). Kharai camels have faced threats to their survival due to uncertainties exacerbated by climate shocks, industrialisation, securitisation and drastic landscape change in the region. In particular, camel grazing lands are shrinking due to steel and thermal power plants that have occupied huge areas of mangroves, making them hard to access or useless for grazing (KUUMS 2010). This private appropriation of mangrove lands has made the coastline into a productive capital aiding industrialisation and has resulted in both accumulation and dispossession in Kutch (Srivastava and Mehta 2021), albeit different people experience these differently due to the intersectional operation of power.

The dispossession of pastoralists from traditional grazing routes and coastal commons has been accompanied by narratives that discredit traditional pastoralist livelihoods, hiding or playing down uncertainties. Furthermore, being a border district, the threat of terrorism and international security is often overplayed and used as a justification to deny pastoralists access to coastal resources. Stringent security checks are required to access coastal areas, which are particularly disadvantageous to local women who, due to cultural and religious restrictions, often have limited mobility (see Jha 2023).

Mangroves constitute about 70 percent of the *kharai's* diet. However, due to industrialisation and fencing of mangrove forests in the name of conservation as well as climate adaptation and mitigation, the traditional grazing routes of these camels have been blocked (KUUMS 2010). As demonstrated by Srivastava and Mehta (2021), different models ranging from compensatory offsetting based on afforestation, reforestation and restoration (ARR) and Community-based Mangrove Restoration (CBMR) have created a convergence of neoliberal development and conservation. These models are now increasingly also justified in the name of climate adaptation and mitigation, given the now recognised roles of mangroves in coastal adaptation as well as carbon sequestration. Consequently, pastoralists have limited access to key coastal resources and often have to walk their herds along the national highway, crossing to other parts of the district to access the mangroves. Like in Kenya, these crossings and access to new forms of land tenure and pastoralism, is not even for all people who traditionally used the mangroves for pastoralism, as we show more fully below.

4.3. Pastoralist and conservation discourses

The loss of livelihoods has also meant a change in subjectivity for many of the herders especially for the Jats, for whom camels are central to their identity. 'What is a Jat without the camel?' ruminated an elderly man where camel rearing is now replaced by buffalo keeping. This transition to buffalo is also closely linked to the conservation

⁹These are areas demarcated in a country to promote investment and trade. Business and tax laws are far more relaxed in the SEZs than in the rest of the country.

programmes that started in his village alongside the rise of the dairy business. As narrated by an elderly Jat herder:

A few decades ago, there were no organisations ‘protecting’ mangroves in this area. Mangroves and the sea were all that existed. We used to graze camels in the mangroves. When these organisations came, they advocated for mangrove conservation. (interview, August 2016)

In several historical accounts, such as Westphal’s study on *Jats* in Pakistan (Westphal-Hellbusch and Westphal 1964), Fakirani Jats have been admired for their camel breeding skills. Many Jats continue to associate their identity with camels. However, scientists and state officials now actively discourage camel grazing, labelling camels as harmful for mangrove plantations (see Mehta and Srivastava 2019). Grazing is considered a ‘bad habit’ by the scientists who believe that camel’s saliva is harmful for the mangroves because it disturbs mangrove regeneration (*ibid*). This is a claim that is yet to be scientifically proven.

Local community members, by contrast, argue that camels have lived and grazed in these habitats for centuries, ‘even before science arrived’ (*ibid* p.196). They maintain that camels help in the regeneration process because their hooves press the seeds deep into the soil and help with germination, a view also advanced in documentation of the Kachchh Camel Breeders Association (2013). The politics of knowledge here is obvious, because scientific views are more powerful and hold more sway in the region than that of poor and marginalised herders.

