COMMUNITY-BASED ENVIRONMENTAL GOVERNANCE IN WEST POKOT COUNTY, KENYA

By

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ABSTRACT

Like many countries in the Global South, Kenya has decentralized its model of environmental governance, displacing the power to manage forests and water from national environmental agencies to counties and communities. This change aligns with a global trend towards community-based natural resource management (CBNRM). CBNRM is a policy that advocates decentralized natural resource management based on the assumption that it is in a community's best interest to manage local common pool resources in the most environmentally sustainable, economical, and equitable way possible. Despite the policy's popularity, scholars suggest that communities are not engaging with CBNRM programs as theory predicts. To better understand this discordance, this dissertation draws from feminist epistemology and methodology to conduct interviews and focus groups that capture many diverse perspectives on CBNRM in West Pokot County, Kenya. Using a grounded theory method of analysis rooted in the participants' own words, the dissertation challenges assumptions about traditional ecological knowledge, rational interests, and empowerment that accompany CBNRM policy.

To Kodich

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Na kwa yote, sifu zimrudie Yesu.

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CHAPTER 1: INTRODUCTION

Kenya is facing a major threat to its long-term water security. Five forested highland regions make up only 2% of Kenya's land area but supply 75% of its renewable surface water (UNEP 2012). This is because cold highland forests stimulate rainfall and their root systems filter, store, and slowly release rainwater to the surrounding semiarid plains. Communities in highland watershed catchments benefit from this ecological arrangement by irrigating farms with river water and cutting trees to expand access to fertile farmland. The negative consequences of these activities, however, accumulate downstream in the rural, semiarid plains where pastoral communities are experiencing more frequent and severe droughts and greater surface water contamination. Despite the Kenyan government's effort to improve access to safe drinking water, over one in five Kenyans living in rural areas still depend on this surface water as their primary source of drinking water (KNBS and ICF 2023).

Like many other countries in the Global South, Kenya has responded to mounting water insecurity by decentralizing its water management. The country passed two new environmental laws in 2016: The Kenya Water Act (Republic of Kenya 2016b) and the Forest Conservation and Management Act (Republic of Kenya 2016a). The first transferred responsibility for ensuring water provision from the national government to forty-seven county governments while the latter affirms the rights of communities to access and use national forests through a community forest association. These laws rely on the assumption that county governments and community-level organizations will be more accountable to local, marginalized constituents than bureaucrats in Nairobi. This decentralization of water and forest management aligns with a global trend towards community-based natural resource management (CBNRM).

CBNRM is a policy that advocates for decentralized management of natural resources

based on three logical assumptions: It is in a community's best interest to manage local natural resources not just sustainably, but in the most (1) economically efficient, (2) equitable, and (3) empowering way possible (Blaikie 2006). CBNRM is a broad umbrella term that describes the laws, policies, and programs that claim to manage natural resources through "participatory," "empowering," "community-based" groups that begin from a "bottom-up" or "grassroots" level (Adams, Juran, and Ajibade 2018; Blaikie 2006; Dressler et al. 2010; Reed, Fraser, and Dougill 2006; White 1996). Such buzzwords are indicative of the large body of research and policy that subscribe to CBNRM's logic and bolster its position as a hegemonic paradigm of natural resource management in the Global South (Escobar 2004; Kuhn 1962).

In practice however, many studies have found that CBNRM groups struggle to sustain local environments while benefitting the local economy and all members equitably (Agarwal 2001; Meinzen-Dick and Zwarteveen 1998; Mutune and Lund 2016). Many of these studies are designed as program evaluations, which measure how effective a CBNRM program is at meeting its goals by collecting data before and after implementation. For example, one common reason that CBNRM groups fail is because those implementing the program did not adequately account for local power dynamics during the design phase (Adams et al. 2018; Dell'Angelo et al. 2016; Meinzen-Dick and Zwarteveen 1998). These evaluations suggest that natural resource management is a hierarchical and political process of negotiating competing interests, even at the community level. This dissertation does not contest these findings but investigates how three major limitations of existing research may be hampering our understanding of how CBNRM programs can best improve the resilience of local communities and environments.

First, because these studies are framed as program evaluations that begin collecting data shortly before a program begins, they often fail to account for a community's rich, dynamic history

of environmental governance. In post-colonial contexts where environmental degradation is only a modern phenomenon, collecting these histories can shed light on how communities sustainably managed their environments without help from state governments in the past and why they struggle to at present. In Chapter 3, I address this shortcoming by analyzing local narratives of environmental history to understand how CBNRM's strength – the policy's customizability to local needs – can help governments adapt their local systems of environmental management to address modern challenges and help residents meet their needs more effectively.

Second, evaluations of CBNRM programs often focus on the government officers and group members who implement and participate in CBNRM programs. In doing so, these studies lack the key perspectives of those community members who choose to not take part in CBNRM groups and the communities where the government and non-governmental organizations (NGOs) do not implement these programs. In Chapter 4, I address this gap by purposively sampling multiple, varied stakeholders living and working in four communities that span the forested catchment and downstream basin of one Kenyan watershed. This chapter sheds light on the politics of exclusion that can distort CBNRM program's goal of equity, benefitting local and regional elites at the expense of more marginalized community members.

Third, CBNRM evaluations rely on the assumption that the outcome of CBNRM programs, or the dependent variable measured to grade program success, should be environmental sustainability. At the same time, implementers claim that CBNRM empowers communities by developing their ability to make decisions about their local natural resources. Sustainability and empowerment, however, are not mutually beneficial goals. If community members have truly been empowered to make their own decisions about how to manage an environment, then they will be free to oppose the implementers' goal of environmental sustainability. Chapter 5 delves into this

conflict between the goals of empowerment and conservation by investigating how CBNRM programs actually affect the ability of marginalized communities and women to make decisions about local natural resources.

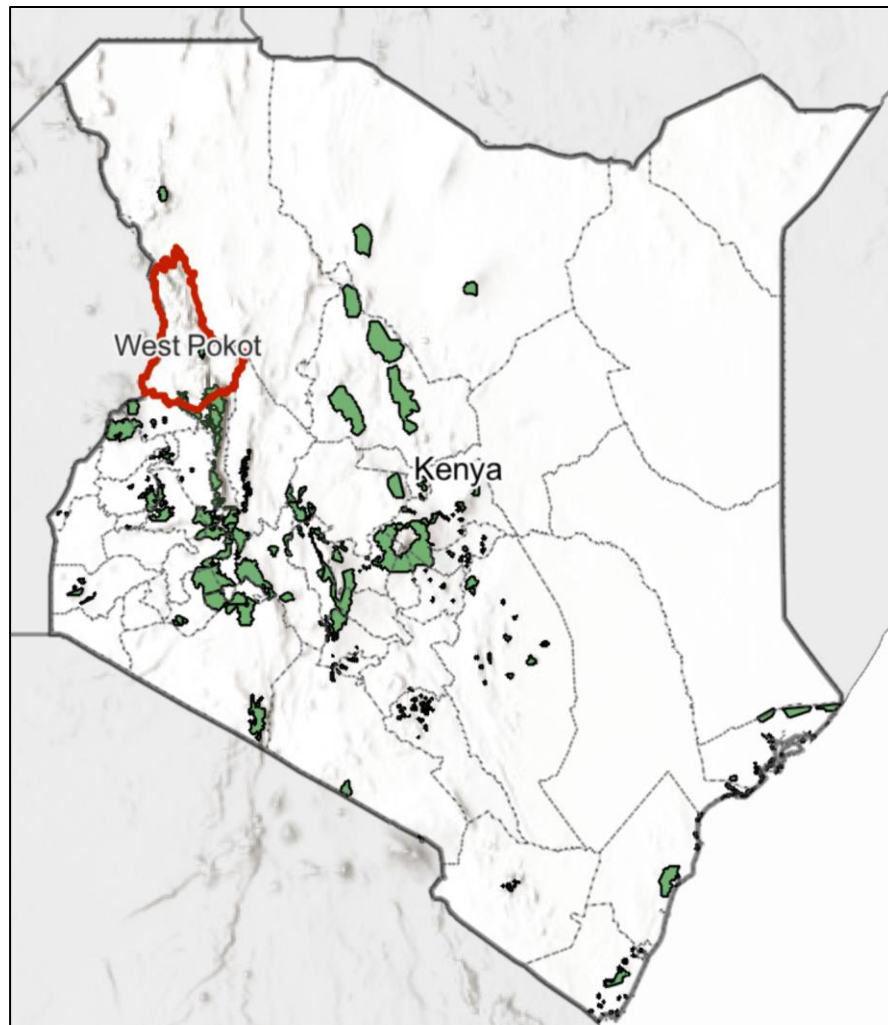
This dissertation approaches existing research with a critical epistemological lens to challenge common assumptions of CBNRM policy. I employ qualitative methodology to conduct an ethnography of environmental governance in western Kenya. I analyze interviews with many, varied stakeholders living and working in four communities that span one watershed in West Pokot County. My goal is to better understand both how CBNRM is affecting these communities and how CBNRM programs can better achieve their intended goals of sustaining environments, improving local economies, and equitably empowering communities.

Case Study Introduction

History of West Pokot County. Of the 621,241 people accounted for in West Pokot in Kenya's 2019 census (KNBS 2019), the very large majority are from the Pokot ethnic group (KNBS 2014). The Pokot were a part of a pastoralist migration from the Sudan-Ethiopia border around 1000 AD to the fertile highland plateau in western Kenya (Dietz 1987). Before colonialization, pressure from surrounding ethnic groups had amassed their population at the northern edge of that plateau, a region now known as West Pokot County.

West Pokot is located in western Kenya on the border with Uganda. The county straddles two ecological extremes. To the south lies Cherangani Hills, a wet, cool mountainous region covered in old growth forest. The range was formed by a collision of plates in the Rift Valley and is outlined by steep escarpments that dip dramatically into the surrounding semiarid, low-lying plains. While the escarpment physically divides those who live in the highlands from those in the plains, their communities are connected by a common water source. The forests and cool

Figure 1.1: Map of Kenya's major forests (green) in relation to West Pokot County (red outline)



Map created by author using ArcGIS Online by Esri. Sources: Esri USGS, Kenya Forest Service, Esri DeLorme, CIA World Factbook, United Nations Development Programme, Garmin International, Inc.

temperatures cause clouds to condensate, stimulating much higher levels of precipitation in the highlands than in the semiarid plains. The water that flows through streams in the highlands run together to form the large rivers that serve those who live beyond the escarpment (Dietz 1987; Kenya Forest Service 2015).

During the colonial era, white settlers claimed land for cash crop farms and displaced the Pokot and other Kalenjins living on the fertile plateau in the center of the country to less desirable

land in crowded reserves (Kanyinga 2009). While some Pokot stayed in the highlands, migrating deeper into the mountains and forests in the south to evade colonial control, many remained in the semiarid plains to the north. In the north, the Pokot kept their agro-pastoral livelihoods and adopted many customs from the surrounding plain-dwelling groups, including the Samburu, Turkana, and Karamojong. The Pokot who lived in the small patch of highlands at the southern tip of the county began converting forests into agricultural lands and intermarried with the local Sengwer hunter-gatherers and their Marakwet neighbors to the south. As such, the culture of highland Pokot – the agriculturalists who stayed in the small patch of highlands in southern tip of the county – is notably different from the culture of pastoralist Pokot (Dietz 1987). Environmental differences between the regions are evident in the normative diet, clothing, and building materials of the two regions. For example, Pokot in the highlands tend to mix mashed potato – a typical highland crop – into their *ugali*, a Kenyan staple food typically made of maize or finger millet flour. A few influential chiefs in the highlands adopted Christianity when missionaries visited the region in the 1960s, so although Christianity is now spreading in the plains as well, some Christian customs have become more normative in the highlands than plains. For example, while female circumcision is still the norm in the plains, many families with girls have chosen to forego the custom. Despite these cultural differences, agricultural and pastoral ethnic Pokots have remained a part of the same governmental unit.

During British rule, the Pokot distinguished themselves as being highly resistant to the colonial government's attempts to appoint chiefs, collect taxes, and implement foreign land management practices (Dietz 1987). Because of this, the British government deemed the Pokot to be a 'violent' group and made West Pokot a closed district, forcibly preventing any emigration into the water-secure white highlands even during times of drought and famine (Kanyinga 2009;

Lynch 2016; Nangulu 2009). After independence, the post-colonial government adopted the same administrative boundaries and gazetted, or formalized, the national forests' boundaries in post-colonial law. Because the colonial government had used provinces as the main unit of governance, the District of West Pokot was subsumed under the large Rift Valley Province. The Pokot retained their stigma as a violent and rebellious group and the provincial government allowed West Pokot to remain at the margins, directing development funds and law enforcement efforts to regions with productive land rather than to the semiarid lands in the north of the province (Kanyinga 2009). In 2010, however, Kenya instituted its new 2010 Constitution, did away with the eight-province model, and devolved power to forty-seven newly established counties. At that point, West Pokot became a county entitled to its own county government and funding.

Contemporary West Pokot County. After independence, land in the highlands that was not registered as national forest was privatized and families registered for private ownership of their parcels. Some families saw no reason to register their plots with the government and, because of the lack of law enforcement in the sparsely populated area, were never told that their homesteads were on national forest land. Thus, some land disputes exist in highland communities where the Kenya Forest Service is attempting to displace families from homesteads within forest borders despite many having established houses and farms (Lynch 2016).

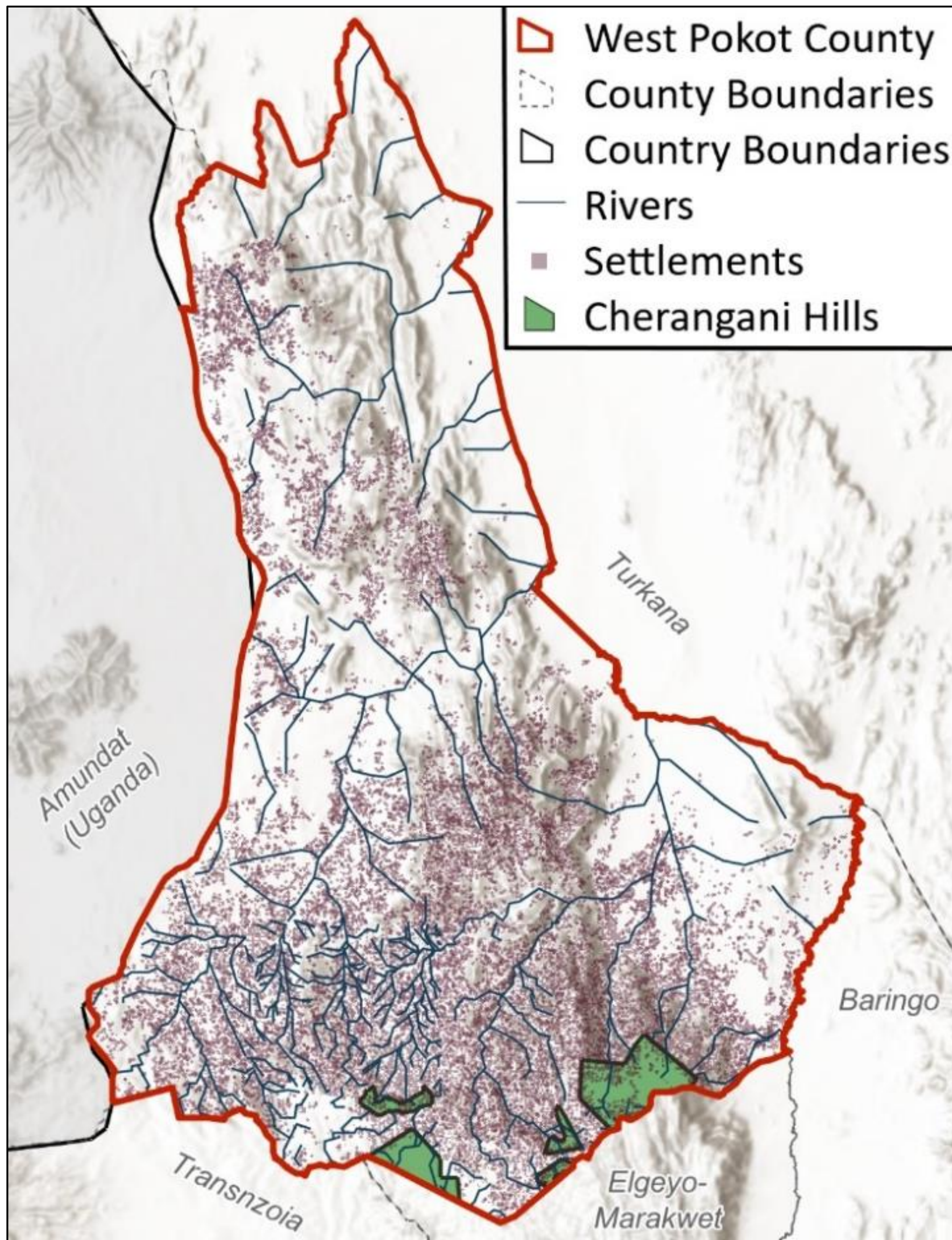
Land in the semiarid plains, however, remained communal for semi-nomadic pastoralists to seasonally migrate and graze animals (Dietz 1987). Along the county's borders, the Pokot have longstanding and complex conflicts with the Turkana to the north and east, the Karamojong to the west, and with the Marakwet to the south. Although cattle raiding hotspots have changed over time, the county's long border with Turkana is still a risky space to set up any semi-permanent homestead or public service like schools, putting pressure on the highlands as families migrate

south in search of safe havens from violence (Okumu et al. 2017).

West Pokot County has a birth rate of 6.9 children per woman, the second highest rate in the country (KNBS and ICF 2023). This rapid population growth contributes to a growing demand for food that has led to the deforestation of Cherangani Hills as families clear land for new farm plots (Kenya Forest Service 2015; MoALF 2016). Those who live in the highlands primarily subsist on farming and dairy operations, while those in the semiarid plains attempt subsistence farming but prefer livestock rearing. Economic development in the highlands has increased as the county and federal government have contributed to the development of a hydroelectric dam and paved roads to improve the timely transportation of refrigerated milk out of the region. Because of these changes, the water flowing through highland communities now gathers greater human fecal matter, sediment, and agricultural runoff on its journey to the low-lying plains. Many households use dairy profits to pipe water from rivers to install household taps and farm irrigation. In turn, the flow of rivers has also slowed considerably downstream (Kenya Water Towers Agency 2016).

Natural Resource Management in West Pokot County. From colonialism until now, Kenya has used many, varied strategies for managing its natural resources, moving from a top-down, authoritative approach to a more decentralized approach that encourages communities to participate in managing local, natural resources (2030 Water Resource Group 2016; Klopp 2012; Musonge et al. 2022; Mutune and Lund 2016). The most notable change to the nation's forest and water policy is a consequence of Kenya's 2010 Constitution. The 2016 Kenya Water Act (Republic of Kenya 2016b) and the 2016 Forest Conservation and Management Act (Republic of Kenya 2016a) overhauled Kenya's former water and forest policies and wrote new laws to align with the new county powers established in the 2010 Constitution. Both devolve some decision-making power and management responsibilities from the national government to the county governments

Figure 1.2: Map of West Pokot County's Forests, Rivers, and Settlements



Map created by author using ArcGIS Online by Esri. Sources: Esri, CGIAR, USGS | Center for International Earth Science Information Network, Columbia University and Novel-T. | Source of building footprints "Ecopia Vector Maps Powered by Maxar Satellite Imagery" © 2020. | Source of population data "Population Counts / Constrained individual countries 2020 (100m resolution)" and "Population Counts / Constrained Individual countries 2020 UN adjusted (100m resolution)" WorldPop.org © 2020 | Funding for the development and dissemination of this data set was provided by the Bill & Melinda Gates Foundation and United Kingdom's Foreign, Commonwealth, Development Office. | Kenya Forest Service | Esri, Garmin International, Inc.

and secure the rights of communities to access and manage their local natural resources through community-based groups. In other words, both acts made CBNRM programs an integral part of the country's national scheme for water governance. This section introduces the CBNRM programs that exist in West Pokot County.

Forest Management. There is a spattering of national forests across West Pokot's highland areas, but Cherangani Hills is unique in its high elevation and rainfall. It is the source of most of the surface water that flows through the Central sub-county of West Pokot. The Kenyan Forest Service (KFS) has been attempting to evacuate forest dwellers from the Cherangani Hills complex for several years since a large number of settlements exist within its boundaries (Forest Peoples Programme 2014). Evacuations have been limited by ongoing legal battles over whether those with homesteads in the national forest can register the plots for private ownership due to indigenous entitlement and the government's past failure to enforce forest boundaries.

The 2016 Forest Conservation and Management Act altered the KFS' power to make all decisions about forest management and keep local communities out. It also charges the KFS with the responsibility to help those living within two kilometers of the forest to form community forest associations, teach the groups how to sustainably manage their local natural resources so that they can enter and access forest resources, and monitor the forest with them. While it used to be illegal to enter the forest for any reason, this new act enshrines the rights of communities to access the forest by forming and participating in a community forest association (Republic of Kenya 2016a).

To form groups, the KFS approaches communities to teach them about the program, gathers potential members, helps them elect leaders, then helps the group develop a plan to maintain biodiversity and to monitor and protect the community's forest. To access and harvest forest resources, members must sign up for sub-groups called "user groups." When a member

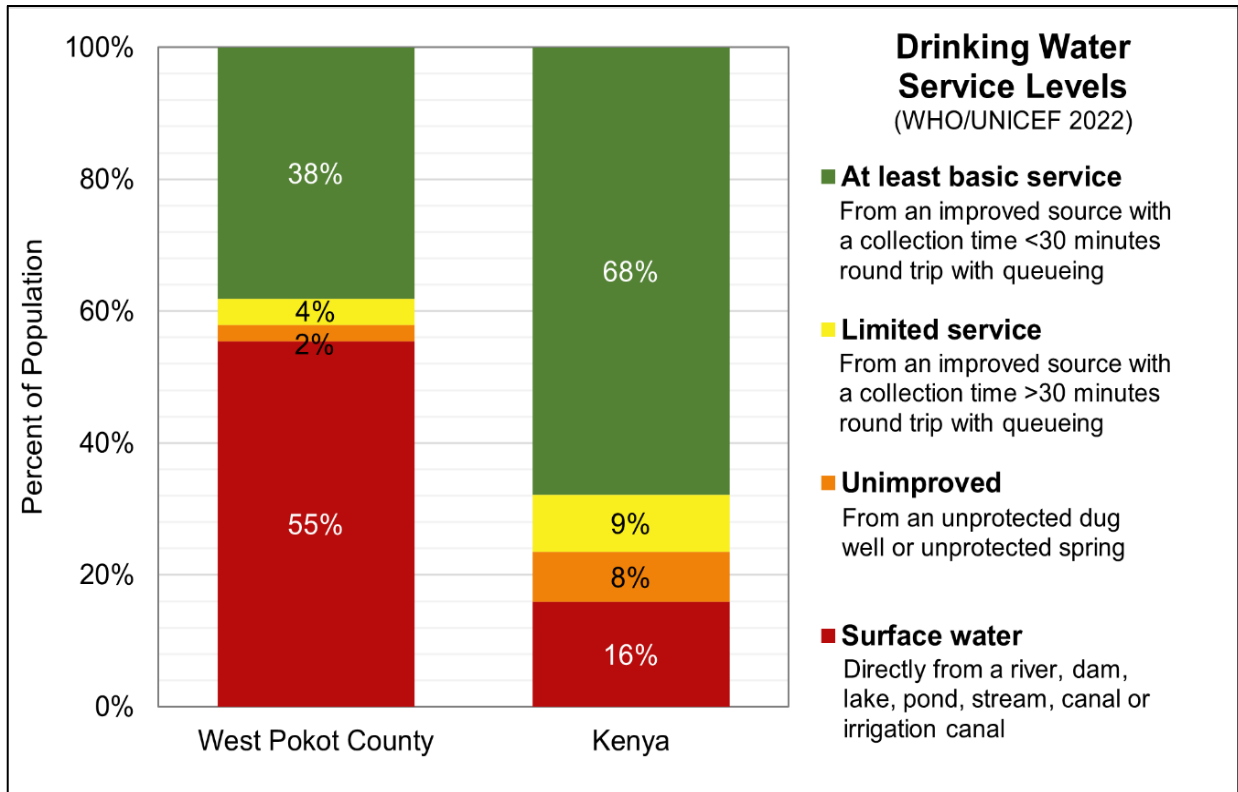
registers for a group such as the honey, firewood, or charcoal user group, they attend meetings to learn how to sustainably harvest that resource, then user group members have the exclusive right to harvest that good from their forest (Mutune and Lund 2016; Republic of Kenya 2016a). There are two community forests associations in the portion of Cherangani Hills that is in West Pokot.

Water Management. In West Pokot County, water is mainly used for drinking, household use, livestock, agricultural irrigation. In the highlands, streams are numerous and many households cheaply pipe water from protected springs by gravity to their homes. In the plains, water is scarce, boreholes few, and most households rely on women to walk many kilometers to fetch water from rivers and carry it home on their heads. During the dry season, water continues flowing in the highlands, but rivers dry or only maintain sub-surface flow in the plains (Dietz 1987).

There is a large disparity in drinking water services across West Pokot, but this can also be seen at the national level. In West Pokot, 55% of people get water from surface water while 16% do nationally. Moreover, only 17% of people in West Pokot use any kind of water treatment (KNBS and ICF 2023). This unequal access to basic water services is due in part to how the local geology affects the cost of establishing basic water services. For example, it costs roughly 21,000 USD to install a 150-meter-deep borehole with one metal handpump in the plains, while it costs around 3,000 to 5,000 USD to pipe water from a protected spring to a neighborhood two kilometers downhill. Yet, West Pokot is also far behind because the district received almost no government investment in public services – healthcare, education, roads, electricity, or water systems – from Kenyan Independence in 1964 until the 2010 Constitution devolved governance to the counties (Dietz 1987; Mutsotso 2018).