Extreme events, such as heat waves, and co-located hazards, such as drought, followed by flash floods in recent years, have also had a negative impact on pastoralist lives. The Covid-19 pandemic further restricted the mobility of pastoralists and undermined their access to basic amenities and resources (Jha 2023). This has been accompanied by an increase in restrictions by the border security force who demand registration papers, proof of identity to access the bets (mangrove islands), especially for women. It is now difficult to leave the camels in the bets overnight, a very common and long-standing practice traditionally. As a result, they do not get sufficient amount of mangrove grazing required to meet their dietary needs.

4.4. Changing social relations

Recent research by Natasha Maru (2022) in Eastern Kutch has focused on the gendered and lived experiences and variability of pastoralist mobility, especially for female pastoralists who are simultaneously faced with mobility and immobility in response to contingencies as well as gendered roles and realities. For example, while men graze the animals in the fields or mangroves, women often stay at home or in the campsite washing, cooking, taking care of the children, collecting firewood for cooking or fodder for small ruminants. Here, intersectional subjectivities, currently transforming due to the security situation and promotion of conservation, shape who does what and who can access what types of land.

In the coastal villages, where the TAPESTRY project did its research, women and girls do much of the ‘care’ and labour to enable the men to graze the animals. They feed and take care of the small animals. They also go to the mangroves to cut leaves which serve as fodder for the animals at home (such as buffaloes, goats and sheep) and they milk the animals. Many of them complain about lack of access to the mangroves and how they

are increasingly stopped by the border security police. As one informant said: 'Earlier we used to go to the mangrove bays, but now women are being increasingly hassled so we have stopped going. Now the men go and fight with and negotiate with the security guards and police' (quoted in Jha 2023, 10). Yet, women are not a homogenous category. Jat pastoralist women who live on the coast are largely confined to the home and do go to the market or engage in economic transactions. By contrast, Rabari women engage in economic transactions and have less severe restrictions on their mobility (Maru 2022). These changes in access to economic spaces helps to show the complex operation of power through intersectional subjectivities that are not least shaped by relationships to land, resources and work.

Conflicts between different social and livelihood groups have also increased in the Kutchi landscape (Jha 2023). Pastoralists, the forest department, industries, farmers and fishers all jostle for the same commons and space. Pastoralists who live inland often migrate short and long distances to agricultural hotspots both within and outside of Kutch in order to access a range of grazing lands their animals as well as earn cash through animal sales and also in exchange for manure. Migration is also possible due to a range of networks and social relations.

However, relations are also changing between farmers and pastoralists. In the past, pastoralists would draw on kinship ties amongst other pastoralists but also reciprocal relationships with farmers that have been built over several generations. The relationship between cultivators and pastoralists, who use the same resource base, used to be synergistic because landowners appreciated the manure provided by the pastoralists and they were allowed to pitch camp on fallow or harvested fields during their migratory routes (Mehta and Srivastava 2019). They were also allowed to water the animals in the village ponds and use local wells. However, in recent years, changes in agricultural patterns and the use of subsidised artificial fertiliser have made the relationships less symbiotic, with pastoralists losing out (ibid). State policies and interventions have tended to offer agricultural subventions to cultivators and have led to the introduction of double and triple cropping. The migration of pastoralists is actively discouraged with pastoralists being fined or areas being sealed off.

All these changes have led to an increasing polarisation between the livelihood pursuits of pastoralists and cultivators, another way in which local subjectivities fracture. Farmers are less hospitable to wandering pastoralists and they often turned them away. There is little wonder then that many pastoralists are selling their animals and either giving up pastoralism entirely or otherwise turning to agriculture which they consider more profitable and stable, as exemplified in this quote:

Farming is more desirable than livestock rearing. One does not need to wander about, leave home and endure all the hardships. We are not educated or street-smart. We are sometimes beaten up and driven out of villages. We are fined if one of the animals does so much as enter a stranger's field. Police cases are slapped on us. We are prohibited from entering the forest and are fined if the animals go beyond the boundary of the forest. The government does absolutely nothing for us. (quoted in Mehta and Srivastava 2019, 209)