In response to heightened water insecurity in the semiarid plains, the county government and local NGOs have been drilling open-access boreholes on public land, then helping the

Figure 1.3: Bar chart comparing drinking water services in West Pokot County and Kenya. Source: Kenya DHS 2022.



communities to elect borehole committees to manage them. The county government also budgets to drill a few boreholes every year. One NGO has drilled more than 110 boreholes over the past ten years with funding from donors in the US. After finding that many boreholes were falling into disrepair shortly after construction, the NGO began to facilitate the creation of community borehole committees. This NGO receives requests from communities for a borehole, prioritizes the requests based on need, drills a borehole, then facilitates the election of ten community members, including five men and five women, to serve on the committee. The group is trained to manage the borehole by keeping it clean, creating and enforcing schedules of when women, men, and children can use the borehole during the dry season, reporting damages, and collecting a small fee (~1 USD) from each homestead to pay for repairs subsidized by the NGO.

CBNRM Policy in West Pokot County. The connections between these groups may not be immediately obvious. Set against the backdrop of global CBNRM discourse, however, it becomes clear that the government agencies and NGOs implementing these programs have designed the groups based on the logic of CBNRM. West Pokot County's community forest associations and borehole committees both decentralize a facet of natural resource governance to counties and communities based on the assumption that these communities will manage resources sustainably, efficiently, and equitably.

Indeed, this historically marginalized region is the target beneficiary of decentralization, and constituents are poised to benefit from gaining power over their natural resources. Moreover, the county's two main types of CBNRM groups the diverse environments and cultures of the plains and highlands make this region ideal for understanding the many, varied perspectives on environmental governance that can deepen our understanding of CBNRM. In the next section, I will introduce the three research questions that I investigate in this dissertation in the context of current literature.

Literature Review

CBNRM first appeared in policy toolkits at a moment when international organizations had begun striving to incorporate 'sustainability,' 'market-based incentives,' and 'empowerment' into their programming (Nelson and Agrawal 2008). Like a one-shot panacea, CBNRM promised to deliver all three even while saving governments money as they cut the costs of environmental management and policing from their budgets (Blaikie 2006; Cleaver 2001; Dressler et al. 2010). Indeed, CBNRM continues to be touted as environmentally sustainable, beneficial to economic development, and empowering to the communities in which it is enacted. When critically investigated, however, these claims seem to be troubled. At their best, they lack a nuanced

understanding of the power dynamics at play in and between nations and communities. At their worst, this rhetoric obscures how those in power use CBNRM as a tool to achieve their own ends at the expense of weaker nations, communities, and individuals. In this section, I explore three key assumptions of CBNRM, describe alternative perspectives from which one can assess these assumptions, then present research questions for exploring these alternate views.

CBNRM and Local Economies. CBNRM is rooted in a body of research that asks how to best manage common pool resources, or resources that are both finite and publicly accessible (Blaikie 2006). Initially, scholars believed that these resources would have to be privatized and coercively managed by states (Hardin 1968; Malthus 1798), so in the twentieth century, most states chose to manage common pool resources like forests by claiming the land and forcibly policing the boundaries to keep locals out (Duffy 2016). A tide change in environmental governance came, however, when economist Elinor Ostrom published *Governing the Commons*, a book describing case studies of communities that have managed common pool resources for at least a hundred years (Ostrom 1990). She finds that these communities' specialized, Indigenous knowledge of their local ecology enabled them to sustain their resources. Meanwhile, international financial institutions like the World Bank were asking countries in the Global South to decrease their national expenditures by cutting payrolls (Dressler et al. 2010). If states could replicate the kind of local environmental management that Ostrom observed in her research, then policy makers believed they could decrease the cost of environmental governance while sustaining fragile landscapes.

Thus, states in the Global South – the large majority of which are former colonies – changed their primary strategies for environmental governance, inviting communities to participate in managing and monitoring local forests and watersheds. The policy has been

presented as being beneficial to local economies because it invites communities to sustainably harvest local natural resources like trees (Blaikie 2006; Dressler et al. 2010). In reality though, the right to own, access, and harvest these resources is almost always throttled in environmental laws because states have a strong economic interest in retaining ownership of valuable land and the right to harvest its resources (Nelson and Agrawal 2008). Moreover, research on Kenya's community forest associations has shown that while group members do experience significant increases in income, the increase does not come from selling forest-based products but from the implementing NGO in the form of a salary or project funding (Mutune and Lund 2016).

I argue that the trouble with current studies of CBNRM groups' impact is that they continually limit their studies' time parameters from the time just before a CBNRM program is implemented to the end of implementation. Ostrom insisted that community-based institutions for resource management are so successful because they are rooted in traditional knowledge of the complex ecological systems and longstanding norms of environmental conservation (Ostrom 1990, 1998). Yet, governments are most often implementing CBNRM programs in places where environmental degradation is occurring, meaning that if those communities once had such strong norms of conservation, they are no longer functioning as they once did. Thus, one must first ask how local understandings of environmental knowledge have changed in order to understand why local governments are struggling to maintain local environments now. To be effective, CBNRM programs must understand communities' needs, the local economy, and what has led to the present challenge of environmental degradation. Thus, chapter three explores the question: How do shifting discourses about what constitutes environmental knowledge affect strategies and outcomes for environmental protection?

CBNRM and Equity. Like CBNRM programs claim to benefit local economies, they also

claim to distribute the benefits of participating in a CBNRM group equitably across a community. This is based on the logic that, because all local stakeholders are invited to join a group and the programs are democratically run by locally elected leaders, all community members have an equal chance to participate, negotiate, and benefit from the program (Dressler et al. 2010). In reality, however, CBNRM groups often fail to effectively devolve decision-making power and economic benefits to the marginalized groups that it claims to benefit.

Research on CBNRM groups in Ghana and Zambia suggests that government agencies, donors, NGOs, and community elites often maintain control over the groups' decision-making (Adeyanju et al. 2021). CBNRM policies also often struggle to account for a community's preexisting power dynamics, leading to uneven levels of participation and an inequitable distribution of benefits to community members. For example, one gender analysis of water user associations in urban Malawi found that, because the groups are assumed to be inherently 'empowering' by virtue of female participation, they actually perpetuate patriarchal norms (Adams et al. 2018). Evidence also suggests that village-level water user associations often fail to alleviate watershed-level inequality because downstream water users have little power compared to upstream users (Dell'Angelo et al. 2016).

Current research on CBNRM's goal of equity focuses on the power dynamics between donors, those administrating the groups, and group members. Chapter 4 adds to this research by further exploring how diverse stakeholders, including government agency leaders, local elites, group members, and non-group members perceive the costs and benefits of participating in CBNRM groups. Rather than simply asking how much group members can gain, I investigate all the stakeholders' interests, or what costs and benefits there are for the state to invite greater community participation in CBNRM groups and what costs and benefits community members

perceive in joining a group. Thus, this chapter focuses on the question: How does CBNRM display and obscure political interests?

CBNRM and Empowerment. CBNRM's central goal is environmental sustainability, but the policy also claims to empower communities by involving them in making decisions about their local natural resources (Blaikie 2006). Yet, given that CBNRM does not reliably improve local economies or offer equal benefits to all group members, it is puzzling why empowered community members would willingly join a CBNRM group and contribute towards its goal of sustainability. Through his research with forest conservation groups in India, Arun Agrawal (2005) explains how CBNRM, as a modern form of environmental governance, succeeds "not by forcing people toward state-minded [conservation] goals but by turning them into accomplices" who pursue environmental sustainability by their own volition (217).

Agrawal (2005) explains how, by attending meetings with peers, listening to group lessons on environmentally sustainable practices, and sharing what they learn, CBNRM group members begin acquiring and reproducing a superficial conservation rhetoric to justify their environmental practices. As time goes on, however, group members repeat and practice environmentalism to the point that they develop an 'environmental subjectivity,' or the intimately held belief in their ability to be an environmental caretaker. Individuals exist along a spectrum of those who wholeheartedly accept this new environmental subjectivity and those who entirely resist it. New technologies of environmental governance like CBNRM, he argues, produce new types of environmental subjectivity (Agrawal 2005). While Agrawal's research suggests that there are those who join and stay in CBNRM groups because of an intrinsic motivation to sustain the environment, other studies point out how individuals participate in groups to gain access to local NGO funding (Mutune and Lund 2016).

Based on these findings, I hypothesize that those who rhetorically describe CBNRM as empowering might actually be using that language, along with the modern technology of CBNRM, to subtly control communities to contribute towards the goal of sustaining the environment. Thus, in chapter five, I parse interviews with those who lead CBNRM programs, with group members themselves, and with community members to understand how power is practiced through CBNRM programs within communities, as well as by administrators to control communities. In this chapter, I ask: How are CBNRM programs used to empower and control women and marginalized communities?

Summary of Intent

With the mass of discourse surrounding CBNRM, it can be difficult to tease out why and how governments in the Global North (donor states), governments in the Global South (generally recipient states), and their populations enact this policy and believe in its claims. This dissertation will explore why and how stakeholders implement CBNRM policies, and the implications for nature and local power relations. In the next chapter, I describe the four villages in West Pokot County where I conducted his research, the research methodology, and methods of data analysis.

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CHAPTER 2: METHODS

Introduction

Before I wrote any of the research questions presented in Chapter 1, I had traveled to West Pokot County four times in five years, first to work as an evaluation intern for a grassroots organization installing water wells, then as a graduate student studying Swahili. My research questions are informed by an iterative conversation between theory and practice. Almost every year of my college career, I spent the summer in West Pokot and the academic year in the US. In Kenya, I would hear about and experience how droughts and floods are disrupting everyday life. Then I would return to the classroom 7,600 miles away where I would comb through literature to better understand those processes of environmental change and the many layers of law, governance, funding, policies, and programs that shape the options communities have to deal with environmental change. After eight months, I would return to my colleagues and friends in West Pokot to ask about their experiences and perspectives on those environmental governance issues. Thus, my research questions grew from hypotheses of incongruence between theory and practice.

Thus, the success of my research owes as much to the academic training of my professors in the US as to the local expertise of my Pokot colleagues, Festus Ting'aa, Caroline Rumaita, and Theresa Chemtai, who joined the project as research consultants. Their knowledge of Pokot culture and language was essential to both the practical elements of this research as well as to my ability to practice reflexivity throughout the project. They helped review the interview and focus group instruments, advised on sampling methods, coordinated our visits to communities, translated in situ for interviews in Pokot, and took notes during interviews in Swahili and English. During data analysis in the US, they answered questions about translation, checked my cultural interpretations, and provided critiques of manuscripts through WhatsApp.

I conducted research in two phases. The first took place from June to July 2018. I collected forty-three in-depth interviews with key stakeholders in water management in West Pokot County. I conducted thirty-two interviews in four villages with CBNRM groups – two in the highlands and two in the plains – as well as eleven interviews with leaders in government agencies and NGOs that support these CBNRM groups. Mr. Festus Ting'aa, a Pokot man who grew up in a rural village of West Pokot, worked twenty hours per week for six weeks as the sole research consultant in phase one.

The second phase of research took place from November to December 2022. I returned to the same four villages where I originally collected data to share the findings in four focus groups and four key informant interviews. The goal of this phase was to gather feedback to update, correct, and further nuance my findings. I hired Mr. Ting'aa again to coordinate meetings, assist at key informant interviews, and co-lead the two highland focus groups with me. I also hired Madam Chief Caroline Rumaita to lead two focus groups in the plains and Madam Theresa Chemtai to take notes and provide Pokot to English translation in situ for all four focus groups. I translated all interviews from Swahili myself, transcribed all the data, and analyzed it in the US.

In this chapter, I will further elaborate my feminist standpoint epistemology and positionality, explain the theory behind my methodology, and detail the methods of sampling, data collection, and analysis that I employed to answer my research questions.

Epistemology

Epistemology is a theory of how a person can know truth (DeVault 1996). While positivist epistemologies assume that the researcher's objectivity, or lack of bias and political interest, allows them to expose 'Truth' through research (Oakley 1998; Riley 2007), critical epistemologies argue that a researcher's social position and interests always shape their perspective of 'truth' and

interactions with research subjects, meaning their claims to knowledge are inherently limited perspectives and partial truths (Collins 1991; DeVault 1996; Mohanty 2003; Smith 1987).

Feminist Epistemology. Feminist sociologists and philosophers of science argue that the most verifiable claims to knowledge overcome their partiality by acknowledging it; they situate their claims to knowledge in an awareness of the systems of power under which knowledge is produced (Haraway 1988; Hesse-Biber 2012). If each person experiences events and processes from a standpoint that is real to them, then a researcher must develop a method for studying a social process that can make sense of these varied standpoints (Campbell 2009; Haraway 1988; Harding 1993; Scott 1986). Feminists have developed standpoint epistemology to account for multiple, competing perspectives on reality. Haraway (1988) and Harding (1993) argue that, although each subjective view of reality is a kind of truth, researchers should begin their search for knowledge from the perspective of the marginalized – the group least interested in obscuring oppression with hegemonic discourse – then purposively sample multiple perspectives to develop a more thorough understanding. It is by accumulating multiple accounts of perceived 'truth' that a researcher can arrive at a fuller, more authentic understanding of a situation than portraying one objective 'Truth' (Haraway 2007; Harding 1993).

Researchers should also reflect on how their own positionality – their status of privilege or subjugation, insider or outsider – can limit their interpretations and interactions with research participants (England 1994). Researchers situate knowledge through the practice of reflexivity, or "the process through which a researcher recognizes, examines, and understands how his or her own social background and assumptions can intervene in the research process" (Collins 1991; DeVault 1996; England 1994; Haraway 1988; Harding 1993; Hesse-Biber 2012:129). Reflexivity also involves a commitment and accountability to maintaining ethical relationships that are

cognizant of differences in power between the researcher and researched (Ramazanoğlu and Holland 2002). Nancy Campbell (2009) argues that the practice of reflexivity in a research program "can be used almost as a standard for judging whether partial research approaches, questions, or directions are likely to redress or further power imbalances" (Campbell 2009:21).

Positionality Statement. As a researcher, I am not an objective observer, but an embodied and visible agent shaped by social forces, producing knowledge in community with other ideas and perspectives that are heterogenous and contradictory (Harding 1993:65). Thus, I take great care to reflect on how my positionality affects how I interact with marginalized communities.

I am a white, female sociologist, trained in US-based sociological theory and methods, and as such, my ability to conduct this research is rooted in the very system of neocolonialism that I endeavor to critique. Moreover, my American passport – the reason I can move freely and frequently between the US and Kenya each summer – is rooted in the postcolonial world system that privileges citizens of the Global North over those of the Global South. These are uncomfortable truths, but ones that I work to address. During the process of data collection, I practiced reflexivity by keeping a fieldnote journal about how my perspective and position of power may be shaping the data collection process. I strive not just to recognize my positionality, but to posture and prove myself curious, dependable, and respectful. I have done this through time: time spent visiting friends' homes for dinner, attending weddings and church services together on weekends, sharing stories for hours while riding in the back of a Hilux pickup truck, taking lunch breaks in the US to call and check in, and spending years learning Pokot and Swahili. Although I have traveled to the county seven times over ten years, I did not begin collecting data for my dissertation until the sixth year. First, I took time to build trust with Pokot friends and colleagues by returning often and maintaining friendships while away. I only endeavored to begin this project

with the assurance that these friends and colleagues would provide honest responses to and critiques of my thoughts, actions, and the research process.

In 2013, I traveled to Kenya for the first time on a mission trip through a church based in the US. After that, I returned alone two more times to work for the church's local partner, the Christian NGO where I volunteered as an intern. Most people in Pokot identify as Christian so I found that being a Christian helped build rapport with participants. In the many hours outside of data collection, my Christian identity helped me to build my social network through church communities. While analyzing data, I remained conscious of how my beliefs could limit my analysis and was careful to get feedback from peers to overcome potential limitations.

As an intern in the summers of 2014 and 2016, I spent four cumulative months living in a small village in the plains and traveling to eighty villages across the county to interview women about water management. I established professional relationships with colleagues in the NGO, but also developed lasting, personal friendships at work and in the village. It was those friends who taught me how to dress, speak, and act in ways to lessen my outsider status and quickly establish rapport with research participants. On my second trip, a very dear friend gifted me her clan name, Cheposoywon, so that I could find family wherever I traveled in West Pokot. When introducing oneself in Pokot, it is customary to begin with clan names, then to discover "relatives." After introducing myself to many an interview participant as Chenangat Cheposoywon, the reserved man or woman would break into laughter, declaring that I was their mother, father, husband, wife, sister-in-law, etc., as that person was also *sotin* [a member of the can whose totem is the sun]. Of course, no one was fooled into believing that I was a true insider, but the shared humor invariably helped us both to relax and created a few minutes where we could find connections and build rapport before I turned on the recorder. My friends in Kodich – those who taught me what it means

to be *chepepechon* [Pokot] – are the same who I return to stay with on every trip. Those friendships in Kodich ground and inspire my research on the unique challenges of living in semi-arid places.

I found that learning Pokot and Swahili was the best way to convey my respect and desire to invest in lasting relationships in West Pokot. Before I endeavored to learn Pokot, I had spent two years in Spanish class and eight in French classes, so had an idea of where to begin. I asked about terms and phrases though the day as I cooked, ate, washed clothes, walked, and rode in the car with alongside friends. I wrote each term phonetically in a notebook with its translation, memorized the words every night before bed, then practiced them in conversation during the day. Pokot is a tonal language and little formal instruction can be found in books, so my learning was slow and my friends very patient. After my first three trips though, I could introduce myself in five to ten sentences in a variety of contexts, ask introductory questions to others, count to twenty, and knew a hundred or so words in common or nature-related vocabulary.

The year after my third trip to Kenya, I entered my doctoral program at Michigan State. I chose MSU largely because the school has such a strong African Studies and Swahili program. I enrolled in beginners Swahili in fall 2016 and spring 2017 with Dr. Deo Ngonyani, then traveled to Arusha, Tanzania in summer 2017 to study Swahili for seven weeks in an intensive language program led by Dr. Kiarie Wa'Njogu of Yale University. By the end of the program, I scored at a mid-Intermediate level on the Annual Convention and World Languages (ACTFL) rating system. The week I spent visiting friends in West Pokot after that was a joyous reward as I could finally converse freely. I took advanced Swahili courses in fall 2017 and spring 2018 with Dr. Nyabuto Choti at MSU where I reached an Advanced ACTFL level. When I returned to West Pokot in the summer of 2018, I collected a third of the 43 interviews I use in this dissertation in Swahili. In fall 2018, I took an independent study with Dr. Ngonyani to carefully translate the Swahili interviews

to English, then another semester of advanced Swahili in the spring. On my visit to West Pokot in the summer of 2019, I conducted a Swahili story writing workshop with fourth graders at an elementary school in Kodich, then led translation workshops in my advanced Swahili course in fall 2019 and co-edited the anthology with Macha McFallen, my Swahili Fulbright teaching assistant, in spring 2020. I took another intensive advanced Swahili course over the summer of 2021 and helped lead MSU's "Meza ya Kiswahili" online speaking group in the 2021-22 academic year to stay current while I waited for the chance to return to Kenya to conduct further research.

While I remain a mzungu (a white outsider), my ten years of continued research in Pokot in partnership with a local NGO, my knowledge of the region and its customs, and my ability to speak fluent Swahili and basic Pokot has allowed me to lessen that outsider status. I continue to strive to learn the intricacies of Pokot culture not just through research, but by forming long-term personal relationships with research partners, participating in their lives while there and staying connected while away. My friends and colleagues are my corrective lenses; I go to them with stories of interactions to understand how my interpretations are skewed and, by doing so many times, have learned to calibrate better my perceptions to theirs. Through my work I aim to evaluate CBNRM as a transformative tool, foster positive opportunities for more effective environmental management, reduce (unintended) harmful impacts of environmental management strategies to vulnerable groups, and share my findings with the communities I have worked with so that they can make informed decisions about how to respond to CBNRM policy.

Methodology

Methodology is the theory of how to systematically perform research. It provides strategic rules that guide a researcher's ethical decisions, their scale of analysis, what or whom they make their object of research, and their choice of methods for pursuing "truth." Because I subscribe to a

critical epistemology, I choose methodologies commonly practiced by feminist researchers and political ecologists. Both prioritize social change that benefits the marginalized (Belsky 2002; DeVault 1990; Forsyth 2008), but each brings its own strength. I draw on feminist methodology because of its strength at "bring[ing] to light what has been ignored, censored, and suppressed" to reveal the ideological mechanisms that make marginalized perspectives invisible (DeVault 1996:32). I draw on political ecology because of its strength at studying human-human and human-nonhuman relations at multiple scales (Bouleau 2014; Linton and Budds 2014; Radonic 2019).

An awareness of power exercised on or by research participants and the researcher is crucial to both methodologies. Many feminists and post-structuralist political ecologists subscribe to a Foucauldian definition of power, which describes power as socially constructed through everyday discourse, or our practices and speech. Power is not simply a repressive force; it also comes from internalized self-discipline. It is embedded in our speech, internalized in our subjectivities and how we perceive the world, and observable on our bodies in a way that makes systems of oppression seem natural. Thus, collective understanding of everyday social circumstances is socially constructed through discourse, meaning that there can be multiple accounts of what constitutes 'truth' based on one's position in society (Foucault 1975, 1978, 1980).

Who to Study. Foucault's perspective on power has had three important implications for my research strategies. First, his definition of power should lead the researcher to study power not only in the actions and speech of those in leadership or who traditionally practice power over others, but in humans' everyday interactions with other humans and the environment (Belsky 2002; Elmhirst 2011). For my research, this meant that it was important to conduct key informant interviews not only with government, NGO, and CBNRM group leaders, but also with the residents who have not joined their community's CBNRM group.

What to Study. Second, because power and subjugation are created in our speech, I asked participants both about the environmental rhetoric that they and others recite about CBNRM. Power is also, however, manifested in our material bodies, emotions, and landscapes (Belsky 2002). Thus, I also asked participants about their everyday interactions with the environment and how it affects their lives, homes, and bodies.

How to Interpret Data. Third, because Foucault allows there to be multiple definitions of 'truth' based on one's position in society, this definition of power implies that researchers should seek multiple, contradictory perspectives on one issue. Feminist methodology, however, takes this one step further and directs researchers to critically analyze these multiple truths through the perspective of the marginalized (Harding 1993). Thus, as I will describe further in my sampling method, I purposively created a sample of multiple intersectional viewpoints in order to hear a diverse set of opinions on CBNRM. While I collected several interviews with privileged leaders, I also developed a strategy for reaching those in society with little power and who are traditionally excluded from research on CBNRM because they are so difficult to reach.

Methods

Methods are the tools used for sampling, data collection, and analysis (DeVault 1996). I chose the following strategies because they align with this project's critical epistemology and methodology and for their strength in studying power.

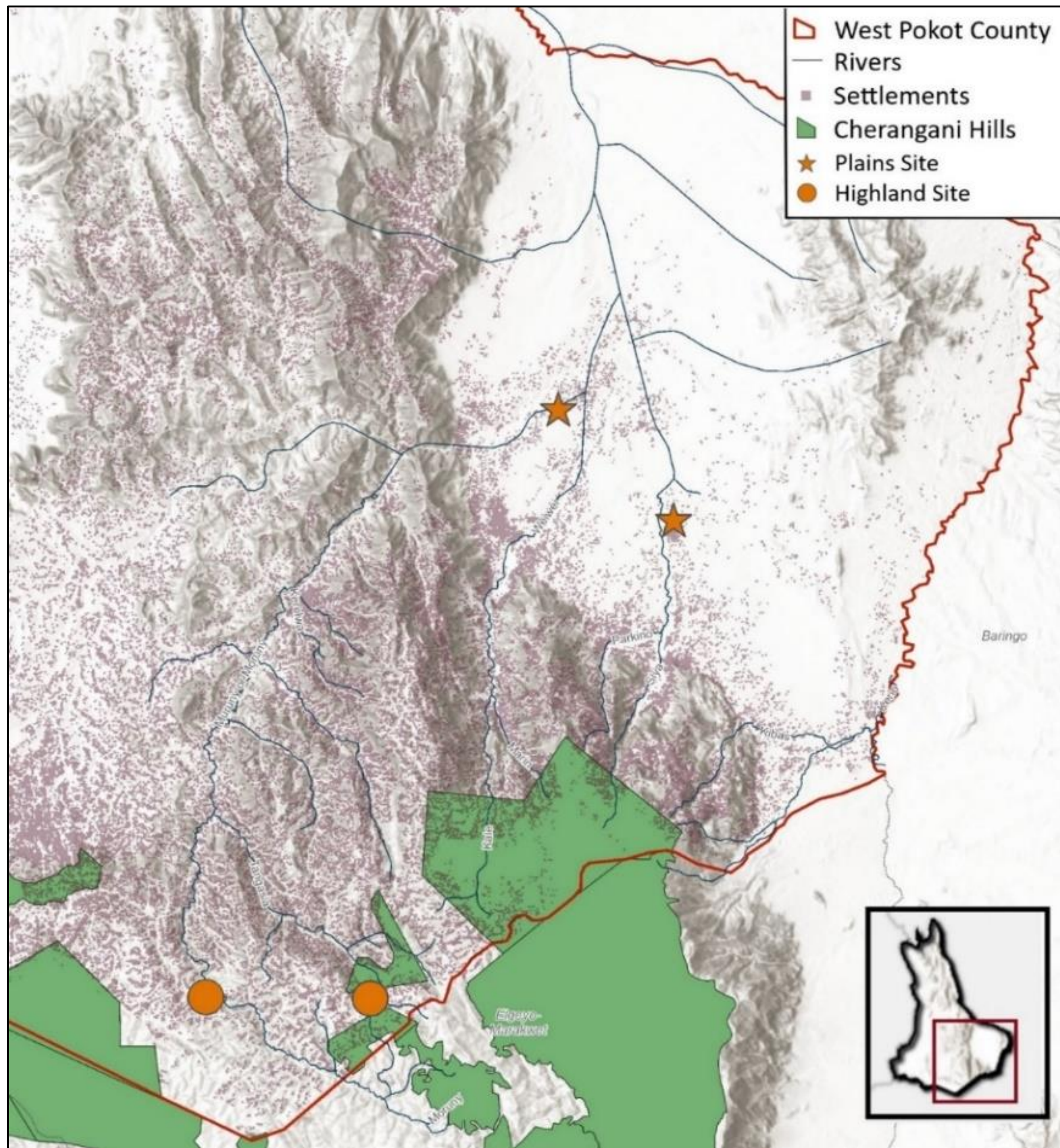
Project Funding and IRB Approval. This research was supported by the US Department of Education through Title VI Foreign Language and Area Studies fellowships awarded by MSU's African Studies Program for the study of Swahili, data collection, and dissertation writing. It was also funded by MSU's Department of Sociology Graduate Office Fellowship, an Environmental Science and Policy Program summer research fellowship, an International Studies and Programs

dissertation award, and the Center for Gender in a Global Context's Dissertation Writing Fellowship. During 2018 fieldwork, the research was supervised by a Professor of Sociology, Margaret Munyae, at United States International University (USIU) in Nairobi. The research program was also approved both by USIU (Project title "Participatory Resource Management and Hydrosocial Power in a Strained Kenyan Watershed") and MSU's institutional review boards (MSU STUDY00000785) as well as Kenya's office of research (NACOSTI/P/18/21559/22748). Before any data collection began, Mr. Ting'aa signed a confidentiality agreement required for USIU's IRB to not disclose any information that participants shared (Appendix A).

Sampling Methods. Because I subscribe to feminist standpoint epistemology, I made central to my research the multiple and contradictory perspectives of those who affect and are affected by CBNRM policies, with attention to the lens of those with less power in their community. Feminists have used many methods to collect these multiple perspectives, but commonly use qualitative methods of data collection which necessitates a smaller sample (Oakley 1998). The individuals who make up this small sample must be selected with care, however (Hesse-Biber 2012). Purposive sampling is often used to hear from multiple stakeholder groups, intersectional identities, and varied positions of power (Hesse-Biber 2012; Ramazanoğlu and Holland 2002). Because they have little reason to obscure their true perception of an issue over which they have little control and may be adversely affected, marginalized individuals should make up a significant proportion of the sample (Harding 1987, 1993).

Site Selection. Across all the research, I used purposive quota sampling to strategically collect diverse perspectives on environmental governance. When selecting sites, my goal was to conduct interviews at four sites – two in the highlands and two in the lowlands – that had active CBNRM groups. Mr. Ting'aa and I had multiple parameters that limited our selection.

Figure 2.1: Map of research sites and the Muruny River watershed



Map created by author using ArcGIS Online by Esri. Data Sources: Esri, CGIAR, USGS | Center for International Earth Science Information Network, Columbia University and Novel-T. | Source of building footprints "Ecopia Vector Maps Powered by Maxar Satellite Imagery" © 2020. | Source of population data "Population Counts / Constrained individual countries 2020 (100m resolution)" and "Population Counts / Constrained Individual countries 2020 UN adjusted (100m resolution)" WorldPop.org © 2020 | Funding for the development and dissemination of this data set was provided by the Bill & Melinda Gates Foundation and United Kingdom's Foreign, Commonwealth, Development Office. | Kenya Forest Service | Esri, Garmin International, Inc.

First, I limited site selection to one watershed so that I could study the relationship between villages who use water that flows from the same source. Second, I limited sites to West Pokot County because it would allow me to do a deep investigation of county-level politics in one region. We chose to select sites that flow from Cherangani Hills national forest down to Pokot's plains to the north in the Muruny River Watershed.

The third parameter was environmental. Since research took place during Kenya's 2018 rainy season, roads were not yet paved throughout the highlands, and there were no guesthouses where we could stay overnight, we were limited to those villages that we could visit over 3-4 day-long round trips in a four-wheel drive Toyota Hilux. Once we had drawn these parameters, Mr. Ting'aa chose four villages where he had at least one contact with a key informant who could help us to begin purposively snowball sampling other participants. We selected two villages in the highlands located near forests with a community forest association and two villages in the plains with borehole management committees.

Phase I Participant Sampling. Data collection in phase one took place over five weeks. I employed a purposive snowball sampling method to assemble a sample of forty-three stakeholders, which consists of eleven government and NGO stakeholders and eight village stakeholders per site. All participants were required to be eighteen years or older. While budgeting for the project in grant applications, I consulted with the NGO where I had worked as an intern to ask what sum would be ideal for compensating participants and they advised I pay 200 KES (about 2 USD in 2018), so this is the amount that all interview participants received for participating.

Sampling in the Villages. We traveled to four communities in the first four weeks of phase one. We began in a highland community, then went to a community in the plains, then repeated the process. Three days per week, we conducted on-site interviews with CBNRM group members,

community members, and chiefs. At each site, I aimed to assemble a sample of village stakeholders consisting of the chief or assistant chief (often a CBNRM group member), two to three additional CBNRM group members, and three to four community members who were not part of a CBNRM group. I also had the goal of interviewing an equal number of males and females, as well as people with varied levels of economic resources at each site.

To accomplish this, Mr. Ting'aa would call the chief one to two weeks in advance to request a meeting with him and a CBNRM group leader, both of whom functioned as gatekeepers. He requested that the chief and/or the CBNRM group leader arrange one to two additional interviews with CBNRM group members for our first day. Before leaving the village on our first day, Mr. Ting'aa and I would arrange the second day of interviews through snowball sampling. We did this to avoid the bias of participants all being selected by one community member. The strategy worked well in this rural context because of the community members' interest in the project, willingness to participate, and because of the complications of travel during the rainy season that prevent most people from scheduling anything more than a day in advance. We also found that assembling the purposive sample day-by-day rather than all before we visited the village allowed us the freedom to say yes to participants who, during their interview, said that they did not know about a specific topic, but they knew someone who could tell us about it and could take us to them if we had time. Those recommendations led us to participants who we would not have interviewed if we had relied on a prearranged list, such as an elderly rainmaker who met with us only because a former participant recommended it. Because we conducted many interviews while sitting near a small village center, a few people would approach us during interviews. We would pause the recording to explain what we were doing and politely request privacy for the rest of the interview. We would offer to interview them as well, which most agreed to.

Sampling in Kapenguria. One day per week, we conducted government or NGO interviews in Kapenguria, West Pokot County's capital where NGO and government offices are located. Also, In the fifth week of data collection, I conducted the last few interviews with government and NGO workers in Kapenguria who had not been available in past weeks. In total, I interviewed six employees of national environmental governance agencies, two county government employees, and three NGO employees, all of whom participated in some aspect of CBNRM policy. At every office, I asked to speak to an employee who led community-based water or forest management. That person was a male in every office. Thus, despite asking if there was a female with a similar role, I was unable to interview any females in these policy planning and programming positions. The fifth day of each week was reserved for planning the next week's travel, writing fieldnotes, organizing data, and reviewing recordings.

Figure 2.2: Phase I sampling groups and participant descriptions

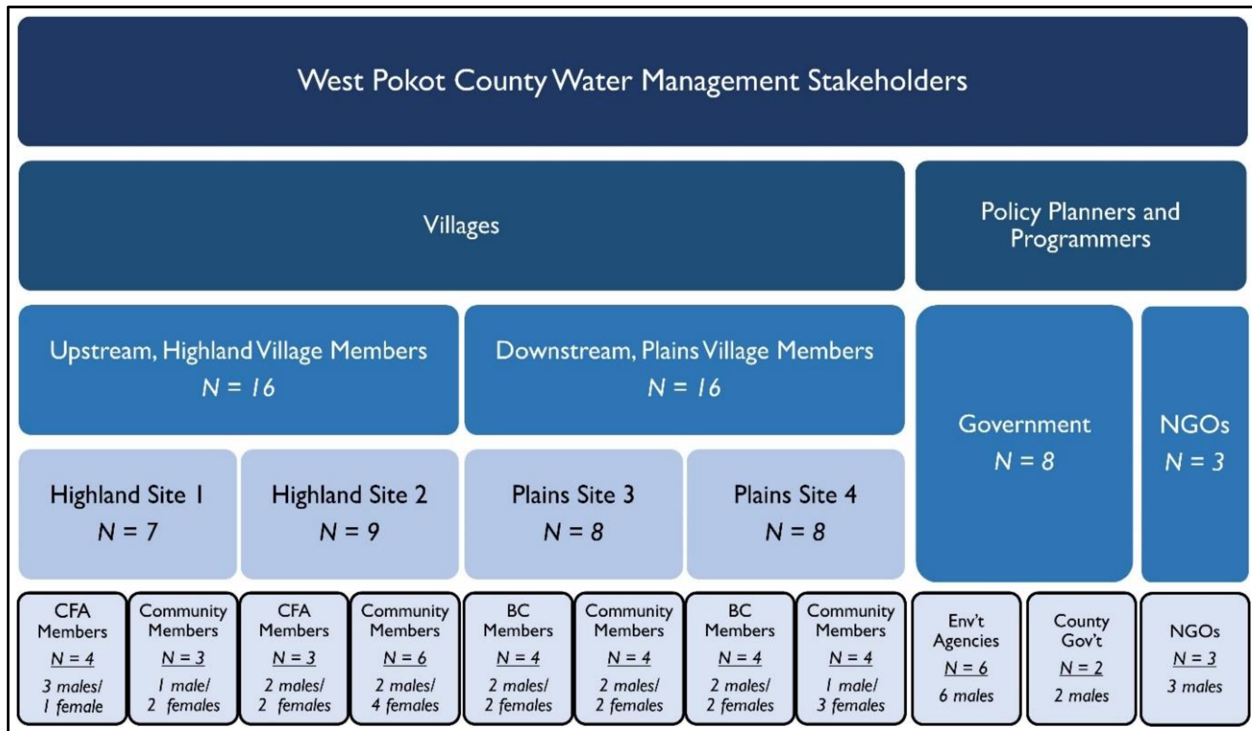
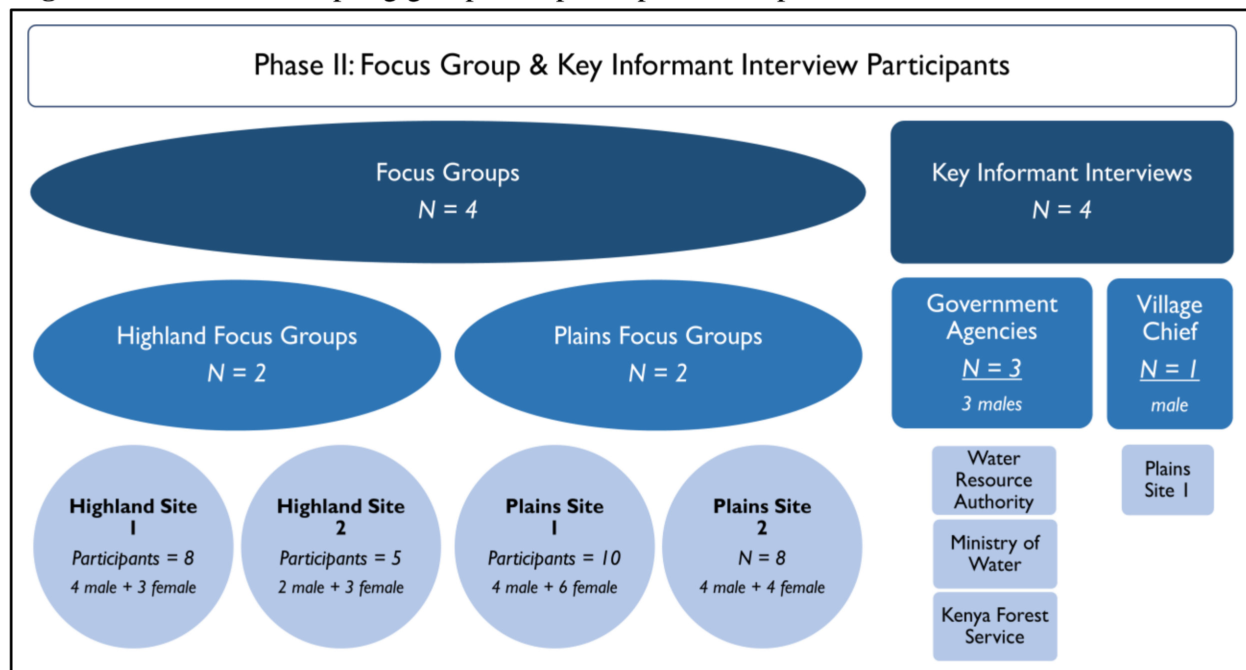


Figure 2.3: Phase II sampling groups and participant descriptions



Phase II Participant Sampling. To sample interview participants in 2022, I used the same sampling method I had used in 2018 to sample leaders at three key offices in Kapenguria: Water Resource Authority, Ministry of Water, and Kenya Forest Service. I also conducted one key informant interview with a chief who was available before I conducted a focus group.

To find focus group participants, we contacted the chiefs who we interviewed in 2018 and asked them to assemble a group of six to ten participants, half of whom were male and the other half female. The four focus groups had thirty-one total participants – fourteen male and sixteen female – with an average of eight participants per group. One highland group was made up of a majority community forest association members while the other had none. In the plains, however, the groups had even numbers of borehole committee members and non-members. All the focus group participants received 1,000 KES (about 7.70 USD in 2022) for attending the group. We increased compensation from 200 KES in 2018 to 1,000 KES in 2022 partly due to inflation and partly because focus groups are twice as long and require more travel time to walk to and from a

central meeting location, as opposed to interviews which were conducted at or close to homes.

Methods of Data Collection. Feminist research often employs qualitative methods like in-depth interviewing, focus groups, and participant observation to understanding how individuals perceive and ascribe meaning to an issue or process (Hesse-Biber 2012). Because this research sought to understand the nuanced differences in the perspectives of multiple stakeholders in West Pokot's long history of water management, I employed qualitative methods of data collection (Berg 2001; DeVault 1990; Hesse-Biber 2012). In-depth interviewing is a particularly useful method for exploring individuals' perceptions and unique, lived experiences (DeVault 1990; Hesse-Biber 2012). While individuals might obscure their viewpoint in a public setting or even in a focus group among peers, in-depth interviewing presents the research participant with an opportunity to share a franker viewpoint with less risk of social sanctions for doing so.

In-Depth Interviews. Interviews with government officials took place in that person's office. Most community interviews took place in a public setting like the village center, near the water well, or at a community forest association's office. If it was raining or the public setting was too busy to ensure privacy, then we conducted interviews in the car. While we never refused an invitation to a participant's home or farm and valued the rich fieldnotes that came from these home visits, we made it a rule to never ask to visit a person's home. This is because in doing so we might unwittingly embarrass those with less economic resources as it would be customary for that person to serve us tea and food.

The average interview lasted forty-seven minutes. Interviews ranged from nineteen minutes with a busy government leader to two hours and twenty-one minutes with one of the first key informants who shared a long history of the area. I would begin by introducing myself in English, Swahili, and/or Pokot as appropriate. I shared about myself, my interest in West Pokot

County and the history of their area. Mr. Ting'aa would also introduce himself, then read the informed consent script (Appendix B and C). Once we answered participants' questions and obtained verbal consent, we began recording.

The interviews were structured around the themes of access to, knowledge of, and control over forest and water resources, with a focus on the local history of natural resource management. I wrote three interview guides: one for those in the plains (Appendix D and E), the highlands (Appendix F and G) and one for government and NGO workers (Appendix H). I customized sections of questions in each interview guide to the stakeholder I was interviewing.

While these interview guides have many questions, the first prompt under each major topic was often sufficient for participants to address all the topics with a bit of probing. The interviews were semi-structured. By giving participants more control over the conversation, they were able to share topics that I would not have probed but provided important links to the local history of environmental management, such as religious beliefs, alcohol consumption, and cattle-raiding. All the interviews began with a short personal history, moved to a history of local environmental management, then access to, knowledge of, and control over the area's natural resources, and finally, the participant's view of CBNRM groups, either as an outsider or member.

When participants spoke either English or Swahili, I conducted the interview myself with Mr. Ting'aa present. The only time Mr. Ting'aa was not present was during English interviews with some government officials, as we found that they shared more openly when Mr. Ting'aa was not present. When participants could not speak fluent English or Swahili, Mr. Ting'aa translated my research questions and participants' responses in situ.

Upon my return to the US, I transcribed all the English and Pokot-English interviews in English. I translated Swahili interviews into English as I transcribed, carefully reviewing the audio

myself and noting areas that needed to be reviewed with a native speaker for accuracy. I met with a Swahili professor at MSU to review those audio segments every week during a Swahili independent study in translation in the spring semester of 2019. For those Swahili terms or phrases that I struggled to find English words that could capture the full meaning, I left the Swahili transcription in italics alongside a bracketed English translation. I checked this translation with my Swahili professor and later highlighted those sections for Mr. Ting'aa to review.

The four key informant interviews that I collected in the second phase of this project followed the same procedure as 2018, but were slightly longer, averaging 74 minutes. The questions and informed consent process can be seen in Appendix I.

A Pause in Data Collection. The data collected in phase one was originally intended to serve as pre-dissertation data that would serve as the foundation for a longer period of data collection in fall 2020 to spring 2021. Due to the COVID-19 pandemic, I was unable to safely return to collect further data until 2022. Fortunately, my previous experience collecting data for a local NGO with Mr. Ting'aa meant that we were both well-prepared to know how best to conduct methodical, rigorous, and thorough interviews in 2018.

In the years while I was waiting to return to collect further data, I kept in regular contact with my friends in West Pokot and the research consultants while conducting preliminary analysis. I proposed these research questions, then analyzed the interviews as though they were secondary data and wrote summaries to share with the communities. Thus, I did not conduct interviews and focus groups in 2022 with the intention of gathering new data, but to share my preliminary findings with the communities and to ask for their opinions, feedback, and critiques so that they could have a hand in shaping the narrative that is shared about them in this research.

I liken phase one to gathering sketches of individuals which, during the isolation of the

pandemic, I used to paint a large mural of CBNRM in West Pokot. I had gathered 43 interviews with detailed notes on the individuals' perspectives, took my notes to my studio, studied the sketches and my notes, and used those to create the mural that is my grounded theory analysis. Then I returned to present the mural so that the community members might see themselves in parts of the research, as well as the diverse and sometimes contradictory perspectives of others. In this way, I was accountable to ensuring that my findings presented accurate accounts of multiple, varied perspectives in phase one. When I returned to share my findings, I found that the focus group participants were delighted to request edits and to add detail to those areas of the canvas that were still blank. Even more so, they were both relieved to have their cultural heritage recorded and proud to have it shared with a larger audience.

Focus Groups. Because they were meant to serve as spaces to provide feedback, the focus groups were much more open-ended than the interviews. Participants all met at a central location, including a church, school, a local office building, and a chief's home for the four groups. Mr. Ting'aa, who had coordinated the meetings, was on site to introduce the focus groups in plains communities and to co-lead the focus groups with me in the highlands. Caroline Rumaita led the focus groups in the two villages in the plains. Theresa Chemtai was present at all four focus groups to take notes and to quietly translate in situ next to me when participants spoke Pokot.

The focus groups were designed to be casual meetings. The researchers and participants all introduced themselves. Because we were recording the focus group, we read an informed consent script before the project began (Appendix I). I explained the purpose of my research in 2018. Some focus group participants had been interviewed in 2018, but most had not. The focus group leader would then spend five to ten minutes presenting the findings from each of my research questions. We then asked the group to provide their feedback in a twenty-to-thirty-minute open-ended

discussion. At the end of the group, we asked each member to either share what they believed was the most important part of our discussion or add something that we had not discussed yet (Appendix I). The focus groups were an average of two hours and nine minutes.

Methods of Data Analysis. I draw from grounded theory's methods analyze this data (Charmaz 2014). I used MaxQDA 2022, a software designed for qualitative data analysis. Because I collected the first phase of this data before I formed these research questions, I performed a preliminary analysis of the data in MaxQDA using grounded theory before I performed any of the specific analyses presented in this dissertation. During the preliminary analysis phase, I was able to develop a grounded theory of local environmental change that strengthened the three detailed analyses in this dissertation by developing on themes that would go unnoticed if I were to use a purely deductive approach.

In that preliminary phase, I read the transcripts, then began coding for *in vivo* terms and concepts that participants used to describe environmental change and management. I developed those *in vivo* codes until I could consolidate them into major and minor codes. As I analyzed the data, I wrote memos to develop broader themes and drew concept maps to understand how these codes relate to one another. When I later analyzed the data for each research question, I returned to that large list of inductively developed codes to create an initial codebook. I used those codes, as well as some from the literature, to develop a codebook to systematically recode all the interviews to answer each research question.

Conclusion

In the next three chapters, I will further detail which codes I drew on to answer each of the research questions. I will explain my coding schemes and the specific kinds of analyses that I used to understand the relationship between those codes. For example, I broadly analyze the difference

in narratives of environmental change between the highlands and plains in Chapter 3. In Chapter 4, however, I parse how participants' positionality in their community and watershed frame their perspective of the costs and benefits of CBNRM policy. In Chapter 5, I comparatively analyze whether and how participants involved in CBNRM groups experience empowerment based on their gender and which type of group they are in. All three analyses have been designed to capture the diversity of opinion and experience with CBNRM, elucidate how the policy can (unintentionally) harm marginalized groups, and explain in participants' own words what they believe effective environmental governance should look like in their communities.

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APPENDIX A: RESEARCH ASSOCIATE CONFIDENTIALITY AGREEMENT

Project Title: Participatory Resource Management and Hydrosocial Power in a Strained Kenyan Watershed

As a member of this research team I understand that I may have access to confidential information about study sites and participants. By signing this statement, I am indicating my understanding of my responsibilities to maintain confidentiality and agree to the following:

- I understand that names and any other identifying information about study sites and participants are completely confidential.

- I agree not to divulge, publish, or otherwise make known to unauthorized persons or to the public any information obtained in the course of this research project that could identify the persons who participated in the study.

- I understand that all information about study sites or participants obtained or accessed by me in the course of my work is confidential. I agree not to divulge or otherwise make known to unauthorized persons any of this information, unless specifically authorized to do so by approved protocol or by the local principal investigator acting in response to applicable law or court order, or public health or clinical need.

- I understand that I am not to read information about study sites or participants, or any other confidential documents, nor ask questions of study participants for my own personal information but only to the extent and for the purpose of performing my assigned duties on this research project.

- I agree to notify the local principal investigator immediately should I become aware of an actual breach of confidentiality or a situation which could potentially result in a breach, whether this be on my part or on the part of another person.

______________________________	________________	_____________________
Signature of research assistant	Date	Printed name
______________________________	________________	_____________________
Signature of principal investigator	Date	Printed name

APPENDIX B: INFORMED CONSENT SCRIPT (ENGLISH)

Explanation of Research
Hello. My name is Alaina Bur. I am a graduate student at Michigan State University in the United States. This is my translator and research assistant, Festus Ting'aa. You are being asked to participate in a research study of stakeholder engagement in community-based resource management. We are interviewing people who are involved in or affected by community-based resource management of water and forest resources in West Pokot, Kenya. You are being asked to participate in this study because you have been identified as someone who can provide valuable information about community-based resource management in West Pokot County.

You must be 18 years old to participate in this research. This interview will last about 1 hour. I will begin by asking you questions about yourself, such as your age and how long you have lived here. Then I will ask you questions about your knowledge, access, and control over natural resources in your community. Then I will ask you about your engagement with community-based resource management. With your permission, I will record this interview. The interview will later be transcribed, securely stored to ensure privacy, and analyzed for research. Your name and village will not be linked to the interview. If you change your mind during the interview, I will delete the interview recording upon your request.

Your Rights to Participate, Say No, or Withdraw
Participation in this research is completely voluntary. You have the right to say no. You may change your mind at any time and withdraw. You may choose not to answer specific questions or to stop participating at any time.

Costs and Compensation for Being in the Study
There are no anticipated risks to your participation in this study. There are also no direct benefits to you or your community for participating in this study. After this study is completed, we will share an executive summary of the research with your borehole committee/forest association/government agency/NGO/village leaders so that you can learn more about how community-based resource management is being used for water and forest management in West Pokot County. You will receive 200 Ksh as compensation for your participation in this interview. You will receive the 200 Ksh even if you skip questions or do not finish this interview.

Contact Information for Questions and Concerns
If you have concerns or questions about this study, such as scientific issues or to report an injury, please contact Alaina Bur by email, at her Kenyan address or phone number until July 24, or at her United States address or phone number after July 24. If you have questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this study, you may contact, anonymously if you wish, the Michigan State University's Human Research Protection Program (HRPP). All contact information is provided below.

Would you like me to explain or clarify anything that I have just read?

Determination of Consent

1. Do you agree to voluntarily participate in this study?
2. Do you agree to have the interview recorded?

Contact Information

Alaina Bur, Principal Researcher

Kenya Phone:	Redacted
Kenya Address:	Reacted Redacted Redacted
US Phone:	Redacted
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Michigan State University HRPP

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Email:	irb@msu.edu
Address:	4000 Collins Road Ste. 136 Lansing, MI 48910

APPENDIX C: INFORMED CONSENT SCRIPT (POKOT)

Palalian Nyo Kiipoghisieghoi Palaliantanuu

Kitatamata kutoto Ngal

Takwes. Kainenyan Kekuro Alaina Bur. Ochan kinetana kopo churerio ompo skul nyo wow ompo Kanasyanta Michikan nyomito Amerika. Nyinte nyuu mito yii kuu kingorokintenyan ompo kutotonu, Festus Ting'aa. Kakusokwa alukunakwa kugh akongaa ompo kuto nyo po kisomonoto ripoto tikwun chopo kinyiut ompo piich lapoy ompo kanasyantanu. Kumitecha ketepoi piich teput cho kikurum otop nyo piich walaka nyo puryo kamanat ompo tupoo kinyiut ompo koor cho lata korii poghon nko wudun ompo Koroo Pokot nyo mito Kenya. Kusominyi yee nyu likuna akonga ompo kisomonotonu po kuto nyo po kanasyan ompo kikamanata tupoo kinyiut ompo piich lapoy ompo kanasyantanu po kaunti nyopo koro Pokot.