Climate change and extreme weather events have not helped: Droughts and unpredictable floods either kill animals or require out-migration with the flocks in search of fodder. Older women and men are unable to leave the area and their children and youth are not

interested in a life on the move (cf. Maru 2022). In western Kutch, many young men are turning away from camel rearing all together and often find buffaloes more profitable. Livelihood diversification, as in the Mara, is also common. Many also have given up pastoralism altogether to become drivers for tourist firms or different industries in the area. This enables them to have a more secure salary, rather than constantly on the lookout for greener pastures in an increasingly hostile and restricted environment.

Other state-sponsored politics are also changing to the subjectivities and synergistic relations between different pastoralist groups, creating further fractures in land use and gender relations. Traditionally, the Fakirani Jats, Muslims who migrated from Sindh to Western Kutch about 300 years ago, have close relationships with the Hindu Rabaris, who historically migrated to Kutch from Rajasthan. Both Jats and Rabaris cooperate with respect to taking care of Kharai camels. They also worship together in the Savlor Pir Mela (festival) that takes place in the Sufi shrines and tombs where are located on islands in the sea in western Kutch (Jha 2023). Rabaris and Jats both visit the shrines and making offerings of boats to the *pir* amidst food, music and celebration. The connections between different pastoralist groups and the notions of 'brotherhood' are cemented during these gatherings. For Muslim Jat women, this provides a much-needed escape from the home, because they are not allowed to travel to cities or far from home.

However, this syncretism is being undermined due to the influence of right-wing Hindutva forces in Kutch as in other parts of India. Islamophobic posts and chats are increasing in WhatsApp groups amongst Rabari youths. While older generations of Rabaris continue to respect Sufi pirs, alongside Hindu deities, the youth are distancing themselves from Jat youths and seem disinterested in these syncretic ties, especially as they move out of pastoralism (Jha 2023; Tomalin *Forthcoming*). Many mainstream religious leaders also promote more mainstream ideas of modernity and development, reinforcing state narratives that denigrate pastoralism. These are internalised by many Rabaris who seek to move out of pastoralism, and who also no longer value their traditional linkages with Jats. Thus, undermining of syncretism and hybridity is another way in which power operates in intersectional ways, ultimately affecting different groups of pastoralists from working together to make their livelihoods more resilient and withstand everyday climate-related uncertainties.

Despite all the afore-mentioned challenges, pastoralists of western Kutch are also asserting and fighting for their rights to access the mangroves and protect their livelihoods and coastal resources. The Camel Breeder's Association (Kachchh Unt Maldhari Sangathan – KUUMS) together with the NGO Sahjeevan have moved the Green Tribunal to protect the mangroves against further industrial take-over. In the TAPESTRY project, alliances of pastoralists, scientists and NGOs sought to reveal how pastoral herders and their camels live synergistically with mangrove habitats, and these have been communicated to policy makers in roundtables. Pastoralist associations and NGOs are seeking to revive pastoralism in the district through concerted efforts to make livelihoods and grazing practices viable, thus enabling locally-led adaptation. Due to the very patriarchal nature of Jat society, these efforts are largely very male dominated and there is an urgent need for more gender equal participation. This notwithstanding, these initiatives and efforts are enabling many excluded pastoralist groups to preserve their livelihoods and identities.

5. Discussion and conclusions

This paper has explored the role of climate change ruptures and uncertainties in reshaping intersectional inequalities and vulnerabilities, drawing on cases in Kenya and India. Our FPE framing focuses on how multiple social-political and biophysical stressors fracture across and within communities to reshape the livelihood prospects for households and individuals. The examples of Mara and Kutch demonstrate how subjectivities are dynamic, affecting both how responses to climate unfold and the kind of resistances, and acceptance, that emerge from the grassroots. As power operates through external interventions and discourses, like the sedentary-biased narratives of pastoralist destruction of mangroves in Kutch, they are resisted and reinforced, creating particular adaptation and development pathways.