Michinote iting'etonyi konyis cho ng'atana 18 atelukuna akong'a ompo kutonu. Cheng'oi nyu kutonu saa 1. Otoran ompo teput choo otepan parakungu, cholenye konyis, akimang'anyi konyis cho tya kanasyanete? Atepan teput paraku chureryo, kenyoru nko kesuk owesyo paruku tupo kinyiut cho kimeghaa nye mtangemot morichii chomito kanasyantenyii. Atepinyii tukwul parakuu mitogh tong'u ompo parakuu ripoto tupoo kanasyan chopo kinyiwut ompo mong'i koreng'wa. Ompo chomunotenkwa, otepunan teputchuu. Ompo atole lotu kuwoghokoi teputchu ekoror tokunyoru ripoto kuto nyopo kisomonot. Mekiroi nye chii kainengu nko kanasyanteng'u ompo teputchu. Atoiwaghakanyi kinonutkoku ompo kwenu teputchetenyu otino mii kuletoi, keng'ong'oghtoi lapai chai kokaketepun otini kesomonyi.

Man Tong'u Likunanyi Akong'a, Ompo Mwaghat Lo Owoy, Anta Ketortenyi Kegh Lot

Lukunanyi akong'a ompo kutonu kuu ompo chamatengu kegh kupuryo kichikoto chii. Itung'etonyi man mwagha lo ewo. Muko waghakanyi kinonutkoku aichuchukanyi. Mukoo kulanyi waghakanyi teput cho siom anta kemutanyi teput poroyin anka tukwil.

Oloy Nko Kiyokonot Kimito Chii Kisomontonu

Mominye kompoleyo ompo chii nyo lukuu akong'a ompo kisomonotonu po kutonu. Aa mominyee kigh nyole tosowon ompo nyii kegh nyo inyorunyii onkit le nyii kegh anta kanasyantang'u ompo kisomonotonu. Nyini kewonyo kisomotonu, kighomtocha nko sopiich chopo kopo pogh ompo tong'oghun kisomonotonu lapoy/ripii chop o wudun/pipo sooch/ NGO/ Kintoghoghu chopo kanastin atakenetakegh ng'al cho chang chopo parakuu owesyo nko koromnyo nyomito oripo ripoto tupo kinyiut ompo kanastinecho cho lata kori poghon nko wudun ompo koro pokot kutang'ogh. Iyorunyi ropuyen cho lee pakalai 200 kurkegh komewaghakanyinye teput ko walaka anatakewang'anyinye teputchu.

Nyinte Nyo Kutepoi Teput Lapoy Paraku Ng'alechu

Atotungetochii teput anka tukwil paraku kisomonotonu, cho rupotokegh nko ng'ala kutonuu anta komikolata, michinote ketep Alaina Bur ompo email, mukoo ketep nyinte kuweru address kachii, nambeni simunyi ntakwit arawa sukuku tarekin chop o 24, anta ompo address chopo Amerika, anta ara simunyi k'tul arawa sukuku tarekin chopo 24. Atoiteng'etonyi teput anta lumchin ompo paraku poroyuntong'u loo nee nyole poghisyeng'u anta mantang'u ompo kutonuu, imokenyi itepei teput paraku kisomonotonu, imukenyi iyorei ng'olion nyo siom atekonuno kinonutyeng'u, anta

komito kinonutye anka nyo sis nyo ketungetonyi paruku kisomonotonu, imukenyi itepei kupuryo kengutunyi atomemokenyinye kenkutunyi atokemokenyi, kopo chureryo nyo wow nyo mito kanasyanta Michikan nyo mito koro Marekani Sakas nyo po Piich nko ripot nyo po ocheyutkakwa. Mito ortine lapoy soromu kikirutchu. Kotemokenyi omwoghwan ompo koghun ng'alechu kosomonokwa lapoy?

Mutata Chamatengu Ompo Sakastanu
Ichomenyi konunekegh ompo kisomonotonu po kutonu?
Ichomenyi tepatanu po kutonu ketepun nya?

Alaina Bur, Principal Researcher

Simu ya Kenya:	Redacted
Ofisi ya Kenya:	Reacted
	Redacted
	Redacted
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Ofisi:	4000 Collins Road
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	Lansing, MI 48910

APPENDIX D: INTERVIEW GUIDE - PLAINS (ENGLISH)

Personal Background

1. In what year were you born?
2. Family: Do you have a husband/wife? Can you tell me about your family?

3. Education:
    a. Have you ever received an education?
    b. Which school did you go to?
    c. Where is the school?
    d. You attended school until which level?
4. Religion:
    a. Do you participate in any religion?
    b. Which religion?
    c. Does everyone in your family have the same religion as you?
5. Ethnicity: Which tribe are you from?

Community and Resource Background

6. How long have you lived in this community?
7. Can you describe your responsibilities in your family and community?
8. Can you describe to me the history of this village?
9. Can you describe to me the various ways community members got water in the past?
10. How was this borehole drilled in your community?

Access to Water

11. Where does your family get drinking water? Water for cooking? Water for livestock?
12. How does your family use the water collected from this borehole?
13. Does your family usually have enough water for drinking, cooking, bathing, washing clothes, and cleaning the house? If no: Why are you unable to get enough water?

Knowledge about Water

15. Where does the water that is used in this community originate?
16. What events have affected this community's water supply in the past?
    a. And now?
    b. How have these events affected this local water?
    c. How has weather affected this local water?
    d. How have activities of people who live in the hills where the water comes from affected this local water?
17. How is your heath affected by the various kinds of local water?

Control over Water

18. How do you participate in decision-making about water in this community?
19. Which decisions do you usually make about water in this community?
20. Are there other people who have more decision-making power about water than you in your community? How? How do you feel about their decisions?

Borehole Committee Leader Specific Questions

1. How was the borehole committee started?
2. How did you become a committee member on the borehole committee?
3. Which role do you have on the borehole committee?
4. How has the committee affected the water in this community?
5. How has being a member of the committee affected:
    a. Your daily life?
    b. Your access to your community's water?
    c. Your understanding of your community's water?
    d. Your ability to make decisions about your community's water?

Community Member Specific Questions

1. How has the borehole committee started?
2. How has the committee affected the water in this community?
3. How has the committee affected:
    a. Your daily life?
    b. Your access to your community's water?
    c. Your understanding of your community's water?
    d. Your ability to make decisions about your community's water?

Chief Specific Questions

1. How was the borehole committee started?
2. Which role do you have in overseeing the committee?
3. How has the committee affected the water in this community?
4. How has the committee affected:
    a. The daily lives of men and women in this community?
    b. Men and women's access to the community's water?
    c. Men and women's understanding of the community's water?
    d. Men and women's ability to make decisions about the community's water?

APPENDIX E: INTERVIEW GUIDE - PLAINS (KISWAHILI)

Personal Background

1. Ulizaliwa mwaka gani?
2. Familia: Una mume/mke? Unaweza kunielezea kuhusu familia yako?
3. Elimu:
    a. Uliwahi kupata masomo ya shuleni?
    b. Ulihudhuria shule gani?
    c. Shule iko wapi?
    d. Ulienda shule hadi kiwango gani?
4. Dini:
    a. Je, unashiriki katika dini yoyote?
    b. Dini gani?
    c. Watu wote katika familia yako wana dini saw ana wewe?
5. Kabila: Wewe ni mtu gani?

Community and Resource Background

6. Je, umekaa katika jamii hii kwa muda gani?
7. Je, unaweza kuelezeaje nafasi/jukumu yako katika familia yako? Na jamii yako?
8. Je, unaweza kuelezeaje historia ya jamii hii?
9. Je, unaweza kunielezea njia mbalimbali ambazo wanakijiji wa zamani walitumia kupata maji.
10. Kisima hiki cha maji [chuma hiki] kilichimbwa vipi?

Access to Water

11. Je, familia yako wanapata wapi maji ya kunywa ? Kupikia? Kuwapa mifugo?
12. Familia yako wanatumia maji wanaopata kutoka kisima kufanya nini?
13. Je, familia yako hupata maji ya kutosha ya kunywa, kupika, kuoga, kufua nguo, na kusafisha nyumba? Kama Hapana: Kwa nini hamwezi kupata maji ya kutosha?

Knowledge about Water

15. Maji yanayotumika katika jamii yako yanatoka wapi?
16. Ni matukio gani yaliathiri vyanzo vya maji zamani?
    a. Na hata sasa?
    b. Matukio haya yanaathiri vipi vyanzo vya maji?
    c. Hali ya hewa inaathiri vipi vyanzo vya maji ?
    d. Je, shughuli za watu ambao wanaishi milimani panapotokea maji ya mto zimeathiri vipi maji hapa kwenu?
17. Afya yako inaathiriwa vipi na aina mbalimbali za vyanzo vya maji?

Control over Water

18. Unashirikishwa vipi katika uamuzi kuhusu vyanzo vya maji katika jamii hii?
19. Wewe hufanya maaumzi gani kuhusu vyanzo vya maji?
20. Je, kuna watu wengine ambao wana nguvu zaidi kukushinda kuhusu uamuzi wa maji katika jamii yako? Vipi?

Borehole Committee Leader Specific Questions

1. Je, kamati ya maji ilianzishwa vipi?
2. Ilikuwaje wewe ukawa mwanakamati wa kamati ya maji?
3. Una madaraka/cheo gani katika kamati?
4. Kamati imebadilisha vipi maji katika jamii hii?
5. Kuwa mwanakamati kumeathiri vipi:
    a. Maisha yako ya kila siku?
    b. Uwezo wa familia yako ya kupata maji?
    c. Kuelewa kwako kwa tatizo la maji?
    d. Uwezo wako wa kufanya maamuzi kuhusu maji yako?

Community Member Specific Questions

1. Je, kamati ya maji ilianzishwa vipi?
2. Kamati imebadilisha vipi maji katika jamii hii?
5. Kamati kumeathiri vipi:
    a. Maisha yako ya kila siku?
    b. Uwezo wa familia yako ya kupata maji?
    c. Kuelewa kwako kwa tatizo la maji?
    d. Uwezo wako wa kufanya maamuzi kuhusu maji yako?

Chief Specific Questions

1. Je, kamati ya maji ilianzishwa vipi?
2. Una madaraka/cheo gani katika kamati?
3. Kamati imebadilisha vipi maji katika jamii hii?
4. Kamati kumeathiri vipi:
    a. Maisha ya ya kila siku ya wanajamii?
    b. Uwezo wa wanajaii ya kupata maji?
    c. Kuelewa kwa tatizo la maji kwa wanajamii?
    d. Uwezo wa wanajamii wa kufanya maamuzi kuhusu maji yao?

APPENDIX F: INTERVIEW GUIDE - HIGHLANDS (ENGLISH)

Personal Background

1. In what year were you born?
2. Family: Do you have a husband/wife? Can you tell me about your family?
3. Education:
    a. Have you ever received an education?
    b. Which schools did you go to?
    c. Where is the school?
    d. You attended school until which level?
4. Religion:
    a. Do you participate in any religion?
    b. Which religion?
    c. Does everyone in your family have the same religion as you?
5. Ethnicity: Which tribe are you from?

Community and Resource Background

6. How long have you lived in this community?
7. Can you describe your responsibilities in your family and community?
8. Can you describe to me the history of this community?
9. Can you describe to me the ways community members got water in the past?
10. Can you describe to me the ways community members have used the forest in the past?

Access to Water

11. Where does your family get drinking water? Water for cooking? Water for livestock?
12. Does your family usually have enough water for drinking, cooking, bathing, washing clothes, and cleaning the house? If no: Why are you unable to get enough water?

Knowledge about Water

14. Where does the water that is used in this community originate? And where does it go?
15. What events have affected this community's water supply in the past?
    a. And now?
    b. How have these events affected this local water?
    c. How has weather affected this local water?
16. How is your heath affected by the various kinds of local water?

Control over Water

18. How do you participate in decision-making about water in this community?
19. Which decisions do you usually make about water in this community?
20. Are there other people who have more decision-making power about water than you in your community? How? How do you feel about their decisions?

CFA Members Specific Questions

1. How was the community forest association started?
2. How did you become a member of the community forest association?
3. Which role do you have in the community forest association?
4. How has the community forest association changed the environment in this community?
5. How has being a member of the community forest association affected:
    a. Your daily life?
    b. Your ability to access the forest?
    c. Your understanding of the forest?
    d. Your ability to make decisions about the forest?

Community Members Specific Questions

1. How was the community forest association (CFA) started?
2. How has the CFA changed the environment in this community?
3. How has the community forest association affected:
    a. Your daily life?
    b. Your ability to access the forest?
    c. Your understanding of the forest?
    d. Your ability to make decisions about the forest?

Chiefs Specific Questions

1. How was the community forest association started?
2. Which role do you have in overseeing the community forest association?
3. How has the community forest association changed the management of the forest in this community?
4. How has the community forest association affected:
    a. The daily lives of men and women in this community?
    b. Men and women’s access to the community’s forest?
    c. Men and women’s understanding of the community’s forest?
    d. Men and women’s ability to make decisions about the community’s forest?

APPENDIX G: INTERVIEW GUIDE - HIGHLANDS (KISWAHILI)

Personal Background

1. Ulizaliwa mwaka gani?
2. Familia: Una mume/mke? Unaweza kunielezea kuhusu familia yako?
3. Elimu:
    a. Uliwahi kupata masomo ya shuleni?
    b. Ulihudhuria shule gani?
    c. Shule iko wapi?
    d. Ulienda shule hadi kiwango gani?
4. Dini:
    a. Je, unashiriki katika dini yoyote?
    b. Dini gani?
    c. Watu wote katika familia yako wana dini saw ana wewe?
5. Kabila: Wewe ni mtu gani?

Community and Resource Background

6. Je, umekaa katika jamii hii kwa muda gani?
7. Je, unaweza kuelezeaje nafasi/jukumu yako katika familia yako? Na jamii yako?
8. Je, unaweza kuelezeaje historia ya jamii hii?
9. Je, unaweza kunielezea njia mbalimbali ambazo wanakijiji wa zamani walitumia kupata maji.
10. Kisima hiki cha maji [chuma hiki] kilichimbwa vipi?

Access to Water

11. Je, familia yako wanapata wapi maji ya kunywa ? Kupikia? Kuwapa mifugo?
12. Je, familia yako hupata maji ya kutosha ya kunywa, kupika, kuoga, kufua nguo, na kusafisha nyumba? Kama Hapana: Kwa nini hamwezi kupata maji ya kutosha?

Knowledge about Water

13. Maji yanayotumika katika jamii yako yanatoka wapi? Na yanaenda wapi?
15. Ni matukio gani yaliathiri vyanzo vya maji zamani?
    a. Na hata sasa?
    b. Matukio haya yanaathiri vipi vyanzo vya maji?
    c. Hali ya hewa inaathiri vipi vyanzo vya maji ?
    d. Je, shughuli za watu ambao wanaishi milimani panapotokea maji ya mto zimeathiri vipi maji hapa kwenu?
16. Afya yako inaathiriwa vipi na aina mbalimbali za vyanzo vya maji?

Control over Water

18. Unashirikishwa vipi katika uamuzi kuhusu vyanzo vya maji katika jamii hii?
19. Wewe hufanya maaumzi gani kuhusu vyanzo vya maji?
20. Je, kuna watu wengine ambao wana nguvu zaidi kukushinda kuhusu uamuzi wa maji katika jamii yako? Vipi?

CFA Members Specific Questions

1. Je, CFA ilianzishwa vipi?
2. Ilikuwaje wewe ukawa mwanakamati wa CFA?
3. Una madaraka/cheo gani katika CFA?
4. CFA imebadilisha vipi mazingira katika jamii hii?
5. Kuwa mwanakamati kumeathiri vipi:
    a. Maisha yako ya kila siku?
    b. Uwezo wa familia yako ya kuingia msituni?
    c. Kuelewa kwako kwa tatizo la mazingira?
    d. Uwezo wako wa kufanya maamuzi kuhusu msitu?

Community Member Specific Questions

1. Je, CFA ilianzishwa vipi?
2. CFA imebadilisha vipi mazingira katika jamii hii?
5. Kuwa mwanakamati kumeathiri vipi:
    a. Maisha yako ya kila siku?
    b. Uwezo wa familia yako ya kuingia msituni?
    c. Kuelewa kwako kwa tatizo la mazingira?
    d. Uwezo wako wa kufanya maamuzi kuhusu msitu?

Chief Specific Questions

1. Je, CFA ilianzishwa vipi?
2. Una madaraka/cheo gani katika CFA?
3. CFA imebadilisha vipi mazingira katika jamii hii?
4. CFA imeathiri vipi:
    a. Maisha ya ya kila siku ya wanajamii?
    b. Uwezo wa wanajaii ya kuingia msituni?
    c. Kuelewa kwa tatizo la msitu kwa wanajamii?
    d. Uwezo wa wanajamii wa kufanya maamuzi kuhusu msitu?

APPENDIX H: INTERVIEW GUIDE - GOVERNMENT AND NGOS

Personal Background

1. In what year were you born?
2. Education:
    a. Have you ever received an education?
    b. Which school did you go to?
    c. Where is the school?
    d. You attended school until which level?
3. Religion:
    a. Do you participate in any religion?
    b. Which religion?
    c. Does everyone in your family have the same religion as you?
4. Ethnicity: Which tribe (*kabila*) are you from?

Organization Background

1. How long have you been working here?
2. What is this organization's role in West Pokot's natural resource management?
3. What is your role in this organization?

Water Management Only

Access to Water

1. Tell me about the quantity of water available to communities in Cherangani. And the plains?
2. Tell me about the quality of water available to communities in Cherangani. And the plains?

Knowledge about Water

1. How does water flow through West Pokot's watersheds?
2. What events have affected the region's watersheds in the past?
    a. And now?
    b. How have these events affected the watersheds?
    c. How has weather affected the watersheds?
    d. How has human activity affected the watersheds?
3. How do these events effect people throughout West Pokot?

Control over Water

1. How are decisions about regulating water use usually made in West Pokot?
2. How are decisions about expanding water access usually made in West Pokot?
3. What role does your organization play in regulating and expanding water access?
4. Are there other organizations that have more decision-making power about water than your organization?
    a. How?
    b. What do you think about their decisions?
5. How would you describe communities' roles in managing their water resources?

History, Roles, and Perceptions or Participatory Resource Management

1. Would you say that there are any communities that are engaging in participatory water management in West Pokot?
    a. Which communities?
2. How do these communities engage in participatory water management?
3. How did these communities first start engaging in participatory water management?
4. How has engaging in participatory forest management affected:
    a. The daily lives of men and women?
    b. Men and women's access to their community's water?
    c. Men and women's understanding of their community's water?
    d. Men and women's ability to make decisions about their community's water?
5. How do these community groups affect the goals of your organization?

Forest Management Only

Access to Water

1. Tell me about the quantity of water available to communities in Cherangani. And the plains?
2. Tell me about the quality of water available to communities in Cherangani. And the plains?

Knowledge about Water

1. How does water flow through West Pokot's watersheds?
2. What events have affected the region's watersheds in the past? And now?
    a. How have these events affected the watersheds?
    b. How has weather affected the watersheds?
    c. How has human activity affected the watersheds?
3. How do these events effect people throughout West Pokot?

Control over Water and Forests

1. Are you familiar with how decisions about water access are made in West Pokot?
    a. How are those decisions made?
    b. What role does your organization play in making those decisions?
    c. How would you describe communities' role in managing their water resources?
2. How are decisions about regulating forest use usually made in West Pokot?
    a. What role does your organization play in regulating forest access?
    b. Are there organizations that have more decision-making power about regulating forest access than your organization? How?
    c. How would you describe communities' role in managing their forest resources?

History, Roles, and Perceptions or Participatory Resource Management

1. Can you tell me about the history of community forest associations in the highlands?
2. What role do you have in overseeing the community forest associations?
3. How have the community forest associations changed the county's forest management?
4. How have the community forest associations affected:
    a. The daily lives of men and women?
    b. Men and women's access to the forests?
    c. Men and women's understanding of the forests?

d. Men and women's ability to make decisions about the forest?

APPENDIX I: FOCUS GROUPS & INTERVIEW GUIDE - FEEDBACK

INFORMED CONSENT SCRIPT: Focus Groups

Thank you for your interest in this research focus group! Before we continue, I need to tell you some things:

- Today, I want to share findings from interviews I collected in your community about forest and water management in West Pokot in 2018. I will guide you all through a set of questions to get your feedback on my findings.
- The focus group will take **about 2 hours**.
- Your participation is **voluntary**, so you can choose not to answer a question or leave the focus group at any time.
- This focus group will be **audio-recorded**, but everything you share with me will be **confidential** and **securely saved.**
- We ask that all focus group participants **respect the privacy of other participants** by not sharing anything that is said in the group after the discussion ends. Because of the nature of focus groups, however, we cannot guarantee that information you share in the group will not later be shared by another participant, so keep that in mind.
- To thank you for your time, you will each receive **1,000 KES** if you participate.
- There are no known risks to participating, but if you have questions or concerns, you can contact me by phone until December 12th, or by email or WhatsApp any time.
  (Pause to share contact information)

  Alaina Bur, Principal Researcher
  Kenyan Phone (until 12-12-22): Redacted
  WhatsApp: Redacted
  Email: buralain@msu.edu
- By beginning this focus group, you indicate that you **voluntarily agree to participate** and **be audio-recorded.**

Does anyone have any questions before we start?

INFORMED CONSENT SCRIPT: Interviews

Thank you for your interest in being interviewed for my research project! Before we continue, I need to tell you some things:

- Today, I want to share findings from interviews I collected about forest and water management in West Pokot in 2018. I will ask you a set of questions to get your feedback on my findings.
- The interview will take **about 1 hour**, but it can be shorter if you're busy.
- Your participation is **voluntary**, so you can ask me to skip a question, end our meeting, or delete the recording at any time during the interview.
- This interview will be **audio-recorded**, but everything you share with me will be **confidential** and **securely saved.**
- There are no known risks to participating, but if you have questions or concerns, you can contact me by phone until December 12th, or by email or WhatsApp any time.
  (Pause to share contact information)
  Alaina Bur, Principal Researcher
  Kenyan Phone (until 12-12-22): Redacted
  WhatsApp: Redacted
  Email: buralain@msu.edu
- By beginning this interview, you indicate that you **voluntarily agree to participate** and **have the interview audio-recorded.**

Do you have any questions before we start?

INTRODUCTION

Personal Introduction

My name is Alaina Bur. I'm a graduate student at a school called Michigan State University in America. I came to West Pokot in 2018 and 2019 to interview people in villages and offices about water and forest management. I'm here today to share a summary of my preliminary findings from those interviews.

Because I plan to share this research, it's very important to me that those who I interviewed agree that this is a good representation what is going on in West Pokot. That's why I asked to interview you today – I would like to get your feedback.

To start, I'll ask everyone briefly introduce themselves. If you feel comfortable, you can share your first name and any other information you feel is relevant and want to share.

Explanation of Prior Research

- The main goal of my research was to find out how communities are using the the borehole management groups, the water resource user associations, and the community forest associations to adapt to climate change and manage their water and forests.
- I interviewed 32 people in 4 villages, each with one of those groups. Two of the villages were in the highlands and two were *huko chini* on the side of Sigor. All four were in the same watershed, *yaani* the Moruny River Watershed. In each village, I made sure to include men and women, as well as chiefs, group members, and non-group members.

Why Do Follow-Up Research?

- Before I began to ask people about those groups, I asked them about the history of that place. To my surprise, they would begin as far back as colonialism. Each person gave me an account of the environmental history of that place as they understood it.
- When I analyzed all those histories, I started to see some key differences in the history of the highlands and the lowlands.
- So first, we will discuss the shared early history, then the highlands history, the lowlands history, and the present day strategies that have resulted from those histories.

POKOT ENVIRONMENTAL HISTORY

Before Colonialism

- I found that most participants believed that the Pokot living in the highlands and lowlands thought about the environment similarly in the past.
- Before and during colonialism, those communities saw the environment as a sacred source of life.
- Their main strategy to protect the environment was their strong belief and taboos.

1. What are your initial thoughts about what I just shared?
2. Is there anything you would like to correct?
3. Is there anything you would like to add?

Focus Groups Only

- You know I record my interviews, so when I get home, I write down every word that is shared. I read the words closely and I translate the Swahili words to English, but Festus translated the Pokot words during the interviews, so I started to wonder what the Pokot word is for "environment" or "*mazingira*." I'm hoping you all can teach me that today.
- I'm going to ask you all to stop speaking in Swahili for a minute. [If necessary: To those in the room who do not speak Pokot, I hope you will feel comfortable to listen along with me.] Don't worry about whether I will understand you – Carol and Theresa will translate later. I want you all to discuss amongst yourselves to determine which Pokot word best describes this idea of the "environment" that I just described.

1. What word did you come up with?
2. What does that word mean?
3. How do the Pokot define environment?

Changes

The participants described a lot of changes in the environment and in the way people think about the environment since colonialism, but the changes have been different in the highlands and lowlands. In the highlands, three main factors changed the way people see the environment.

- Schools → People slowly started to send children
  - They began to understand that some of their environmental conservation norms are not based in science.
  - They need money for school fees.
- Church → Breaks down environmental beliefs and does not replace them with new conservation beliefs. Works in tandem with
- Markets → Trees become commodities that can be sold to make ends meet
- Other factors: Population growth and a need for food also drives people to deforest.

1. What are your initial thoughts about what I just shared?
2. Is there anything you would like to correct?
3. Is there anything you would like to add?

Outcomes & Environmental Strategies

Remember that I did interviews in the plains *and* the highlands. This history was very similar in the plains and the highlands, but I noticed a few differences that I would like to share with you.

- Highlands
    - Environment
        - They said that there are less trees (but reforestation since the 90s-2000s), warmer, less rain, less predictable rains, some wild animals have left.
    - Strategies
        - In the highlands, these changes in education have allowed the communities to find a lot of options to improve their water. They can plant trees in the forest, along the streams, around springs, and in their own gardens. They can also dig pit latrines and bathe and wash clothes away from the river.
- Plains
    - Environment
        - When I asked people living in the lowlands (or *huko chini*) how the environment has changed, they also said that the rains are less predictable. However, they also said that the water in the rivers has decreased, it is less predictable, and much dirtier and carries diseases like cholera.
    - Different Belief
        - People in the plains described the causes of environment changes differently than in the highlands. They believe that the water is reducing because the rains have reduced, but unlike in the highlands, those in the plains believe this is because God is angry with them because:
            - People are very disrespectful of their parents and elders, not like in the past
            - There are people who get drunk on illicit brews
            - Cattle raiding and shedding of blood that was not so bad before colonialism
        - Because of this belief, people in the plains don't usually think that the changes in their water are only because of upstream activities like deforestation and furrow irrigation.
    - Strategies
        - They have fewer options simply because the water is already reducing and becoming polluted before it gets to them.
        - They mainly rely on the boreholes and the work of borehole committees to ensure that there is clean water.
        - Most people in the plains do not know about WRUAs.