These are cases where attention to intersectional subjectivities helps understand limits to adaptation by diverse social groups. While representing two very different contexts, subjectivities shaped by gender, age, wealth, religion, race and ethnicity play a significant role in experiences of climate change and adaptation responses through, first, the uneven distribution of resource access and control, second, the politics of diverse knowledges, and third, social relations. We discuss each of these areas in turn (see also [Table 1](#)).

First, as argued in the agrarian studies literature (e.g. Borras et al. 2022; Matthan 2023), property relations and dispossession processes, particularly as they relate to the commons, are key drivers of vulnerability, shaping who can access what, who controls what property, and when. In our cases, these questions are particularly potent given the long history of framing pastoralists as ‘destructive’ or ‘unproductive’. Interventions intended to support adaptation reshape resource access and control, but with an underlying state objective of curtailing pastoral mobility (cf. [Table 1](#)). These underlying objectives serve to create additional pressures on pastoral livelihoods, which combine with the impacts of climate change on resources themselves. While quite different in their specificities, in both cases, as power operates through intersectional subjectivities, the ability

Table 1. Examples of intersectional subjectivities in the two field sites. Source: Authors’ own.

Location / livelihood dimension	Mara, Kenya	Kutch, India
Resource access and control	• Conservancies reinforcing discourses of ‘unproductive’ pastoralists • Conservancies allocating land to widows, contrary to customary traditions	• Discourses of pastoralists as destructive for mangroves, leading to exclusion and sedentarisation strategies by the government • Conservation practices and aggressive industrialisation leading to the fencing off of the coastal and mangrove resources
Politics of diverse knowledges	• Increasing restrictions for many, but also source of (new) material wealth and power for some, such as Maasai men who can take advantage of illegal night grazing.	• Knowledge politics leading to increasing restrictions to mobility, and further marginalisation of pastoralists.
Social relations	• Cultural manyattas, changing gender relations countering traditional power and subjectivities surrounding household roles and values. • New forms of autonomy and economic empowerment accompanied by further fracturing of the community along gender and age lines	• State policies disrupting relationships between farmers and herders, reinforcing narratives discrediting pastoralism. • ‘Modernist’ and recent religious discourses are undermining syncretic relations and cooperation between different groups of pastoralists.

to respond for different social groups is fractured by both the norms of formal and informal institutions and how they shape these differentiated dimensions of resource governance.

Second, we have seen the influence of knowledge politics and entangled socio-natural relationships in reshaping vulnerability and marginalisation. In both sites, the curtailment of mobility affects some poor women in particular. In Kutch, border and 'security' politics and the uncertainties they generate, dovetail with cultural norms and changing political and religious subjectivities to restrict women's access to grazing in mangroves. Men have more options to negotiate access not least because they are not constrained by cultural gendered norms, and also because they are more fluent in navigating both local and state level institutions, which tend to be male dominated. In Mara, mobility restrictions from conservancies apply to all, yet the richest (male) livestock owners, as well as certain groups of young Maasai men, are able to take advantage of illegal night grazing. For women living in cultural manyattas, the ambiguity of how power operates is stark: their gains in autonomy and new income generating opportunities come in parallel with vulnerability to global tourism markets and reductions in access to grazing lands.

Third, the operation of power as it unfolds in climate change ruptures and uncertainties is evident in the shifting social-political relationships and subjectivities that are central for how individuals and households adapt. These shifts are driven by changing access to and control over resources and grazing areas, the politics of cultural identities, such as religion, caste and 'pastoralist', changing political economies (class relations) and how these change intersectional dynamics within households. Again, these manifest quite differently in the two cases, but with a common outcome of substantially changing intersectional relations within communities. In Kenya, gender relations have changed, often to the advantage of women, as pastoralist practices respond to both state and climate stressors. In India, state institutions add layers of uncertainty to changing social relations as different social groups may or may not be able to capitalise upon new policies. Changing social relations can mean better access to information of climate shocks and stressors, and more bargaining power within households, in addition to some of the more negative effects indicated above. Expectations from policy levels (the 'above') as well as within communities (the 'below') are important in shaping what people think they can and cannot do, and the value of the knowledge they have.

These three, i.e. resource access and control, politics of diverse knowledges and social relations, are all locations of state-society interactions that show how power operates across scales and through existing exclusions to create new patterns of uneven vulnerability and adaptation possibilities (Nightingale 2018). These are also sites where the dynamics of intersectional subjectivities can be identified. They show how uncertainties and multiple stressors shape the space for adaptation pathways: the transformation of subjectivities necessarily causes 'recoil', expressed in resistance to external decisions, sometimes with positive transformative outcomes. Both cases show how marginalised groups are still disadvantaged in adaptation processes, increasing the chances of maladaptive and unjust outcomes.

The focus on pastoralism here adds to the growing evidence of the risks of 'top-down' adaptation interventions. Our findings show that processes of adaptation and maladaptation interweave into a range of possible, and unequal, outcomes. In Kenya, for example, promoting more sedentary livelihoods has a negative impact on the ability of pastoralists

to adapt, but has had a positive outcome for otherwise highly marginalised women in their abilities to access tourist markets. Looking across the cases, it is also clear that policies which result in maladaptive outcomes in one location, like the exclusion of access to mangroves to male and female pastoralists and their animals, may have quite different implications in another, like in Kenya where some men can capitalise upon similar restrictions. We thus argue that taking an intersectional look at how power operates in dynamic agrarian settings that are highly exposed and vulnerable to both climate change and external, state-led environment, climate and development responses shows how maladaptation unfolds.

Focusing on changing subjectivities shows how climate change opens up as well as closes down spaces for negotiation. When top-down interventions do not consider local contexts or create space for local actors, efforts to promote adaptation and resilience can be profoundly disempowering. The Mara case shows how curtailment of mobility leaves many people struggling, but is a source of new material wealth and power for other Maasai social groups. In Kutch, we witnessed how many pastoralists, especially the youth, are asserting new subjectivities as they turn away from pastoralism to embrace more mainstream jobs. Interventions targeting pastoralism and traditional uses of mangroves are thus harmful for traditional pastoralist livelihoods and also overall biodiversity of the region. Similarly, right-wing Hindu and more rigid Islamic discourses are creating new subjectivities that are undermining syncretic relations and synergistic linkages between different religious groups, negatively affecting their ability to cooperate and navigate climate change uncertainties.

What then of the possibilities for emancipatory change (Gonda et al. 2023; Nightingale, Gonda, and Eriksen 2022)? In Mara, the emergence of 'cultural manyattas' shows that options for positive transformative change may increase for some vulnerable pastoral women. In Kutch, efforts to assert rights to coastal resources highlight synergies between camel herders and mangroves. Rights that make livelihoods and grazing practices viable are helping to increase climate resilience and reinforce pastoralist identities. However, to be truly emancipatory, claiming of rights needs to expand beyond the current male dominated practices and focus more on intersectional and gender inclusive justice.

In short, our analysis contributes theoretical insights to both climate adaptation and agrarian change debates by putting the dynamics of uncertainty, social-cultural and political change in the centre. Our feminist, intersectional FPE approach to the operation of power shows how when adaptation and development interventions from 'above' land in localities, they subject people in new ways, changing not only their relationships with their resources, but also with the state and each other. Policies and interventions related to adaptation have largely been blind to considerations of intersectional subjectivities. Addressing this gap in policy may mean better distribution of funds and ultimately better outcomes if such efforts are able to successfully mitigate intersectional inequalities. Ultimately, this can help in understanding how the ability to negotiate positive transformative change may be strengthened.

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