1. What are your initial thoughts about what I just shared?
2. Is there anything you would like to <u>correct</u>?
3. Is there anything you would like to <u>add</u>?
*4. What ways [njia] or strategies [mikakati] do those in the **highlands** have to conserve the environment? And the **lowlands**? How does mikakati hiyo affect the environment?*

CBNRM GROUPS

- The main groups that I found in the highlands were the CFAs and the piped water groups, and some people talked about the WRUAs as well.
  - Those who were a part of these groups saw them as beneficial.
  - Those who were not a part of the groups had mixed opinions.

- The only groups I found in the lowlands were the borehole committees
  - Members did not feel appreciated, they did a lot of cleaning and maintenance
  - Non-members were sometimes annoyed, but mostly supportive.

I want to ask you more questions about the [CFA/borehole committee] in this area.

*1. What do you think the **purpose** of those kinds of groups are?*
*2. What are the **benefits** of using such groups to manage natural resources in the county?*
*3. What are the **drawbacks** of using such groups to manage natural resources in the county?*
*4. What are some of the **personal costs of participating** in those groups?*

CHAPTER 3: CONTEMPORARY ECOLOGICAL KNOWLEDGE

Introduction

Since the early 1990s, scholarship on environmental governance has undergone a major paradigm shift. Until then, environmental policy relied on the general belief that common pool resources – or environmental goods that are publicly accessible and finite, such as parks, watersheds, or public forests – are impossible to sustainably manage without strong government control and privatization (Hardin 1968; Olson 1965). In Governing the Commons, Ostrom (1990) dismantled this idea by presenting case studies of communities that have sustainably managed common pool resources for at least a hundred years through local institutions guided by Indigenous knowledge. At the same time, international financial institutions interested in neoliberal policies were urging countries in the Global South to decrease their reliance on foreign aid by lowering national expenditures through policies that require fewer government employees (Dressler et al. 2010; White 1996). Yet, with climate change looming large, these governments were also under pressure to pursue environmental sustainability. Ostrom's findings offered an enticing opportunity. If natural resource agencies could recreate these self-sustaining institutions in places where they did not already exist, then they could govern the environment while satisfying demands to minimize payroll. Thus, policy makers across the Global South began designing programs to motivate communities to form their own community-based natural resource management (CBNRM) groups in regions where common pool resources were dwindling. This mass experimentation went on to form the body of technical information that makes up contemporary CBNRM policy (Dressler et al. 2010).

CBNRM policy advocates decentralizing natural resource management based on the assumption that communities are motivated to manage their resources in the most environmentally

sustainable, economically efficient, and equitable way possible (Blaikie 2006). This motivation is thought to come from communities' longstanding Indigenous knowledge of local ecological dynamics and strong norms that regulate the harvest and use of natural resources (Ostrom 1990). Literature on the policy outlines how practitioners can mobilize residents of a specific region to manage their own natural resources through a CBNRM group (Tarr, Skinner, and Farrell 2019).

CBNRM is now nearly ubiquitous in governments and non-governmental organizations (NGOs) in the Global South (Adeyanju et al. 2021; Dressler et al. 2010). Yet, studies in areas where CBNRM is the main method of environmental governance suggest that the policy rarely delivers on its goals of environmental sustainability, efficiency, or equity (Blaikie 2006; Dressler et al. 2010; Nelson and Agrawal 2008). To date, most research on CBNRM policy takes the form of policy evaluations that measure how CBNRM programs have made progress towards these goals from a baseline to the end of a program (Dell'Angelo et al. 2016). Few studies, however, seriously investigate what was happening in the decades prior to that baseline point that might affect how communities now engage with CBNRM (Dressler et al. 2010). I posit that if one peels back the layers of a community's environmental beliefs, they might find that communities have discarded much of the traditional knowledge that CBNRM is promoting because it is untenable in their contemporary economic situation. As CBNRM is most often used in post-colonial contexts where societies are rapidly changing, local, historical narratives of social and environmental change could reveal a great deal about why communities participate in the programs as they do.

In this paper, I begin by reviewing how scholars of common pool resource management and Indigenous knowledge define the concept of traditional ecological knowledge. Next, I explore how four villages in rural, western Kenya – a country that has embraced CBNRM to the extent of codifying groups' rights in their environmental laws (Republic of Kenya 2016b, 2016a) – narrate

how local environmental beliefs and practices have changed from the pre-colonial era until now. Finally, I ask how these narratives contribute to our understanding of traditional ecological knowledge and what that might mean for CBNRM policies today.

I find that while the norms and beliefs about conservation that CBNRM promotes were once highly valued in those four communities, they are no longer practical given the changes set in motion by colonialism. These communities were indeed once equipped to sustainably manage their common pool resources without government support. I argue, however, that because outside governments introduced incentives to participate in the global economy, these communities cannot now be expected to address such global challenges at a local level without greater governmental support than CBNRM programs currently provide.

Literature Review

Strategies for Common Pool Resource Management. Since global populations began growing exponentially during the Industrial Revolution (around 1760-1840) scholars have predicted that population growth and affluent lifestyles would lead humans to exceed the earth's capacity to generate essential natural resources as well as luxury goods (Hardin 1968; Malthus 1798; Olson 1965; York, Rosa, and Dietz 2003). While technology and natural resource management policies have helped conserve privately-owned and government-controlled environmental resources, it has proven trickier to design policies for public resources because they require collective action to sustain. Common pool resources – a subset of public resources that are finite – are particularly tough to manage because users must compete to harvest them (Hardin 1968; Ostrom 1990). This difficulty has led scholars to debate whether and how common pool resources can be sustained (Berge and van Laerhoven 2011; Ostrom 1990). The responses to this debate have informed natural resource policy both during British colonialism in Kenya (1895-

1963) and since its independence, as well as across the Global South (Zulu 2008).

The Tragedy of the Commons and Fortress Conservation. The trouble with sustaining the commons is that it requires a group of individuals to collectively volunteer to limit their harvest in spite of a strong incentive to overharvest for personal gain (Hardin 1968; Olson 1965). Scholars have argued that resource users will eventually succumb to the 'rational' urge to overharvest because they have no way of knowing if one's neighbors are also complying (Hardin 1971), an outcome described by Garrett Hardin (1968) as an inevitable "tragedy of the commons." This line of thought provided the resounding first response to this debate: Without privatization or state coercion, the commons cannot be sustained (Hardin 1968, 1971; Olson 1965).

This response is unsurprising, given the deep-rooted western bias towards conserving the environment through private land tenure and limiting access to land (Duffy 2016; Vatn 2018). This predisposition to bound desirable natural resources can be traced as far back as 568 AD when Italian lawmakers coined the concept of *foresta*, deriving it from the old Latin verb *forestare*, which meant "to keep out, to place off limits, to exclude" (Harrison 1992:69). Indeed, in modern western history, environmental conservationists have made "territorializing conservation space and controlling surrounding communities [their] central and primary goals" (Robbins 2012:179).

These beliefs provided a foundation for fortress conservation policy, a government's practice of protecting common pool resources by bounding the land those resources sit on and evicting communities living there to provide protected areas for wildlife and natural resources (Blaikie 2006; Dressler et al. 2010; Duffy 2016). The policy was a common tool in non-settler colonies like Kenya where colonial governments would establish forests and game reserves, then forcibly remove inhabitants to safeguard the its resources for the colonizer's economic benefit and enjoyment (Nelson 2003). The policy upheld the belief that "those who depended on resources

near reserves [should] be criminalized for what they harvested, and, where identity was closely tied to livelihoods, for who they were" (Dressler et al. 2010:6). In practice, the policy has led to the forced removal and dispossession of many communities from their traditional lands and continues to be used in the present neocolonial era – an era when powerful countries covertly exercise their influence over the Global South for their economic gain (Duffy 2016; Nelson 2003).

Institutions and Community-Based Natural Resource Management. In 1990, Ostrom offered an alternative answer to the debate about the commons. In Governing the Commons, Ostrom (1990) describes case studies of communities that have sustainably managed common pool resources for at least hundred years by creating institutions with normative practices for harvesting, monitoring extraction, and sanctioning those who overharvest. She finds that these communities' specialized, Indigenous knowledge of their local ecology enabled them to sustain their resources. Ostrom argues that the idea of rationality – the self-maximizing thought process that drives agents' decision-making when operating within the structure of competitive markets – is incomplete because it assumes that markets are the sole institutions affecting agents' decisions. For Ostrom (1988), a more complete conceptualization of rationality accounts for economic motivations and the role of norms, mutual trust, and the value individuals put on their reputation. Thus, although states lack the ability to monitor and govern the commons, carefully crafted institutions make sustainability possible by allowing communities to maintain common pool resources and continue benefitting from them. These institutions have been tested in many cultural and environmental contexts (Berge and van Laerhoven 2011) and have given rise to CBNRM (Blaikie 2006).

CBNRM promotes decentralized natural resource management because it posits that it is in a community's best interests to manage its common pool resources efficiently (Blaikie 2006). The policy first became popular because it was easy to implement in African states where many

natural resources were already open-access (Nelson and Agrawal 2008), and also because it supported a neoliberal agenda, which also promotes decentralized governance albeit for a different reason than CBNRM. Neoliberal capitalism promotes decentralizing state power, privatizing goods, and using market incentives with the goal of lowering government expenditures. This brand of capitalism has spread throughout the Global South through neocolonial international policy (Martínez-Alier et al. 2010). With this logic, international financial institutions and governments saw Ostrom's argument as a justification for decentralizing this responsibility to communities to lower the cost of managing the commons (Blaikie 2006; Nelson and Agrawal 2008). Despite CBNRM's widespread promotion though, governments implementing CBNRM policy may actually be squashing the local, Indigenous knowledge that Ostrom (1990) first sought to elevate:

> An overemphasis on the need for large-scale institutional arrangements can lead to the destruction or discouragement of [smaller ones]. It is at these smaller scales that local knowledge about specific complex interactions and concerns about natural capital can be applied in daily life. (Ostrom 1998b)

Traditional Ecological Knowledge

A Mainstream Definition. Ostrom stressed the dependence of her research on Indigenous communities' traditional ecological knowledge (TEK), a concept that was growing in recognition. Fikret Berkes, a non-Indigenous ecologist at University of Manitoba defines TEK as "a cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment" (Berkes 1993:3). In his widely cited article on the concept, Berkes characterizes TEK as being more intuitive than rational; moral rather than value-free; a holistic combination of mind, matter, and spiritual; and based on qualitative, long-term, resource users' empirical observations (1993:4).

Since European nations began colonizing other peoples, states have branded Indigenous knowledge as irrational and incompatible with western science. In 2007 though, the UN's Working Group on Indigenous Populations, which had been advocating Indigenous rights since 1982, succeeded in passing the Declaration of the Rights of Indigenous Peoples in the UN. The document claims Indigenous rights to "own, use, develop, and control . . . the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired" (United Nations 2007:19). This brought Indigenous knowledge into mainstream international rhetoric.

In the field of international development, some organizations that were pushing for decentralized natural resource management and community empowerment discovered that Indigenous knowledge had synergy with their goals, so they integrated its rhetoric into their policies (United Nations 2006; White 1996). In the sustainable development field, ecologists began documenting TEK and picking out aspects that could provide baseline data, prevent environmental degradation, and help development practitioners gain rapport when teaching adaptive management techniques (Berkes, Colding, and Folke 2000; Bollig and Schulte 1999).

Aboriginal Views of Traditional Ecological Knowledge. "Anticolonialism" once characterized a movement of legally colonized peoples working towards freedom from their colonial oppressors (Collins 1991). Although de jure colonialism has ended, anticolonialism now problematizes how the Global North continues to exercise immense, stealthy power over the Global South, as well as over Indigenous populations in former settler colonies like the US, New Zealand, and South Africa (Escobar 2004). This is evident in nearly every domain, from a country's law, economy, and national defense down to individuals' dress, belief systems, and what they perceive as constituting a desirable lifestyle. Like anticolonialism, postcolonialism describes how the fossilized power structures of colonialism endure in former colonies despite their now-

independent legal status and problematize the intergenerational trauma that such power imbalances yield (Mollett and Faria 2013). Yet, anticolonialism also requires action; it works to liberate and empower formerly colonized people to perceive their traditional cultures as equally valuable and to sustain them through practice (Simpson 2004; Wolfe 2006).

So although TEK has entered mainstream academic discussions, Indigenous scholars are critical of how non-Indigenous academics and politicians have neutralized TEK's anticolonial agenda (Simpson 2004). As a result, two lines of TEK literature and praxis have emerged. Deborah McGregor, an Anishinaabe member of the Whitefish River Nation in Ontario and professor at Osgoode Hall Law School, explains:

> There is a major dichotomy in the realm of TEK . . . there is the Aboriginal view of TEK, which reflects an Indigenous understanding of relationships to Creation, and there is the dominant Eurocentric view of TEK, which reflects colonial attitudes toward aboriginal people and their knowledge. (McGregor 2004a:386)

The Aboriginal or Indigenous view of TEK critiques the mainstream Eurocentric view that took root in the 1990s. Marie Battiste, a Mi'kmaw member of the Potlotek Nation in Nova Scotia, and James (Sa'ke'j) Youngblood Henderson, a Chickasaw human rights lawyer are both professors at the University of Saskatchewan. They critique non-Indigenous academics for imposing definitions on Indigenous knowledge without regard for diversity or the approval of Indigenous people. They write, "Perhaps the closest one can get to describing unity in Indigenous knowledge is that [it] is the expression of the vibrant relationships between people, their ecosystems, and other living beings and spirits that share their lands" (Battiste and Henderson 2000:42). Indeed, both their definition and others' focus on a holistic relationship between humans, ecosystems, and the spiritual that cannot be dissected piecemeal or transplanted to another land or culture without dying

in the process. Leanne Betasamosake Simpson (2004), a Mississauga Nishnaabeg member of the Alderville Nation in Ontario and professor at the Dechinta Centre, argues that for TEK to remain an anticolonial tool, it must be transmitted in the original language and oral tradition from which it arose and be practiced on the land that gives it context and meaning. Indeed, TEK is not a list of environmental facts that a culture accepts as true, but the system that transmits and maintains them.

These critiques arise from one major shortcoming of Eurocentric TEK literature: Non-indigenous scholars have routinely failed to perform a blind-spot check of their positionality (Battiste and Henderson 2000; McGregor 2004a; Simpson 2004). Mainstream literature on TEK has largely been written by non-Indigenous ecologists who fail to recognize their personal interests in writing about or using the concept to advance their own research. And while they might acknowledge that TEK is meant to be anticolonial, they fail to explain how colonialism has and continues to criminalize and extinguish traditional knowledge systems (Simpson 2004).

> Unless academics, researchers, institutions, and Indigenous nations are prepared to name the forces that have threatened IK and threatened [IK] holders and challenge the colonizing forces currently within the academy, our attempts to use IK as a tool for decolonization will certainly fail. (Simpson 2004:378)

African Indigenous Views of Traditional Ecological Knowledge. Although the anticolonial critiques of TEK from Indigenous scholars in the Americas certainly apply to former colonies in Africa, few academic critiques can be found from African Indigenous scholars. This could be because of the unique, historic experiences of Indigenous people who lived in settler colonial states, such as Canada and New Zealand, and non-settler colonial states, such as Burma and Kenya (Battiste and Henderson 2000). The key difference between such states is that colonizers seized settler colonial spaces for the arable land to be settled by White immigrants,

while they seized non-settler spaces for the valuable resources that could be extracted and sold to grow the colonizers' wealth. Indigenous people whose land was seized for settler colonialism had two options, both of which resulted in the erasure of Indigenous ways of life: either resist and be eliminated or assimilate to a colonial structure that marginalizes Indigenous people to abjection. Indigenous people whose land was seized for non-settler colonialism, however, were forcibly conscripted to extract resources from their own land for the colonizer, and/or were themselves extracted, enslaved, and exported (Wolfe 1999, 2006).

A key difference between the two typologies is their postcolonial outcome: When settler colonies were made independent states, governing power passed from the colonizing state to the White settlers, while in non-settler colonies, Indigenous people had large enough populations remaining to fight for independence and so took control of the colonial administrations (Veracini 2015). Battiste and Henderson note how Africans' experience with colonization might affect their perception of indigeneity.

> [African indigeneity] poses problems of definition, because most Africans consider themselves Indigenous people who have achieved decolonization and self-determination. Yet many relatively small nomadic herding and hunter-gatherer societies . . . have been displaced and oppressed ('internally colonized') by ethnically unrelated African peoples who have been their neighbors for a thousand years or longer. (Battiste and Henderson 2000:65)

Thus, while similar, anticolonial critiques in non-settler colonial contexts differ from those in settler colonial contexts for two reasons. First, because colonizers appointed some ethnic groups to a higher status to govern others, a colonizer's identity cannot as easily be linked to race in sub-Saharan Africa as it can in settler colonial contexts (Battiste and Henderson 2000; Lynch 2016).

Second, because African countries can cite a date when Colonialism ended and White colonizers were removed from positions of power, how the West continues to hold power over Africa is more invisible. Thus, an African anticolonial critique must recognize the discrete practices of neocolonialism by which the West continues to maintain control of Africa's natural resources and its ideas about indigeneity and development (van Klinken 2022; wa Thiong'o 1986).

The perspectives of critical African thinkers – particularly Black, female scholars – have been historically erased from academia (Muhonja 2020:xii). Yet Wangari Maathai, a Kikuyu woman from Kenya, stands out as one of the most important anticolonial African scholars whose work and writing challenge the Global North's influence on Africa's environment and its peoples' wellbeing. She was educated in the US and returned to Kenya in 1966 to work as a professor. She founded the Green Belt Movement to help women plant over 20 million trees, advocated democracy, served a term as a Member of Parliament, and won the Nobel Peace Prize in 2004 for her work promoting human rights and environmentalism (Maathai 2003).

Although Maathai is best known as a grassroots activist, she was also a great scholar; her praxis developed alongside a grounded theory of social and environmental change. Maathai describes how Kenya is lurching towards a western style of modernity while communities quickly discard their Indigenous systems of knowledge to pursue livelihoods by engaging in the global economy. Although Maathai calls on communities to reclaim their power to pursue local environmental sustainability, she also argues that environmental degradation is caused by external forces that must be named and challenged (Maathai 1985, 2009). Besi Muhonja, a female Kenyan philosopher and professor at James Madison University, highlights Maathai's contributions to decolonial theory in her book, Critical Utu (2020). She describes how, for Maathai, "the root causes of [environmental degradation] necessitate an interrogation of the exploitation perpetrated

mostly by representatives of the Global North and their allies, spaces they plundered for profit and political control, and their culpability and responsibility" (Muhonja 2020:28).

Research Question. The institutions that Ostrom (1990) first wrote about effectively limited the overharvest of common pool resources not simply due to the "logic of collective action," but because of the logic of Indigenous communities' systems of TEK. Yet, the key difference between her research and CBNRM policy is that Ostrom studied communities where CBNRM institutions already existed, while CBNRM policy seeks to install such institutions in communities where they do not exist. I argue that CBNRM's failures result, at least in part, from not asking about a community's TEK. Based on Maathai's grounded theory of environmental and social change, I would posit that many communities once had such TEK and conservation norms but have left them behind to ensure survival in their new economic and social situations. In this paper, I address this oversight by performing a critical analysis of colonialism's effect on systems of TEK. I ask: How do shifting discourses about what constitutes environmental knowledge affect strategies and outcomes for environmental protection?

Methods

Positionality. As a feminist scholar, I take care to reflect on how my positionality affects the way I frame my research and interact with marginalized communities. I am a white, American sociologist and as such my ability to conduct this research is rooted in the very system of neocolonialism that I endeavor to critique. This is an uncomfortable truth, but one that I work to address. I have traveled to West Pokot County seven times over the last ten years. On my first three trips, I spent four cumulative months working as an intern for a local, Christian NGO, traveling to eighty villages across the county to interview women about water management. Since then, I have become fluent in Swahili and returned on four more trips to plan and carry out this

project. I strive to learn the intricacies of Pokot culture not just through research, but by forming long-term relationships with partners in the field, participating in their lives while there and keeping in touch while away. My friends and colleagues are my corrective lenses; I go to them with stories of interactions to understand how my interpretations are skewed and, by doing so many times, have learned to calibrate my perceptions to theirs. I work to ensure that my colleagues and research participants feel respected and appreciated. Although I evaluate CBNRM as a transformative tool and do want my research to be transformative, my goal is to share my findings with the communities I have worked with so that they can make informed decisions about how to respond to CBNRM policy.

Sampling. This research is based in feminist standpoint epistemology, which investigates multiple, varied perspectives of one process, but makes the perspective of the marginalized its central object of study (Harding 1993). To hear multiple and diverse experiences, I paired in-depth interviewing with careful, purposive sampling of multiple stakeholders of both genders, all education levels, and ages. I conducted thirty-three interviews in 2018 with a variety of stakeholders in four villages – two in the highlands and two in the plains – in West Pokot County's Muruny River Watershed. I selected these four villages first based on their geographic location in the watershed, the presence of a CBNRM group, and the quality of my colleague's relationship to a local contact and/or chief there who could help us identify participants. For interviews, I relied on the local contact and/or the chief to help us find at least two people to interview, then used snowball sampling to satisfy the rest of our sampling quotas in the village. I interviewed eight to nine people in each village: the chief, one to two men in a CBNRM group, one to two women in a CBNRM group, two men not in a group, and two women not in a group. In November and December of 2022, I returned to those same four villages in 2022 to conduct four focus groups

where I shared my initial findings. To assemble the groups, I contacted the same key informants and asked them to help us assemble a focus group of five to ten people with a mixture of men and women, CBNRM group members and non-group members.

Data Collection. The interviews were structured around the themes of access to, knowledge of, and control over forest and water resources, with a focus on the local history of natural resource management. I conducted interviews in Swahili and English myself, and when Pokot was preferred, Festus Ting'aa translated on site. I returned in 2022 to share my research findings with the original communities and gather feedback with three Pokot colleagues. We conducted one 2-hour focus group in each village. Festus Ting'aa led the highland groups, Caroline Rumaita led the plains groups, and Theresa Chemtai served as a co-facilitator, notetaker, and Pokot translator. I transcribed the audio files myself and translated Swahili audio to English text.

Data Analysis. I analyzed the data in three rounds of inductive coding using grounded theory methods (Charmaz 2014). In the first round, I focused on coding the responses to interview questions on communities' environmental history. Namely, the questions were: (1) Tell me about the history of your community? (2) How did people fetch water and use the forest in the past? And (3) How has that changed? I hand-coded the in vivo terms that participants used to describe changes. I then compared the codes, grouping them under major concepts, wrote memos to describe those concepts in participants' words, and created a codebook. In the second round of coding, I used that codebook to systematically code the interviews in MAXQDA software. The major codes included "TEK", which included descriptions of the ways that the Pokot understood and interacted with nature before colonialism; "Spiritual Change," "Educational Change," and "Economic Change," which captured how the Pokot came to think differently about the environment; and "Time Period," which captured when the described change occurred. While

systematically coding, I wrote memos on each major theme. In the third round of coding, I reviewed the segments with “Change” codes to parse participants’ descriptions of causality. Based on those descriptions, I drew concept maps to understand in what order and how changes occurred.

Findings

I was surprised by two key moments during data collection. The first was in 2018 when, in response to the question, “Tell me about the history of this community,” most of the participants began their stories long before they were born to describe the relationship between the Pokot and the environment before colonialism. The second surprising moment came when I returned to the same four communities to get feedback on the findings from focus groups. The participants were engaged and excited to hear a description of Pokot TEK and the retelling of how their TEK and communities transformed during and after colonization. We discussed how Christianity, western education, and cash markets had all transformed the way people thought about the environment.

At the end of each focus group, I asked participants to reflect on our discussion and share what stood out to them or what was missing from the findings. At least one member of each focus group made a point affirmed by the whole group: Churches, schools, and markets have changed how the Pokot think about and manage the environment, but they also improved quality of life in many ways. The TEK we discussed is a treasured part of their cultural heritage, but they do not want to reinstitute the systems that supported TEK to the detriment of their livelihoods.

To understand why the Pokot view their TEK this way, we must look more closely at the process of cultural change that has demoted TEK from its position as the dominant environmental belief system. In this section, I explain this process of change in three parts. First, I describe how participants describe traditional Pokot strategies for environmental protection. Next, I explain how participants narrate the cultural changes that have altered these strategies since colonization.

Finally, I describe how participants perceive TEK now given its juxtaposition against their contemporary needs and beliefs.

Traditional Pokot Environmental Knowledge. I understand little of the Pokot language, so I am especially attuned to the staccato of English and Swahili terms that leap from participants' narratives while I await translation. Given that English and Swahili are Kenya's two national languages, I was not surprised to hear the terms *mazingira* (Swahili for environment) and porest (the Pokot pronunciation of the English forest) many times during interviews in 2018. While transcribing the interviews in the US, however, I began to wonder whether the terms correlated with a Pokot word for environment. So, when I returned in 2022 to hold focus groups in the same four communities, I asked the groups to hold a meeting amongst themselves in Pokot to come to a consensus about a native word that captures the idea of environment or *mazingira*. After a five-minute discussion amongst all the members, each focus group returned with the same term: *wuw*[1].

Kama Chepe[2], a woman in one of the highlands focus groups, summarized her group's decision: "For the Pokot, *mazingira* [environment] is msitu [forest]. It covers everything. And our word *wuw* means forest. From the Pokot point of view, if you protect *wuw*, you are protecting everything within the forest" (Highland Site 1, FG)[3]. *Wuw*, or specifically *wuw nyo ang'er* [thick forest], is a dense, wild place that includes living beings like the animals, trees, and plants, as well non-living beings like the soil, water, rain, lightning, and thunder. Unlike other spaces, *wuw* is regarded with holy fear and respect because it is where *Ilat* [the god named Thunder] resides. *Ilat* brings *rop* [rain] and blessings, is an equal of Asis [the sun], and second only to *Tororot* [the

[1] The Pokot word "*wuw*" is pronounced woo-oo.

[2] Pseudonyms are used for all interview and focus group participants to protect participants' identities. The Pokot pseudonyms have been selected to align with the individual's gender and stage of life. Proper addresses, such as Kama [Mother of], Ko. [Grandmother/Elder], Madam (for female teachers), and Pastor are used as applicable. Pseudonyms with English, Biblical origin are given to pastors and teachers, who introduced themselves by such names.

[3] "FG" denotes a focus group.

supreme being]. *Wuw* is also the home of other hoi [divine spirits]. Thus, while humans may enter *wuw* for specified purposes, they are supposed to settle in open spaces, or as one man in the plains put it, "where the sun could touch us" (Plains Site 1, FG). He stressed that *wuw* "is a sacred place. It is not safe for humans" (Plains Site 1, FG).

Wuw is regarded as a storehouse of resilience that provides food, water, emergency shelter, and spiritual refreshment during times of misfortune. It supplies food like fruits, honey, and wild animals that can be hunted during famine. It is the source of springs and rain from which all streams and rivers flow. It also contains dried branches for firewood, tree trunks for beehives, medicinal herbs and barks, and a hiding place for one's animals during cattle raids.

Because divine beings lived there, *wuw* also serves as the holy space where humans can pray, present sacrifices, and perform ritual ceremonies. For example, when a woman miscarries or has twins, she must journey to the rivers within *wuw* to be cleansed. And when a person believes that *Ilat* [Thunder] has withdrawn his blessing of *rop* [rain], they can ask a rainmaker to go to *wuw* to sacrifice an animal to *Ilat* on their behalf. The most important cultural ceremony among the Pokot is the group circumcision and age-set initiation of all boys who have come of marriageable age. Before initiation, the group of boys is circumcised in *wuw*, they discard their clothing on the branches of a Ficus tree, then live and heal together in the forest for one month until they emerge from the chrysalis of *wuw* prepared for their *sapana* [age-set initiation ceremony].

Given their respect for *wuw* and the spirits that lived there, the Pokot have many taboos and practices that protect *wuw* by regulating the access and use of resources. To harvest resources from *wuw*, one must first conduct the proper ceremony to appease *Ilat* [Thunder] and *hoi* [divine ancestral spirits]. Otherwise, *Ilat* and *hoi* will curse the thoughtless harvester for their reckless act. Chepo Chepos, an older woman in her community forest association, explained:

> In those days, people protected the trees, even seedlings … They used to say, “Do not kill anything, even a bird! If you kill something, you will become a *mwendawazimu* [insane person].” And people feared *wendawazimu*. They also believed that you could lose your wealth, your children could die, and if you cut a tree that had a bird’s nest, it meant a woman would miscarry. (Highland Site 1, I4)[4]

Pastor James, a pastor in the highlands, cited a belief shared by many: “It was taboo to cut a [medicinal] tree without cause. Our people believed that [the spirit in] the tree will curse you because you have cut an innocent tree that could have helped people to get medicine, fresh air, even rain” (Highland Site 1, I7). The focus groups confirmed this idea, adding that to harvest a medicinal tree, you must first “pray that the tree would forgive you” for harming it (Highland Site 1, FG). After that, “you cut [the] branches. You cannot kill the whole tree. You should only cut maybe two branches” (Highland Site 1, FG). This will cause the tree to “cry” or leak sap from the wound, so “you cover it with a mixture of mud. Then it will continue to live because the tree’s wound will dry” (Highland Site 1, FG). All agreed that this practice, while odd to them, is a strategy that prevents people from “*fyekafyeka*” [slashing trees without thinking]. Trees that line a spring or river are also sacred and merit extra care. The highlands focus groups shared:

> It was said that *Ilat* [Thunder] lived in the waters of *wuw*. So if you cut a tree, the water will [dry up] and disappear. You had to protect it [the water]. So the river was compared to a person. The trees and shrubs close to the river are like its clothes. So if they cut the [riparian] cover, it was like they had stripped off all of its clothes and left it naked. (Highland Site 1, FG)

[4] The letter “I” denotes an interview with the corresponding identification number following it.

A Continuum of Belief in TEK. I write about these beliefs in the present tense because this body of Pokot TEK is still alive in some minds and communities. Belief in these ideas seems to exist on a continuum among the participants. At one extreme, some know very little about traditional Pokot environmental knowledge either because they were never taught or had forgotten. On the other end, there are those who still believe in these ideas and practice the traditional rituals. Most lie in the center of this continuum, however, believing that their ancestors were wise to have conserved the environment, but that they themselves cannot go back to believing like their ancestors did that they would be cursed for harming the environment in specific ways.

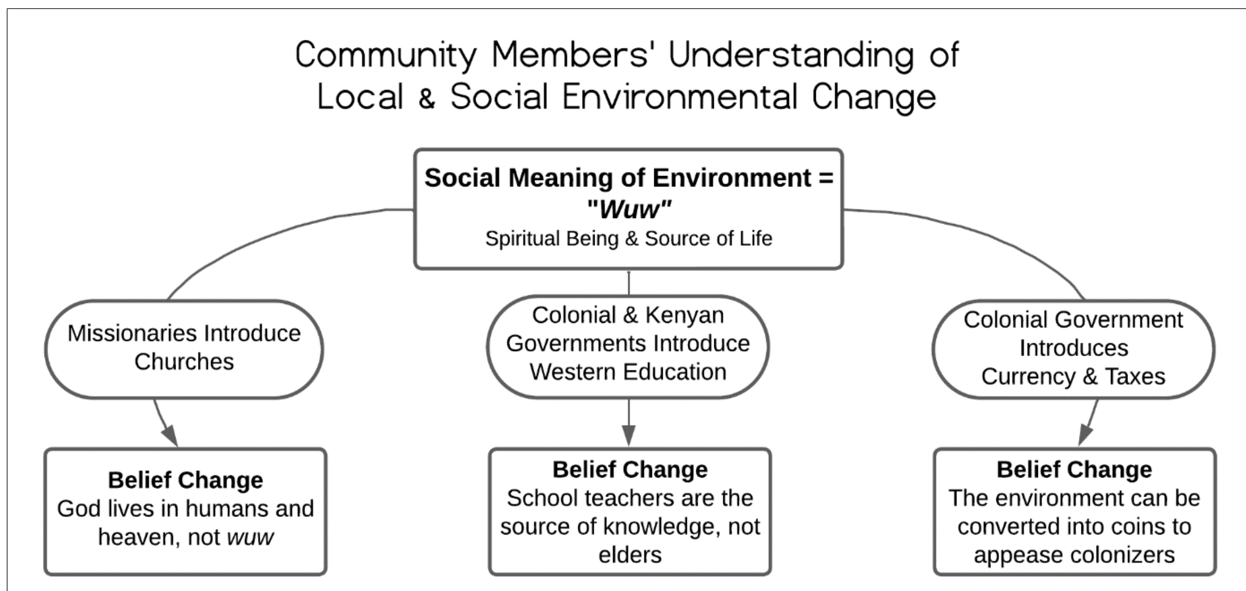
Age and geographic location seemed to play the greatest role in determining where participants sat on this continuum. When describing those who believe in *wuw*, the participants described three groups. The first and most cited group was "ancestors," or those who preceded the participants in death. The second group was "elders," or the oldest people living in the community. Indeed, the only people I interviewed who said that they still believe these ideas and practice rituals related to *wuw* were elders, such as a highland rainmaker in his 80s. This age divide was especially clear in focus groups when I directly asked those born in the 1980s or later to define *wuw*. Most said that they could not describe *wuw* because they knew so little about it. Thus, age seemed to play a large role in whether and how much participants understood about Pokot TEK.

The third group that participants described as believing in *wuw* were those living in the interior plains, or the locations in the county without roads. Indeed, while the definition of *wuw* was the same across the highlands and plains, those living in the plains were more likely to retain some belief in *wuw*. Namely, most people in the plains believed that the rivers' water levels were decreasing both because of upstream irrigation and because God was punishing them for deforestation and moral corruption. While the large majority of participants in the plains said this,

almost none in the highlands did. Nevertheless, all presented a similar narrative of cultural change set in motion by colonization that has transformed Pokot environmental knowledges.

Environmental Belief Change: Religion, Education, Economy. After asking how the environment and community had changed during interviews, the participants offered a narrative of local social and environmental change since colonization. During analysis, I coded these narratives to understand who and what has caused these changes. Unsurprisingly, most participants identified population growth and the need for food security as the backdrop to local environmental change. Yet blaming deforestation on these needs paints an overly simplistic picture. Christianity, western education, and cash markets have also all contributed to many Pokot thinking differently about the environment and, in turn, has changed what participants see as an honorable life and how they should meet their needs. Figure 3.1 is a concept map of how participations explained how social and environmental changes have altered their environmental knowledge, which I will discuss from left to right over the next three sections.

Figure 3.1: Concept map of community members' understanding of local and social environmental change



Tradition and Christianity. Only a few of the interview participants cited Christianity as a reason for environmental change. This may be because they were uncomfortable critiquing the church with my research assistant and I[5]; because they saw critiquing the church as questioning the truth of the Bible; or, since many were born into an already-Christian family, they had never thought critically about their religious beliefs before. Pastor James, the pastor in a highland AIC church, however, engaged in an animated discussion with us as he critiqued the local church not on ontological grounds, but for its framing of the Bible as antithetical to traditional Pokot beliefs:

> When people went . . . to churches, they were taught by pastors that you must leave those traditional beliefs behind to believe in Christ, so they even left the good morals that they had used to conserve the environment. They did not select. They left everything, [including the belief that] if I cut a tree, I will be cursed. They no longer believed that, so they went ahead, [cut the trees,] and were not cursed. (Highland Site 1, I7)

When I returned to share my findings with the focus groups, I included this idea as a small piece of the overall narrative of local environmental change. Yet, the juxtaposition of our discussion of *wuw* against this pastor's comment stimulated a great deal of critical discussion. In one of the focus groups in the plains, eight participants gathered in a circle of desks in a small primary school classroom to hear the research findings. Their talk was lively and the participants attentive despite the heat. The group was diverse – old and young, male and female, some in western dress and others in more traditional clothing. As they introduced themselves by their Pokot and Christian names and greeted us with the phrase, "*Otokwesekwa ompo kainata Yesu Kristo*" [I

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[5] My research assistant and I worked for the same Christian NGO in the past. If participants were familiar with us or our vehicle (that we had rented from that NGO), then they may have known we are Christians.

greet you all in the name of Jesus Christ], it became evident that all were Christian. Thus my colleagues and I were surprised when the participants' discussion of the pastor's comment later in the meeting culminated in the following statement and its collective affirmation:

> The church brough us the Good News, but it also brought bad . . . When the missionaries came and churches were constructed, we pushed God from living in *wuw* to living in heaven and in our hearts. He doesn't live in *wuw*. Now we believe that he lives in humans, so we go about assembling in churches every Sunday. Nobody is bothering about the forest, the rivers, the mountains. We no longer believe in the old days' conservational ways. Back then when we were told not to cut sacred trees, we would listen. But now, people can cut those trees because we believe there is no god aside from the one who we worship in church. (Plains Site 1, FG)

Curious whether they would affirm the pastor's statement that traditional and Christian beliefs could not be combined, I asked all the groups the same question: "Are there any Christians here who try to combine their Pokot values with the church's values?" The responses were all similar to the pastor's original statement: "We cannot combine them" (Plains Site 1, FG).

Indeed, western missionaries' approach to introducing the Gospel both here and across Africa has been to characterize all traditional beliefs and practices as hostile to Christianity regardless of whether some may co-exist in harmony with the Church's teachings. In doing so, the Church served as the frontline of the colonization effort, creating a kind of cultural scorched earth where missionaries could impart wholesale a western Christianity. They taught those who attended Church not only to believe in Christ, but to manifest that belief in an explicitly Western way, such as publicizing one's conversion by taking a new name chosen from the Bible, displaying modesty

by wearing pants or skirts, and practicing fidelity through monogamy, all of which are Western customs never required in the Bible. And as is evidenced by the focus groups' discussion, missionaries stripped those beliefs and practices that had been protecting the environment but did not provide alternative teachings that link morality to environmental protection.

Elders and Schools. Many participants described schools as a major cause of change to local environmental beliefs. Lomuket had lived in the village founded by his grandfather in the highlands during the colonial era for his whole life. He recounted how schools were introduced:

> There were [two] schools during the time of the colonial government . . . But when Kenyatta [the first Kenyan president] came, they built a school in Kabichbich [a highland village] and they [chiefs] started to teach people that they should let their children go to school . . . The elders really resisted the idea of letting young children go to school. They would even bribe their chief [with sheep] and tell him, "Don't force me to give up my child. Let them stay at home" . . . In 1968, they started a school in Kapsangar. That was better because it was closer to us, but there was still resistance. So families started [sending only their boys], but not all the boys in a home. You would select the cheeky boy. [Laughing] So you'd say, "Let the government take that one – the cheeky one" . . . By 1973, they started allowing girls to attend, but again just the cheeky ones. (Highland Site 2, I7)

Lomuket was born in 1952 when Pokot society was still strictly organized by an age-set system, in which the oldest men in an area – the elder council – were most respected. Elder councils were the central nodes of Pokot communities. They taught younger generations about the natural and spiritual world, sharing longstanding indigenous knowledge through oral traditions. The elders' ideas about morality governed communities, as they could punish those who transgressed

norms. While female elders commanded respect, a history of strict patriarchal norms that pre-date colonialism meant that male elders were still more respected than their female counterparts.

Lomuket is now both an elder and a *monung* [rainmaker]. His father did not send him to school. Instead, Lomuket was selected to train under his grandfather to be a *monung*, learning to read the environment to predict when rains and cattle raids would befall the community. Yet as Lomuket aged, so did the Pokot age-grade system which would now have afforded him the highest status. Lomuket values school – he played a major part in bringing a Catholic school to his village – yet he also laments the societal changes that accompany western education, especially the disrespect for elders. He explained that when he and other elders encourage the community to not cut trees on their land, they respond: "Which school did you attend? Oh, you didn't go to school!" He said, "They demean the elders until we are left to say, "Just wait and see what will happen now that you don't listen to the wise advice of old men"" (Highland Site 2, I7). Now, rather than acquiring wisdom from one's age, younger generations acquire knowledge at school. Lonyang, a fellow elder, explained:

> In the past, elders would call the men together for meetings where they would teach the value of conserving the forest. [They would teach us that] there are times when . . . all this land dries up. When that happens, it will be to our advantage to have a forest because it will conserve water and provide shade for our animals. So the elders spent a lot of time [meeting] and they used that time to teach. School has really changed how we live though. Those who went to school no longer take the elders' messages seriously. [They] think they know much. What can they be taught by those who didn't go to school? (Highland Site 2, I6)

Although schools promote conservation for different reasons than the elders, they do instill

the value of protecting natural resources. Ironically though, school fees are one of the main reasons that people harvest trees. Loris, a middle-aged male neighbor of Lomuket and Lonyang, said:

> Back in those days, there were no children in school. But now, take kolombozi trees for example. If you cut down just one of those trees, you can sell it for 30,000 KES [$300][6] and send a child to school. That's why people are selling trees nowadays. It's school fees! There's nothing else. You can even get more than 1,000 KES [$10] for a cedar tree. If you sell 100 posts, you will get 100,000 KES [$1,000], then you can send your child to university! (Highland Site 2, I4)

Kama Krop, a young female farmer who was born in the lowlands but attended school and married in Lomuket's highland village, explained that people who went to school "do understand conservation, but their everyday needs are compelling them to go cut trees" (Highlands Site 2, I2). This leads into the stickiest part of local conservation: The everyday choice between conserving the forest and cutting just one more tree to feed, clothe, and educate one's family.

The Trade Economy and the Commercialization of Nature. At the end of Lomuket's lamentations, he said that younger generations "want to use the land's resources for their own benefit. It's a kind of selfishness. Money has become the leading priority" (Highlands Site 2, I2). This was the most common explanation for deforestation. Even though changes to religion and education relaxed Pokot environmental norms, participants clarified that that was not the main motivation for change. Rather, as Kama Krop said, individuals' everyday needs are the primary reason they cut trees. To investigate how participants explained these changes, I coded interviews for in vivo descriptions of causation. I used those descriptions to create Figure 3.2, a concept map of the process that conceptually transformed "*wuw*" into "*pesa*" [money].

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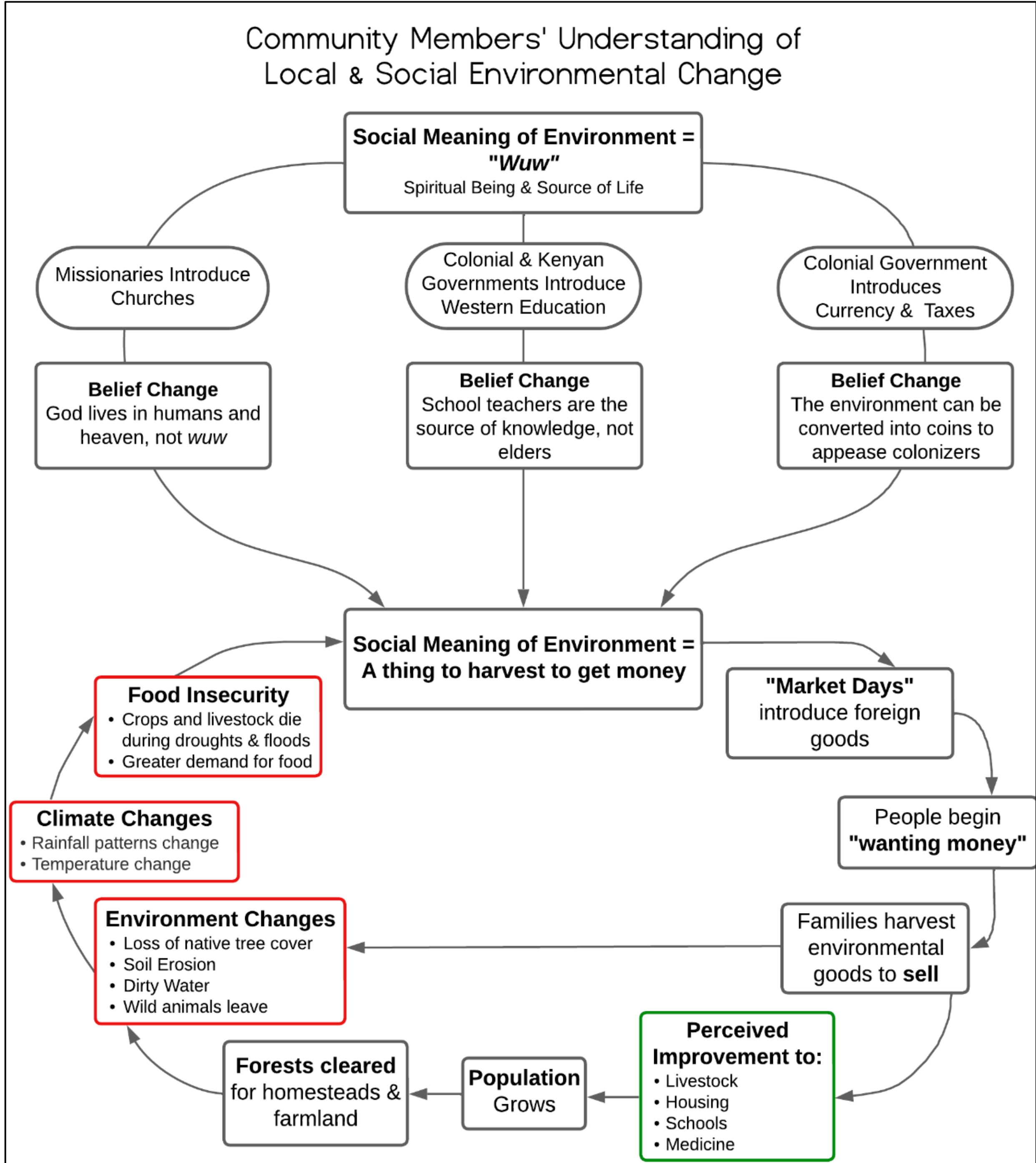
[6] The USD equivalents provided in this paper are from July 2018, the time of the interview.

Figure 3.2: Expanded concept map of community members' understanding of local and social environmental change



Precolonial Era: Use-Value. Before colonialism, communities valued the environment because of its spiritual meaning and the food, water, and other resources that they could collect from it. Lomeri, the head of a local highland community forest association, said, “We didn’t harvest timber back then. Men grazed animals and women fetched firewood, taking only wood that was dry. We harvested honey, ate the fruits, took herbal medicine. In those days, people used the forest without destroying it” (Highland Site 1, I1). Indeed, many Pokot still value the forest for the same reasons. In the past, however, “people protected the forest because it was meaningful [and] because they didn’t know that the trees had faidha [monetary value]. They didn’t know anything about commercializing in those days” (Highland Site 2, I4). Nearly all participants described a piece of the monetization and commercialization of forest goods as the start of the destruction of the forest.

Colonial Era (1885-1963): Coins, Taxes, and Selling. I was able to interview eight elders – two in each village – all of whom were born between 1932 and 1963, with a median year of birth in 1951. All were alive during British colonial rule and had received firsthand accounts of colonialism from their parents. A person becomes an elder when they are a grandparent. The elders said that the Pokot did not use currency until the British colonial government introduced coins. Even then, coins had no meaning or value until the colonial government demanded that all village members pay taxes in coins. Ko. Kriwoi, a respected *koka* [grandmother], estimated that she was born around 1932, making her 86 years old at the time of this interview. Her father-in-law was the first chief appointed by the colonial government in her area and her husband was the second, so she has primary knowledge of the colonial transition. She explained, “The work of the colonials was collecting taxes. Back then, you used to sell your goat so that you could get coins to give as a tax. Then [in exchange], the colonials provided security to our people” (Plains Site 2, I5).

As currency circulated, so too did the seed of an idea that nature could have a value beyond its immediate utility. Yet, currency had no useful purpose aside from paying taxes until goods that could not be produced with local resources were introduced. Ko. Kriwoi's first memory of wanting to purchase a foreign good occurred when the colonial government came with colorful ceramic beads. With her hands grasping the necklaces adorning her neck, she recalled:

> The colonials came with these beads . . . We bought them, then we would design [jewelry]. Before that, we would make our traditional beads out of sticks. There were some small, special sticks that we used to cut into tiny pieces . . . These beads are a bit better than the earlier ones because they have different colors. The old ones were just one color, so then we would give [the wooden beads] to the younger girls and we would give [the new ones] to the older girls to show that they were ready for marriage. (Plains Site 2, I5)

Independent Kenya (Post-1963): Market Days. After the British ceded power over Kenya in 1963, the independent government introduced a new currency and more foreign goods into local markets. As a young woman, Ko. Kriwoi used to fetch water at the river and carry it home in a heavy, clay pot on her back. She recalls that jerry cans – the lighter, yellow, plastic 20-liter barrels that are now in every household – were introduced after independence. So too was western clothing: "Clothing came together with jerry cans. We used to wear [goat] hides. Mostly, men used to walk bare, but women had to wear the goat hide to cover our front and back" (Plains Site 2, I5).

Now, nearly every homestead in West Pokot is within walking distance of at least one village with a weekly pop-up market where one can buy goods such as sugar, grains, tea, soap, washing basins, electronics, and other goods from local, Kenyan, and international producers. Services like hair weaving, public transportation, and schooling also require monetary payment.

Loris shared, "It isn't extremely common, [but] because of the issue of wanting money, you will now find people who go into the forest to cut timber" (Highland Site 2, I4).

This Generation (1980s-Present): Commercialization. As foreign goods and education were woven into communities' ideas of what makes an honorable, livable life, the cash that families needed to purchase those goods became essential. The logical response was to assess what skills and resources one had and how those could be turned into cash. Lomeri, the leader of his community's highland CFA, explained how this process unfolded in his own community:

> This generation has gone to school, they've studied, they've learned about money and commercialization. Indeed, everything you use requires money. So people discovered that even trees could be a source of money. And as they passed through their plots, they saw that there was a large forest here and all of these trees would cost them nothing to harvest. So they began to harvest the trees, to go and sell them in markets. They even started to sell medicinal bark. In the past, medicine could not be sold . . . There were some specialists in *dawa* [herbal medicine] who knew how to treat you. So if you were sick, they wouldn't charge you, but you would appreciate them with a sheep or cow. But now people know that there is money in *dawa*. So people go into the forest, they gather *dawa*, then they go and sell it . . . They harvest the bark of the whole tree, then the tree dies and dries up. So, they benefit from that tree only by selling it . . . There is also money in timber, so they go to harvest those, cut them, and use the profits to send their children to school . . . So, money is overriding everything. [It] is now more important than conserving the forest. (Highland Site 1, I1)

Nowadays in the highlands, individuals often harvest timber, honey, and medicinal bark

on their own land to sell. The cool climate allows them to rear productive dairy cows and profit from milk sales. And, if desperate for money, they might also venture into the forest to cut one or two valuable trees illegally. In the plains, women can harvest aloe vera and honey to sell to traders or make charcoal from bush trees. Unpermitted charcoal production is illegal, but the women who make it usually do so because they are desperate for money to buy food (Fieldnotes, Jun-26-2018).

Although participants never made this outright comparison, the economy in the plains is more vulnerable than that in the highlands. This became clear only through observation and comparative analysis. Those living in the plains have few natural resources with monetary value. The land is often unproductive, as Kama Mnangat, a young mother living in the plains explains:

> We farm [but] we don't use irrigation; we just plant. If the rains don't come, then the fields dry up. If the rains come, we harvest . . . We don't do a huge plot, just a little one [so that] if it fails, then it doesn't affect us as much. But for several years we have been unsuccessful. (Plains Site 2, I6)

Those in the plains have always relied on their livestock as a source of food and income, but this leaves the communities very vulnerable to drought. In Kama Mnangat's village, participants told me that most of their cows had died in the 2017 drought. Lokedi, a herder who had lived in the village since birth, said, "When you see many cows down here, they are not from this place because our cows died during the dry season last year" (Plains Site 2, I4). Rather, the cows I saw had survived the drought on farm plots cleared on the cliffs of the national forest that towers over their village. The owners had brought the cows down to graze for the rainy season in the plains so that their crops could grow undisturbed. This is one example of why, despite knowledge of *wuw* and fear of arrest, individuals deforest.

The concept map in Figure 3.2 shows how the colonial government's churches, western

schools, and currency primed these communities so that the introduction of foreign goods would spark a process whereby individuals willingly participate in an economy that extracts their natural resources and degrades the environment so that they can purchase goods and services to improve their quality of life, and once there are few alternatives to securing food at a market, so that they can meet their basic needs. The rest of this section discusses how this process of resource harvesting becomes self-reinforcing.

Commercialization of Livestock. In Pokot culture, men care for herds, so only men discussed the livestock market with me. In the plains, they have started purchasing livestock breeds that are more resilient to drought and disease. In the highlands, farmers use their money to purchase dairy cows that are better adapted to the cold climate, fencing their land with timber or bamboo, building corrals, and piping water to their home or a tap shared with neighbors. In both places, these developments are not just convenient, but increase wealth by improving animals' lifespans and productivity. Mr. Lokwang, a highland chief, explained how this market developed:

> The colonizers came to settle in TransNzoia [county to the south] and they reared dairy cows . . . The people living around there were taken as laborers and, in the process of taking care of dairy cows, saw that they had higher milk production than the indigenous cows . . . They would take sheep from here and sell them in [the town market]. They would see that there were some other sheep there, good breeds, and would bring them back to the village . . . Everybody started seeing the importance of bringing up good breeds. Initially, it was just the ordinary cows, but then some new families and our fathers started doing the business. So people are now exchanging their breeds. (Highland Village 1, I2)

Commercialization of Housing. Next, families often strive to build western-style homes with foreign materials. Almost all homesteads start with a circular house with walls made of mud and roofs of thatched grass. Some lowland and most highland homesteads use their income to build a rectangular, mud home with a corrugated tin roof later on. A few also built a large house of brick and cement, painted in bright colors, and covered with roofing tiles. Families typically do not tear down the original structure but repurpose it as a kitchen (Fieldnotes, Jun-28-2018). Loris, a farmer living in the highlands, explained that once people were getting more money, “They built homes. This required the aid of the forest [and] timber . . . Later, people started to build homes with iron sheets, [which] we didn’t have in the past” (Highland Site 2, I4). Figure 3.3 shows one of the large homes under construction and Figure 3.4 shows a completed home, though both sit next to a circular mud house.

Figure 3.3: Highland homestead with a traditional round house next to a framed house

Figure 3.4: Photo of a highland homestead with a traditional round house now used as a kitchen next to a western style home

Commercialization of Education. In Kenya, primary school is paid for by the government, although schools still charge fees for expenses like boarding and uniforms. Families, however, must bear the cost of secondary and college education. This is often both a family's biggest expense and greatest investment, since children who graduate with college degrees are most likely to procure service-oriented jobs in teaching, government, and NGOs. Ko. Kriwoi reflected:

> School is good. It takes a long time, but if a child will be patient to finish, then they will have a permanent salary that comes every month . . . My firstborn ran away to Sigor when he was young because it was tough looking after the animals. He was taken in by an Arabic merchant called Abdul who gave him a job in a shop. He went to school up until standard seven, then was employed as a soldier. . . Then later on he became chief. So that is why I am dressing like this [in a skirt and blouse]. It is because some of my children went to school that I can now enjoy the benefits of their education. (Plains Site 2, I5)

To put a child through school, however, often requires parents without jobs to grasp at any opportunity – including harvesting forest goods – to pay school fees.

Commercialization of Medical Care. As foreign goods were introduced, the government also began building health clinics. The facilities provide vaccines and medicine at free or subsidized rates. Improved health and lower child mortality has led to rapid population growth:

> Before the 1970's . . . pneumonia was high due to the cold, but right now, people have been to the dispensaries [clinics] and it is curing them . . . There weren't more than twenty people living here [the village]. But now you cannot recognize who's who . . . We don't have migration from urban to rural areas, so it's those living here who are increasing. (Highland Site 2, I3)

Population Growth. Twelve of thirty-three participants cited population growth as a main cause of deforestation. In the highlands, men acquire land through fathers, but as plots are divided over generations, those plots become too small to accommodate farming and livestock. Lokori, an elder and CFA member, explained this process:

> When you have children, you will give them a share [of your land]. Everybody is given a share of land from their fathers, but that land is not as big as [your father's] was because it is subdivided. So they feel that they want a bigger plot like their father. So then they go to the forest. When . . . they [government officers] force them out of that plot that they have cut from the forest, they still have their land that was given them by their fathers, so they can come occupy that . . . So now that plot [in the forest] is left bare and people will go back there to graze their animals. (Highland Site 1, R3)

In the plains where most land is still communal and lifestyles were traditionally semi-nomadic, many families are now setting up permanent homesteads in villages with amenities like boreholes, dispensaries, and markets. Some villages are so crowded that newcomers must ask the chief where there is space for another homestead. This does not prevent men from bringing their livestock to graze in the area though. Lokedi, Ko. Kriwoi's grandson, explained:

> We know that [beyond that hill] is forest and highlanders have encroached on [it]. In the past . . . they set fire to the forest [to clear plots] so that they can go inside the forest and plant farms . . . Now during the rainy season when they are farming, they move down here because . . . there is no space left for grazing. [They stay] until they harvest the maize, then go back. (Plains Site 2, I4)

Thus, many families deforest a plot of land to increase their food security. They do so both

for subsistence and to sell bumper crops at the market. Unfortunately, while families are deforesting to create farms and increase food security, many participants recognized that deforestation is making the rains less dependable, irrigation is decreasing the rivers' flow, and fertilizers and erosion are decreasing downstream water quality. For example, Madam Irene, a teacher in the highlands, said, "The population grows, people clear the bush, then the climate changes, it becomes warm, and the water reduces" (Highland Site 1, I8). Loripo, a male elder in the plains, explains the affects downstream: "The people have cleared the bush so much, even close to the river. There are many activities [like] farming [and] irrigation. Water sources are drying up . . . and we have dirty water and many cases of waterborne disease" (Plains Site 1, I6).

In summary, deforestation is happening for a variety of reasons – to create farmland, to extract timber and medicinal herbs, to produce charcoal – all of which are often individuals' only options to make the money necessary to meet the most basic of needs, like food and water security, housing, and education. Despite knowing the potential negative outcomes, individuals deforest because of the more pressing need to meet their "*mahitaji*" [daily needs].

Discussion

The meaning of "environmental knowledge" in Pokot culture has undergone a complete transformation from the pre-colonial era until now. It is unsurprising that an Indigenous group's idea of what constitutes environmental knowledge can vary drastically over time and by one's position in society. Yet this simple finding already complicates CBNRM policy's assumption that Indigenous people inherently possess static expert knowledge, traditions, and beliefs that enables them to collectively manage the environment (Blaikie 2006). Whose version of environmental knowledge supports CBNRM?

TEK as a Way of Living. Leanne Simpson (2004) argues that when academics from the Global North simply engage with TEK by recording it, their research becomes complicity in the colonial strategy of caging knowledge by disconnecting it from the lands and traditions that make TEK practicable:

> We [Indigenous peoples] must strengthen the oral tradition, teach children how to learn from the land and how to understand the knowledge of the land. From the perspective of Indigenous Peoples, how you learn is as important or perhaps more important than what you learn. (pp. 380)

My findings in West Pokot agree that TEK is not just a set of facts or a belief system, but a practicable way of living. Colonialism and neocolonialism have not just attacked traditional knowledge but systematically dismantled the institutions that disseminated that knowledge and the governance structure that enforced it. Christian churches required converts to redact their belief in TEK and all the norms that attended it. The traditional system of education, which involved men and boys meeting almost daily by the riverbeds where the elders would gradually impart social, spiritual, and physical knowledge through stories and discussions, has been rendered unfeasible as children spend the majority of their time in boarding schools and classrooms that teach a western curriculum. Elders' authority to enforce the norms and taboos that once protected *wuw* has also eroded with the modern Kenyan government and a new education-based social hierarchy. And the introduction of currency and foreign goods has made the traditional trade economy – acquiring the goods one needs to survive by harvesting local resources and trading with neighbors – untenable.

As is the case in almost every pocket of the world, it is now almost impossible to survive in West Pokot County without participating in the global economy to some degree. Thus, my findings reinforce the idea that TEK cannot be practiced apart from the traditional institutions that

maintain it (Battiste and Henderson 2000; McGregor 2004b; Simpson 2004). As the Pokot people adopt these new institutions, they simultaneously lose the normative practices, the education systems, and ways of living that give life to and enable belief in their TEK.

Weighing the Practicality of TEK in Contemporary Society. When I returned to the four communities where I conducted interviews to share my findings in four focus groups, I presumed that communities would want to reinstate these traditional institutions to maintain their local environments. The participants agreed with and expounded on my critique of colonialism's legacy of harm, and yet, at least one participant in each group spoke up to say that while they agreed that western institutions have led to environmental degradation, that they did not believe they should reinstate those old institutions to right the harm done to the environment. Rather, they said that they put a high value on their Christian faith, their children's ability to pursue a college degree, and the improved quality of life that has come with the new market economy. Moreover, their contemporary beliefs about the physical and spiritual world mean that it is neither possible to believe as their ancestors did that the spirits living in *wuw* will curse them with death, miscarriage, or financial ruin if they harm the environment, nor to practice those norms and taboos.

A counterpoint to the argument that traditional knowledge cannot be maintained without traditional institutions is the reality that, while those institutions maintained the environment, they also had implications for social power and social organization. Many of the former norms surrounding *wuw* appear to have disproportionately limited women's access to and use of the forest. For example, women who were menstruating could not enter *wuw* and those who miscarried or gave birth to twins had to perform a ritual to cleanse themselves in the forest because they were believed to have been cursed. Thus, it is possible that individuals of certain standpoints might resist resurrecting their TEK's norms because they would bear the disproportionate costs of caring for

the environment and lose certain opportunities and privileges that have been created since those norms were abandoned.

Distinguishing Indigenous Peoples from TEK. I agree with Simpson (2004) that simply writing TEK in English documents cages the concept's power, but I would add that if scholars are not careful to maintain the distinction between Indigenous peoples and their traditional knowledge, they risk essentializing Indigenous people to a fixed and colonially beneficial past. It is important to understand a community's TEK, including their cultural beliefs, values, and individual and collective agency. Yet, it is equally important to realize the degree to which a community still knows, believes, and practices that knowledge. A CBNRM program's reliance on rhetoric that a community can stop environmental destruction by returning to the proverbial "good ol' days" might work in some places, but it has not worked in West Pokot County. When Ostrom (1990) made the argument that communities could collectively maintain common-pool resources, she did so by presenting case studies of communities that had continued to practice their Indigenous knowledge and norms in spite of colonialism and imperialism. In postcolonial communities where those systems have been radically transformed or erased, we must dig deeper.

In West Pokot County, communities were well equipped to collectively manage their common pool resources through the concept of *wuw* and the practices that accompanied it. That TEK and the environment with it has been deteriorating since the colonial government introduced currency, taxes, and foreign goods into local Pokot markets. These ideas strengthened individuals' motivation to participate in the global economy by acting in accordance with the western paradigm of rational economic behavior (Ostrom 1998a). And now, as a neoliberal global economy pressures states to reduce payrolls and Indigenous communities are blamed for environmental degradation, communities are being asked to solve the global economy's problems locally with collective

management practices that have been rendered impractical by that same global economy. Although these groups want to sustainably manage their local environmental resources while meeting their daily needs, they require greater support to do so. I will explore this issue in the next chapter.

CBNRM Groups as Producers of Contemporary Environmental Knowledge. Despite CBNRM programs' need for more state support, they still seem to fill a moral void that was created when churches banned one's belief in TEK but provided no replacement. I suggest that CBNRM groups could be real sites of empowerment, where marginalized populations can come to develop collective consciousness, work together to challenge the systems of race, colonialism, and capitalism in environmental governance, and piece together those aspects of the past and present to form an Indigenous environmental knowledge that recognizes contemporary and historical beliefs, needs, and practices.

Conclusion

The goal of this paper has been to understand how communities in one region of western Kenya used to define and relate to the environment, how colonialism has reshaped those beliefs, and what that means for CBNRM policy today. While those in the past once strongly believed in the spiritual and life-giving value of the forest and enforced norms and taboos to protect it, those beliefs have largely been replaced by colonial institutions. Individuals once relied on the forest for survival, but they now rely on a cash-market that incentivizes the harvest of forest resources to ensure that their basic needs are met. Those implementing CBNRM policies in similar marginalized contexts must seriously consider whether participants will be able to comply and participate in their programs without sacrificing an already-precarious livelihood. Indeed, one must put as much effort into ensuring that community members have viable opportunities to meet their basic needs without degrading the environment as they do into creating systems to collectively

manage the environment.

The findings that I present in this paper are not meant to be a complete description of the events that have taken place since the colonial era. Rather, my goal has been to explain how participants perceive the environment now within a historical framework of social and environmental change. The assertions of causality that I describe are not my own. Instead, I have shared a grounded theory of social-environmental change that is rooted in the participants' narratives. The options that Pokot communities have to manage the environment have changed drastically in the past 100 years, but that is not to say that every participant or Pokot person chooses to treat the environment only as *wuw* or as a source of income. Rather, each person's understanding of the environment is both dynamic – changing daily with new events, information, and challenges – and diverse – framed within a unique and nuanced perspective based on that person's age, education, needs, and life experience.

The Indigenous participants in this study perceive their traditional ecological knowledge as just that: traditional. They value their TEK not because of its practical value, but because it reflects the wisdom of their ancestors and a bygone way of life that was uniquely theirs. And while participants are enthusiastic about documenting this knowledge before it is forgotten, they see their communities' TEK as unbelievable and impractical in this contemporary moment. The CBNRM programs in West Pokot would better serve communities by developing attractive alternative livelihood opportunities and creating empowering spaces where group members can imagine a contemporary environmental knowledge and practices that can guide their communities into a more livable future.

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CHAPTER 4: DEFINING INTERESTS IN CBNRM

Introduction

The afternoon rain broke loose, pounding the metal roof of a government office building in the capital of West Pokot, a rural county in western Kenya, just as I entered Mr. Naibei's office. I had spent the last five weeks interviewing many stakeholders about a policy called community-based natural resource management (CBNRM), which states across the global south have been adopting due to its promise to decrease the cost of environmental governance (Dressler et al. 2010). CBNRM promotes decentralizing the responsibility for managing publicly accessible natural resources like forests and watersheds to counties and local governments based on the assumption that is in a community's best interest to manage its resources sustainably, efficiently, and equitably (Blaikie 2006). Kenya is one of several states that have written CBNRM policy into its environmental law, meaning communities can create and self-govern local organizations to monitor and manage the access and use of community forests and watersheds (Republic of Kenya 2016b, 2016a).

I interviewed community members, chiefs, NGO workers, and government officials, all of whom offered unique and sometimes conflicting accounts of how the costs and benefits of CBNRM groups are distributed among stakeholders. One common thread, however, was the lament that these groups are hard to sustain and often do not last. Mr. Naibei, a government official working for one of Kenya's environmental agencies, explained the issue:

> Communities on their own may not be able to [sustain natural resources], so government comes in . . . They [NGOs] identify communities living in the forest and train them on the Forest Act. They will even help them form groups and write those MOUs [memorandums of understanding]. They unite the groups with state

> bodies, bring them to the table, and help to nurture the newly formed relationship . . . Still, in some cases, when this support leaves, the communities go back to where they were. The thing is, in all these arrangements, we would like the projects to continue. We talk of sustainability and I think we have not been able to get it right. (Government, I4)

Mr. Naibei was not alone in his assessment. In studies across the global south, scholars have questioned CBNRM's effectiveness at managing public forests (Adeyanju et al. 2021; Meyer et al. 2021; Mutune and Lund 2016); watersheds (Dell'Angelo et al. 2016; McCord et al. 2017); and wildlife on public lands and in national parks (Brehony et al. 2018; Dekker, Arts, and Turnhout 2020; Heffernan 2022). In fact, scholars have been sharply criticizing the policy for over twenty years (Blaikie 2006; Brosius, Tsing, and Zerner 1998; Leach, Mearns, and Scoones 1999). Nevertheless, CBNRM only seems to have grown in popularity due to its alignment with these states' neoliberal goals of lowering state budgets by privatizing public goods, cutting government payroll, and offloading the responsibility for managing public goods to communities and individuals (Brenner, Peck, and Theodore 2010; Vatn 2018). CBNRM is now so deeply entrenched in states' laws that it is likely to remain a primary form of environmental governance in the global south despite concerns that it neither sustains natural resources, nor equitably distributes the costs of running such groups and the benefits that result (Dressler et al. 2010). What then can be done to improve the policy? Recent studies suggest that future research on CBNRM focus not on the policy as it is written, but on the real challenges it faces in practice (Dekker et al. 2020; Heffernan 2022). Mr. Naibei went on to explain what he believes is the greatest challenge to making CBNRM a viable long-term solution for communities:

> I think it is the whole question of people who are involved: What are their interests? . . . These days there's no donor who wants to give their money and not be interested in seeing the continuity of the project, so during the project conception . . . communities are supposed to really answer the questions [about their commitment] . . . But we still find that some projects die, and few continue . . . When somebody starts seeing that a project is there, but it does not benefit me, if it does not benefit the group, then it will be left. (Government, I4)

Using a grounded theory method of analysis, I analyzed 43 interviews with diverse stakeholders in one watershed in West Pokot County to understand how CBNRM displays and obscures political interests. Before detailing my methods and findings, I begin this paper by defining "interests" and discussing studies that have already investigated interests in CBNRM.

Literature Review

CBNRM is based on the logic that it is in a community's best interest to efficiently, equitably, and sustainably manage their local natural resources (Blaikie 2006; Leach et al. 1999). Most broadly and simply put, 'interest' can be equated to one's preference for a choice that will be most beneficial to them (Cochran 1973; Connolly 1983; Hindess 1984). While most scholars could agree on that definition, they tend to disagree on where interests come from. The answer to this question, however, is essential to understanding why community members choose to make CBNRM groups work, or why they let projects fizzle out. In this section, I explore how three definitions of interests – material, value-based, and political – have framed the debate over whether and how CBNRM policy is intended to work. I consider how these frameworks have been applied to CBNRM and what concepts must be explored in this research to provide a more well-rounded understanding of stakeholders' interests.

Material Interests in CBNRM. The origin of CBNRM policy is closely linked to an ongoing debate over whether groups can sustain 'common pool resources' through collective action (Cox, Arnold, and Villamayor-Tomás 2010). Common pool resources are open access, but because they are finite, their rate of harvest must stay below a certain threshold so that the stock, such as the number of fish in a fishery, wildlife in a game reserve, or trees in a forest, can regenerate what was harvested (Olson 1965). Until recently, most scholars agreed that groups trying to work together to sustain a common pool resource would inevitably fail.

Scholars like Mancur Olson (1965), Garrett Hardin (1968), and Russell Hardin (1971) argued that the human instinct to pursue one's personal interest in overharvesting would win out over the group's interest in ensuring that the resource would be able to regenerate over time. Thus, some members would inevitably 'freeride,' or benefit from others' conservation efforts while they continue to covertly overharvest. The only viable policy for managing such resources, they argued, would be for the state to privatize the resource and apply outside coercion to force self-maximizing residents to comply with harvest restrictions.

This argument is staked on the assumption that 'material' interests will always win out over other interests. A material interest is an individuals' preference for a tangible or financial outcome that will benefit them (Olson 1965). The scholars made this assumption because, using rational choice theory, they believed rationality – the (presumed) universal, logically objective thought process that leads individuals to maximize the material gains that they can accrue from a situation – to be the primary, instinctual force that drives agents' decision making (Hardin 1968; Ostrom 1998a). This would turn out to be the most important shortcoming of their theory of collective action. Of course, humans very often do make decisions to maximize their material gains, but the cultural value systems that inform those decisions inevitably alter how these

decisions are made and what material gains are most valued.

Value-Based Interests in CBNRM. In her seminal work, Governing the Commons, Elinor Ostrom (1990) challenged the primacy of self-maximizing rationality in collective action by presenting case studies of many communities that had sustainably managed common pool resources for a hundred years or more (Ostrom 1990). She found that the communities used local 'institutions,' or sets of normative practices, to efficiently regulate resource extraction and sanction overharvesting (Ostrom 1992). Based on these findings, Ostrom criticized the former scholars' assumptions about rationality (Ostrom 1990, 1998a). A more complete, or 'second-generation' conceptualization of rationality, Ostrom argued, should account for the role of norms, mutual trust, and the value individuals put on their reputation (Ostrom 1998). In other words, although humans do have material interests, they also have intangible social interests that can sway or confound the direction of those material interests. These powerful social forces, she argued, enable communities to regulate their harvest and avoid depleting a resource. Thus, Ostrom presents the hopeful case that, although states often lack the capacity to govern the commons because they are so difficult to monitor, communities can develop and maintain institutions for managing their local common pool resources without privatization or state coercion (Ostrom 1990, 1998b).

Ostrom's argument aligns with the foundations of sociological theory that recognizes the significance of value-based interests. One of Weber's most important contributions to social theory was his critique of Marx, who argued that real interests are based in a material, objective reality (Marx and Engels 1970). Weber introduced the idea that, alongside material interests, humans also have 'value-commitments' that come from society's system of intangible ideas that give meaning to action. These value commitments can seem irrational, yet hold as powerful a grasp over human behavior as material interests (Giddens 1971; Weber 1946, 2002). Ostrom, too, insists that

communities rely on material interests and values to manage common pool resources (1990).

Going further than Weber however, Foucault argues that both our interests and our imagination of rationality are constructed through 'discourse,' or society's means of conveying and practicing power through diffuse acts that define our perception of the social world (Foucault 1975, 1978). Foucault breaks down the divide between rational interests and irrational values, problematizing the language of rationality altogether. Ostrom, too, critiqued the idea that individuals make "irrational" decisions because their behaviors do not maximize profit (Ostrom 1992). Still, the language of rationality is commonly wielded by those in power to deem marginalized communities "incapable of recognizing their own interests, so that they may be justified in acting on [the others'] own behalf" (Hindess 1984:117).

Foucault also makes a key contribution to our understanding of how humans calculate their interests. He argues that one determines whether a behavior is in their interest based not only on the immediate benefit of the act, but also on the cost, or the inevitable punishment, that accompanies transgressing a rule: "Everyone must see punishment not only as natural, but in his own interest; everyone must be able to read in it his own advantage" (Foucault, 1975, pp. 109). Likewise, Ostrom finds that it is not sufficient for a community to have clear norms and social conventions that regulate their harvest; group members must also be aware that their actions may be monitored and know the terms of social and/or material sanctions for breaking the community's rules (Ostrom 1990, 2000).

So, although she does not cite these arguments, Ostrom's work in many ways agrees with the rich sociological tradition that seeks to understand humans' actions as products not just of a material cost-benefit analysis, but of societies' webs of social norms. Yet, while Ostrom did contribute to a discussion of how local institutions are nested within larger political frameworks,

she never intended this theory to be formalized into CBNRM policy or taken up by governments as a tool for controlling the environment (Ostrom 1998b). As it is, however, a discussion of interests in CBNRM would be incomplete without considering how individuals perceive the benefits of participating and how their position in society enables them to achieve those benefits.

Political Interests in CBNRM. CBNRM policy is often couched in attractive language that portrays community-based management as “inclusive,” “empowering,” and “participatory,” yet since this policy was adopted first and foremost to solve states’ problems, not communities’ problems, there is good reason to be critical of such assertions (Blaikie 2006; Cleaver 2001; Dressler et al. 2010; Escobar 2004; White 1996). One must consider stakeholders’ “political” interests at various scales – community, state, global, and everywhere in between – to understand how individuals use their power to influence and benefit from CBNRM (Fletcher 2017).

In his critique of the term, Blaikie (2006) argues that the policy relies on the troubling assumption that communities are small, homogenous, tightly knit, and clearly bound areas. Despite shared histories, traditions, and interests though, the idea of “community” is often more loosely connected and diverse than CBNRM’s original definition of it accounts for. Still, the idealized notion of a clearly defined, agreed upon, and tightly-knit community is deeply entrenched in development discourse and can lead program administrators to unintentionally exclude marginalized groups like women or ethnic minorities from meaningful participation in management groups (Adams, Juran, and Ajibade 2018; Meinzen-Dick, Kovarik, and Quisumbing 2014). Yet, for a CBNRM group to work together to sustain a public natural resource over a long period of time, all group members must accept the costs – the sacrifice of limiting harvest and the work of monitoring and sanctioning others – and share claim to the benefits (Cox et al. 2010).

Evaluations of CBNRM, however, have repeatedly found that local elites use its programs

to pursue their political interests by determining the purpose, setting the terms, and coopting the benefits of a group's work (Adeyanju et al. 2021; Armitage 2005; Chomba et al. 2015; Zulu 2008). For example, in a recent study of water user associations in urban Malawi, community members commonly accused the groups' boards and executive committees of "ignore[ing] bylaws and leverage[ing] exclusionary practices to further their own interest" (Adams et al. 2018:139). Thus, the political interests of a local elite often stymie the groups' collective interests and work, which can affect their decision-making, outcomes, and long-term existence.

Likewise, Nelson and Agrawal (2008) find that governing elites' political interests also disrupt CBNRM's success. In their case study of initiatives to decentralize wildlife management to communities in several African states, they find that that the extent of decentralization depends on the state authorities' 'patronage interests.' They define patronage interests as governing elites' incentive to retain control over a valuable natural resource both so that they can continue to materially profit from renting the resource to others and maintain the loyalty of those who rely on them to access the resource. While the authors of this article provide examples from case studies (Nelson & Agrawal, 2008) there is little qualitative, empirical evidence that parses how patronage interests affect CBNRM groups, their communities, or program administrators.

On a larger scale, several scholars have critiqued governing bodies such as states, national environmental agencies, and international organizations that claim that CBNRM is "participatory," but do so to further their own neoliberal interests rather than communities' interests (Blaikie 2006; Brosius et al. 1998; Dressler et al. 2010; Leach et al. 1999). Writing on the idea of "participation" in general, White (1996) argues that participatory development programs are so appealing because they appear to serve the interests of donors, states, and recipients of development. In practice, however, most programs are implemented because they serve the donors' and/or administrator

‘top-down’ interests, but only some serve the recipients’ ‘bottom-up’ interests. Regardless of whether administrators claim that a program is in the interest of the poor, the truth of that assertion often depends on the type of participation and the terms on which it is offered. White writes, “It is clear that power is involved in the negotiation to determine [whose] interests are favored over others . . . interests are not just ‘there,’ but reflect the power relations in wider society” (White, 1996, pp. 12).

Research Question. In the introduction of this paper, Mr. Naibei suggests that it is essential to understand what communities’ interests are in a CBNRM program. If community members find that the program does not benefit them or the group, they are likely to become inactive. CBNRM’s rhetoric does suggest that these programs should be “participatory,” allowing communities to pursue their own material and value-based interests in sustaining a local, public natural resource. Yet, critics of CBNRM argue this discourse often obscures the ways that local elites, administrators, and governing elites pursue their own political interests through the policy.

Based on these critiques, I argue that it is essential to investigate both ‘bottom-up’ and ‘top-down’ interests in CBNRM, including how program administrators and communities describe their interests, how those interests overlap and conflict, and how such conflicts are resolved. To investigate these questions, I turn to the case of West Pokot, a county in Kenya that is facing challenges in sustaining its watersheds and forests but is struggling to implement the state’s CBNRM programs for managing public natural resources. I address the question: How does CBNRM display and obscure political interests?

Methods

Case Background. For this paper, I perform a grounded theory analysis of 43 in-depth interviews conducted with CBNRM stakeholders in the Muruny River watershed in West Pokot

County, Kenya in June and July of 2018. Cherangani Hills National Forest makes up a small region to the south of the county. The region sits at a high altitude and is covered in montane forests that help stimulate rain and slowly release it throughout the year to the surrounding semi-arid plains. The plains, in comparison, are hot, dry, and much less amenable to agriculture, thus the lifestyles of the ethnic Pokot populations living in the two regions vary significantly. Households in the highlands are permanent and rely on agriculture and forest goods, while households in the plains are semi-nomadic and rely on pastoral livelihoods. Two types of CBNRM groups exist in each region. In the highlands, the Kenya Forest Service helps the community to establish community forest associations so that communities living near the national forest can access and manage a community forest. In the plains, a grassroots NGO is training borehole committees to care for local boreholes that are the primary source of drinking water for the community.

Positionality. I root this research in feminist epistemology and methodology, which require the researcher to acknowledge how their own identity affects the way that they perceive and are perceived by research participants (DeVault 1996; Harding 1993). I am a white scholar at an academic institution in the US, which has required me to not only practice reflexivity, but to work to adapt to the cultural context where I conduct research. I have been traveling to West Pokot County for eleven years, worked for a local NGO as an intern over two summers, developed relationships with research partners, and learned to speak Swahili fluently. I performed this research in partnership with three colleagues – Festus Ting'aa, Caroline Rumaita, and Theresa Chemtai – all of whom played an essential role in helping me to better interpret and understand the participants and the topics in this paper. The goal of this research is not to advocate for a particular policy, but to evaluate whether and how CBNRM is working to improve forest management and water services in West Pokot County in a way that helps equip policy makers

and communities to make informed decisions about how to implement this policy.

Sampling and Data Collection. To sample many, varied perspectives on CBNRM in West Pokot, I purposively sampled 43 CBNRM stakeholders. I interviewed 33 community members in four villages – two in the highlands and two in the plains. The villages all fall within the Muruny River Watershed, which starts in Cherangani Hills National Forest and flows down through the plains. I selected the villages based on their position in the watershed, then based on whether they had a CBNRM group and if we had a local contact. In each area, we interviewed eight to nine people including the chief. We attempted to interview equal numbers of men and women, and CBNRM group members and non-members. I also interviewed a representative of all the major NGOs and government offices involved in CBNRM group administration in West Pokot, including seven government employees and four NGO employees. The interviews discussed access to, knowledge of, and control over the forest and water resources, with questions tailored to each one's relationship to CBNRM. I conducted interviews in English and Swahili myself but had a research assistant on site for all the interviews in communities in case a participant preferred to speak Pokot.

Data Analysis. I analyzed the interview transcripts in MaxQDA 2022 software over two rounds of coding using a grounded theory method of analysis (Charmaz 2014). In the first round, my goal was to capture participants' positionality, so I coded sections of the interviews where participants described their "personal identity," including their responses to questions about their age, gender, community, ethnicity, religion, education, employment, and their role in CBNRM. After each interview, I retrieved all the "personal identity" segments in that interview to record these as categorical variables in MaxQDA's "document variables." I did this so that I could easily compare participants' interests in CBNRM based on these variables in the next two rounds of

coding. Many participants divulged more personal information at other points in the interviews, such as their employment or membership in local organizations, so I also coded those sections as "personal identity." I used the demographic attributes, those additional segments, and field notes taken during the interview describing the individual and location to write memos on that individual's intersectional identity. I referenced those memos during analysis and while writing the findings to contextualize participants' perspectives.

In the second round, I aimed to capture the ways that participants described their interests. I first tracked two major codes, including how participants perceive the "purpose" of CBNRM, and their "interests" in CBNRM. Participants sometimes used the term "interests," but more often described the "benefits" of joining a CBNRM group weighed against the "challenges" that they perceived as reasons not to support CBNRM groups.

After these two rounds, I began comparatively analyzing "purpose," "benefits" and "troubles" by each of the "personal identity" attributes coded in round one. I found that comparing participants' responses by "role in CBNRM" showed the greatest commonalities within categories and the greatest contrast between categories. The commonalities in "role in CBNRM" were common among four categories including community members, CBNRM group members, chiefs, and CBNRM administrators (employees of national environmental agencies and NGOs). For each of these categories, I retrieved segments for that group and coded just those responses to develop the themes common within that group, such as the theme of "politics" common among community members or "supposed to" among administrators, then wrote memos to develop those themes.

I was careful to parse differences in opinions within each category of "role in CBNRM." I drew on the "personal identity" memos to contextualize and note recurring differences of opinion that occurred by attribute and note those incidents in the findings. The only major difference that

I found within these four "role" groups was location in the highlands, where the CBNRM groups managed the forest, and the in the plains, where the CBNRM groups managed local boreholes. Thus, I order my findings first by location, then by role in CBNRM so that I can contextualize the findings for each group within a specific environmental and cultural context. Within each location, I present common themes among four groups: (1) chiefs; (2) community members; (3) CBNRM group members; and (4) CBNRM administrations.

Findings

'Trees', 'Forest', and a Land Dispute in the Highlands. Early in the morning in July 2018, my research assistant, driver, and I filled a Hilux pickup with fuel and left Kapenguria, the capital of West Pokot, to start the winding ascent to West Pokot's highlands. We climbed from 6,300 feet to a village at 11,000 feet that borders a segment of Cherangani National Forest. The temperature dropped quickly, and the sharp scent of fresh tarmac cut the humid air. The hills around us fell sharply towards the surrounding arid plains while mountains loomed ahead, shrouded in clouds. Merino sheep and Holstein Friesian dairy cows replaced the heat-tolerant goats and zebu cows of the plains, grazing on thick fields of grass paddocked in wire and wood posts and shaded with large cedars. Homesteads with tin roofs perched above sloping rows of maize and leafy potato plants. After one hour of driving, we passed the first highland site where we had already collected interviews. Thirty minutes later, we turned off the tarmacked road, crossed the Moruny River, and the Hilux cut ruts through the road's thick mud. (Fieldnotes 7/10/18)

We soon arrived at the end of a driveway lined by cedars where Lotukei[1], the community

[1] Pseudonyms are used for all interview participants to protect identities. The Pokot pseudonyms have been selected to align with the individual's gender and stage of life. Proper addresses, such as Kama [Mother of], Ko. [Grandmother/Elder], Madam (for female teachers), and Pastor are used as applicable. Pseudonyms with English, Biblical origin are given to pastors and teachers, who introduced themselves by those same types of names.

member who would introduce us to other research participants that week, waited for us. My research assistant and I had come to this community because we had connections with residents here who said that the community was bound by forest and thus a part of the community forest association (CFA). Yet Lotukei explained that despite our request to interview four CFA members and a determined search, he still only knew of one active CFA member in the area. We soon learned why there were so few members. The community is tucked between two small segments of Cherangani Hills National Forest that are separated from the main forest block. When Cherangani Hills was gazetted, or reserved, as national land in 1964, a few Pokot families from the plains had already migrated here to seek refuge from the colonialists and to settle in the forest (Highland Site 2, I7). The residents' fight to control forest land has deeply affected how the community, CFA, and Kenya Forest Service (KFS) administrators perceive and engage in forest conservation.

The Chief's Perspective. The Chief had invited us to interview him at his home. In his late thirties, Mr. Lokal had only served as chief for a few years but said, "There were chiefs before me who left a legacy. I want also to leave my legacy before I retire. I want to make a change in our community" (Highland Site 2, I5). I asked Mr. Lokal to explain the land dispute:

> The KFS and the community are still colliding. There is no clear forest that has been conserved for the KFS. [The foresters] say, "We have a gazetted [reserved] forest, but people are still living in it." And the people who are living in it say that this is their own land . . . They were chased out some time back in 1986 . . . The same families came back in 1995 . . . to the places where they lived before . . . I've found them there. They say, "This is our land, so you [the government] don't have a forest. You cannot say that there is a forest [reserve] in this place. This forest was given to us some time back." They have their papers to explain . . . This shamba

> [farm] was given to them by a government minister [who] they said it would be degazetted . . . They still rely on a report from our former President Moi who gave them the order that the land should be degazetted . . . Up to now, it has never been degazetted. They are still quarreling with the government and the matter is still in court. They went to court . . . They are still waiting. (Highland Site 3, I5)

This dispute had a palpable effect on the community's perception of the forest. Mr. Lokal explained how residents refuse to protect the environment if the act is framed as protecting the 'forest', but agree if the act is described as protecting the 'trees':

> They don't want the forest . . . They want trees on their farms! But they don't want it to be said that [the trees] are for the government . . . When we go to the history of this forest, the old men living in this place . . . they were protecting it for themselves . . . They didn't know that it would become a [gazetted] 'forest.' . . . Now, when you tell somebody, "Let us plant trees in our farms!" "Don't fell trees!" They say, "Yes!" Because, you know, in our tradition, these trees will help us. So, we will not fell the trees . . . If you say, "Let's preserve the trees," "Let's protect the environment," these are things that people understand a bit. But when you put in 'forest,' they will now fell trees! [Laughing] They will say . . . "You are the one who is bringing the 'forest' in, but we don't want it! . . . If these trees will make our place to be a 'forest,' we will be encouraging the government to come in and take our land." [Someone told them] sometime back that we should clear the bush so that the government will see that this is bare land [and] they won't remember that this one is gazetted . . . It's gazetted anyway! (Highland Site 2, I5)

Thus, the terms 'trees' and 'forest' are charged with political meaning that indicates who

will benefit from the community's work of conservation. The community uses two terms to describe the modern idea of a forest reserve: msitu, or the Swahili word for forest, and porest, or the Pokot pronunciation of "forest." Porest is government-owned land controlled by the poresta [Pokot pronunciation of 'foresters'] who work for the Forest Service. Community members often refuse to protect msitu or porest because doing so would affirm the government's right to control the forest and its resources. The community favors protecting 'miti' [trees in Swahili], however, because they use the term to describe the individual trees and wooded areas that community members privately own, control, and can harvest for their personal use and benefit. When I asked Mr. Lokal about how this perception affected the CFA, he explained:

> The CFA has never become active because [of this] conflict within the community . . . The CFA says, "This is a forest. You leave, the trees will grow, and then this can be a forest" . . . That is why the CFA is clashing . . . People neglect the CFA because they believe it is encouraging the foresters. (Highland Site 2, I5)

When the CFA started recruiting community members in the area, some were interested: "Sometime back . . . people went to register themselves [because] a person from the CFA said that there [was] some money coming from the CFA" (Highland Site 2, I5). Indeed, several community members observed that when Nature Kenya, the NGO that was helping to start the CFA, completed the start-up program and the funding ended, the CFA members were no longer active in the group.

Community Members' Perspectives. Compared to my analysis of community members' perspectives, Mr. Lokal provided a representative summary of the community's opinion. Community members see that foresters are "taking care of the forest where people are not living" (Highland Site 2, I6); working with communities "to plant trees" (Highland Site 2, I9); and monitoring the forest: "If you harm a tree, you will be meeting with them" (Highland Site 2, I4).

Yet, many explained that their negative experience with Forest Service officers have led them to believe that the officers are more interested in excluding locals from the forest so that a person must pay a forester to access the forest. Lomuket, an elder, explained:

> People befriend [the foresters] because there could be a tree that has fallen in the forest, so maybe you go and make a request so that he can allow you to take that tree. [Then] they demand something . . . If you have a sheep, you can give it to them . . . They may sell it or they can slaughter it [although] that isn't typical . . . The foresters do not accept people easily. (Highland Site 2, I7)

Because of the lack of trust, community members are divided on whether the Forest Service should even be working in the community. Madam Atansi, a women's group trainer, voiced her opinion on this contentious topic:

> The government cannot be the solution for taking care of the forest . . . sometimes the foresters can be bribed to collude with others. [The foresters] are given money, and then [the person who bribes them] sells the trees . . . If the community could come together and agree that we want to take care of the forest on our own, then that would be more effective than the government coming to take care of it. (Highland Site 2, I1)

Not everyone agreed with this idea; about half of the community members I interviewed believed that the community is benefiting from the Forest Service because they protect the forest from cartels. The common thread across the community members' opinions, however, was the belief that the community ought to be involved in managing the forester because the Forest Service cannot be trusted to do it alone.

CFA Members' Perspectives. The CFA members agreed that the KFS has less interest in

caring for the forest than the communities living near the forest:

> Before [2005], the [Forest Service] had no interest in taking care of the forest. It took [on that] role and excluded the communities living near the forest . . . Because people kept destroying the forest, [the Forest Service] came to realize that they had left out an important stakeholder . . . So, because of that realization, the government developed the Forest Act of 2005 [to] involve the community. (Highland Site 1, I1)

The CFA members were less concerned, however, with the Kenya Forest Service than with the elected officials who represent their area in the county and national government. All the CFA members mentioned at some point how elected officials are willing to ignore deforestation and protect their constituents living in the forest to keep their votes:

> It isn't that they [our representatives] forget [about the forest laws]. They feign ignorance, but they are fully aware. They pretend because of their interests. This area that our MP represents [is rich in] forest resources. He is in charge in terms of governance and he is fully aware that this forest is very useful for the people he represents. He fears saying that it is bad to destroy the forest because the people expect him to cover for them. But the Kenya Forest Service and CFAs have no such interest. The CFA doesn't care how people will react because we are supposed to be protecting the forest. When the community makes a mistake, we don't cover it up and we cannot pardon them. We have to punish that person. Those other people [our representatives] – they know the laws, but they bend the laws, they compromise. (Highland Site 1, I1)

By looking the other way, the CFA members believe that the elected officials are ignoring their role in enforcing the CFA's rules. As one CFA member describes, this is very frustrating

since they cannot enforce forest law without the cooperation of elected officials:

> I think the [county] government is very reluctant to take care of the forest. The administration doesn't use their power to take action against those who are encroaching. It's like these people are not motivated . . . The county government was adopted recently after the destruction had started. That responsibility of the county government is not yet clear . . . because of decentralization . . . Now, even though we have good intentions, we have no power . . . but we have managed. We have encouraged people to plant more trees, but the reluctancy from the government is still there. (Highland Site 1, I3)

At this point, a pattern of skepticism about others' interests can be observed. Community members believe that the foresters are too easily persuaded by their interest in personal gain to protect the forest consistently. CFA members, however, believe that elected officials are more interested in currying votes from constituents living on contested forest land to fairly enforce forest law. Now I turn to KFS officers who administrate CFA programs to understand their perspective.

Administrators' Perspectives. The county's administrative offices sit at a mid-land elevation between the highlands and plains in a small neighborhood of the capital named Bendera. Some of the offices are new, built of grey bricks and concrete, while others date back to the colonial era. The British colonial administration first established district offices in 1916 in the semi-arid desert at a Swahili trading post named Kacheliba. By 1930, the British had grown tired of the difficult conditions and decided to move their offices, homes, church, and hospital to Kapenguria, a region on West Pokot's southernmost border, which was arable, temperate, and closer to other white farmers (Dietz, 1987). The move would geographically separate both the colonists and the post-colonial administration from those they governed.

Now, West Pokot County's offices have been bustling with activity since the new constitution transferred power and some funding from the national government to the counties. Communities, called 'locations,' are led by chiefs, who are appointed and report to the county commissioner, who is also appointed and reports to the president. At the county level, citizens elect West Pokot County's governor and their 'ward' representative, called a member of county assembly (MCA). At the national level, they elect the president, a county senator, and a member of parliament (MP). The capital is also host to unelected CBNRM administrators who work in NGOs or in one of several government agencies such as the Kenya Forest Service, which manage the environment under the oversight of the county or national government.

The week after I had traveled to the two highland sites, I interviewed a representative of the Forest Service, Mr. Otieno, in his office in Kapenguria. The Forest Service office, unlike other government offices which lie on the main street that runs through town, lays at the bottom of a winding, bumpy road shrouded in towering trees. When we arrived, we sat quietly in the lobby for a half hour skimming annual reports laid on the coffee table before the secretary led us to an office. Mr. Otieno, dressed in a dark suit, ended a phone call, then rose to shake our hands. He shared that he was finishing his thesis to obtain a master's degree, so despite being quite busy, he wanted to make time to support my research too.

Mr. Otieno had spent his career working in Forest Service offices across Kenya, but he had only been working in West Pokot for six months. Mr. Otieno soon explained why he was so busy that day. There was an ongoing operation to arrest people found illegally harvesting cedar in the same area where we had been conducting interviews the week before:

> I have got a challenge with two tree species. As of now, the latest development: I got the information that there is a place – an encroached place – where people were

sawing the cedar, the Juniperus procera, so I organized, and we went after these people. I tried to confiscate them [the timber] until – it was a lot of it, and we could not carry all of it to this place . . . I got 100 pieces of both Hagenia [redwood] and Juniperus. That is approximately – those I managed to bring here – seven tons. The cedar posts were about 266 and we were forced to destroy the rest because I lack the resources. The lory I used to bring them here I had to request from the police . . . They [the people living in the forest] were operating their homes in the encroached areas. And of course, even if these trees were still at their home [on privately owned land], we could still arrest them because these are indigenous trees, which as of now, we still don't allow to be harvested. That is still a directive from the president . . . There is a court case, but still, they are encroaching further into the forest. So that one I drew to the attention of the County Security Committee, and we agreed that if we get the funds, then we are going to pluck them out! [Chuckles] (Government, I2)

Mr. Otieno's frank tone and his focus on enforcing forest law contrasted sharply against the narratives I heard in that same area the week before, especially to that of the chiefs. Not all the administrators explicitly described communities' actions as illegal, but they did convey their authority through a very subtle linguistic pattern, which I first noticed through the recurrence of the in vivo code "supposed to." Mr. Otieno and other administrators frequently used the subjunctive mood to describe laws, policies, and rules that groups should follow. The subjunctive is a verb form following clauses that "suggest, demand, insist, ask, request, and advise" (Zwier

2022).[2] Administrators often compared their subjunctive wishes with indicative statements about the groups' actual behaviors. Community members, however, rarely used subjunctive clauses, describing the groups as they are rather than what they should do.[3] While the indicative mood is used to describe fact or opinion, the subject of a subjunctive verb linguistically commands authority to both imagine an ideal and suggest or advise another to strive for that ideal. I have bolded subjunctive verbs in this passage that Mr. Otieno uses to describe CFAs:

> According to the law, the main stakeholder is the community forest association . . . Their constitution is saying that at least every three years they are supposed to do an election. So that is where we are now trying to stomp on that – that you did elections so many years ago, so we want you now to do elections. And you are supposed also to give us a report on what the law requires . . . According to the law, we are supposed to work with community forest associations. This is the organization which is supposed to bring all the communities surrounding the forest on board, and they are supposed to come – ideally – they are supposed to come from the area within five kilometers of the forest. However, we accept that they can draw people from different areas as long as they have interest in that forest . . . So, the community forest association is supposed to have community user groups . . .

[2] Contemporary English speakers rarely use the subjunctive tense, except when using archaic or fixed expressions that have survived from older English (i.e., so be it). English does, however, maintain a subjunctive mood or a "suggest subjunctive," indicated by subjunctive clauses (Zwier 2022). My personal knowledge of the subjunctive comes from studying French, Spanish, and Swahili, all of which required me to memorize the clauses that demand a subjunctive verb. In Swahili, the subjunctive mood is not only indicated by subjunctive clauses, but by a unique subjunctive tense, or verb ending in -e (Ngonyani 2013; Wilson 1970). For example, the present indicative phrase, "unaenda" [you go] becomes the subjunctive "uende" [you should/must go].

[3] I make this claim based on a sample of 22 interviews that I personally transcribed in English or translated and transcribed from Swahili to English. Half of those 22 interviews (n=11) were with administrators. This pattern is, however, consistent in the English translation of the Pokot interviews translated by Mr. Ting'aa from Pokot to English on site.

> If we are a group dealing with firewood, then we are supposed to form the firewood user group. When we are dealing with posts, we are supposed to form that user group . . . With beekeeping, you are supposed to have this beekeepers' association. (Government, I2)

While Mr. Otieno suggests ideals, communities might resist. He explained that it had been difficult to build a rapport with highland communities and the CFAs there because he is from another region and thus seen as an outsider by the communities:

> My hands are tied. This is an institution having its own constitution and we have a constitutional link, so I am not supposed to go beyond that. If I force them, then it will mean that I micro-manage them and they can start complaining about me . . . Because the leadership had collapsed, I had been sending my foresters to go now and at least recover and convince the officials because it is them who is still holding the mantle . . . But if you push so hard, they will start demonstrating against you . . . Especially, like me, I am coming from a different community, so they will start saying that "You have come to force us to do what we don't want to do." At that time, it now becomes political and not work-related. (Government, I2)

In the first passage, Mr. Otieno described how he had confiscated timber that he determined was harvested illegally because it was both in a national forest outside of the CFA's control and because it was the wood of indigenous trees that are protected by the president's directive. While he can openly claim and act on his authority in national forests, Forest Service officers cannot make decisions about public forests that are under the control of a CFA that has signed an agreement to manage the forest. Yet, it is important to note that while Mr. Otieno does not directly control public forests, he still exercises his authority to advise CFAs. He realizes, however, that he

must exert this influence subtly and indirectly. A direct display would be perceived as him forcing others to do what they do not want to do or exerting his political interests.

The term “interests,” however, is noticeably absent from Mr. Otieno’s lexicon in comparison to the community interviews. Indeed, rather than critically assessing whether the Forest Service’s policies serve communities’ interests, he both assumes that the CFAs’ inactivity is a result of members’ laziness and suggests that he will try to use his position of authority to influence the CFA’s election:

> It is unfortunate that these organizations, because of dynamics or what, it is very difficult for the groups to sustain themselves for long . . . We have those [CFA scouts] who come to inform the officials. According to me, those people would be called laggards, the community gatekeepers. These are just people who want to be seen. They are the spokespeople of the community. But when, now, you ask them to do what is needed, when you call the conference, the meetings, they come in large numbers, they are very active. But when they go back with these notebooks, it is put [down] and forgotten. So that is the challenge we are dealing with in the community forest associations. So here, we are having the [redacted] Community Forest Association, but it is not properly functioning . . . These people, they come with very good, sweet words, but implementation is very difficult. And you know, when you are dealing with the elected leaders, because they are supposed to be elected, you cannot just, nini, put off whatever you are bringing is rubbish . . . We are hoping that this new financial year, we are going to bring them on board. But me, particularly, I will identify and possibly influence the leadership to choose the right person. Possibly. (Government, I2)

The CFA is meant to imbue the community with the authority to make decisions about their community forest. Yet, the Kenyan government only grants this permission on the terms set in forest law and carefully crafted CFA agreements. Mr. Otieno, whether from "the law" or his "experience," has standards and ideals that he believes the groups should implement. He does not treat these beliefs as his personal opinion (statements made about CFAs in the indicative mood) but leverages his position of authority in the state to impose those ideals on others (statements made about CFAs in the subjunctive mood). Indeed, Mr. Otieno never acknowledges how a CFA might serve a community's interests. Still, interviews with community and CFA members suggest that he and other environmental administrators are also pursuing their own interests in CBNRM by building relationships with the communities they govern. Mr. Otieno describes how he cannot push communities too hard, lest they realize his intention to influence them. It is not in his interest that communities notice, report, and resist his interference, yet he also must execute forest law. Thus, Mr. Otieno works to influence communities near the forest through subtle guidance of the CFA rather than in overt displays of power that openly override community members' desires.

Hoping for Boreholes in the Plains. After spending one week in the highlands, I awoke the next Monday and, instead of putting on last week's layers of knits, fleece, and waterproof boots, donned a light cotton shirt, a knee-length skirt, sandals, and a sunhat. I climbed into the Hilux, and we drove east, passing the turnoff to the highlands, and rejoined the Moruny River curving north towards the plains. On a paved route worn by lories, we passed men panning for gold, a cement factory, plots of maize, dozens of schools, and roadside kiosks selling ripe mangos and papaya. Sparkling beige cliffs and thorny shrubs rose around us as we descended into Marich Pass. The car brakes would feel no relief until we had descended from 6,300 feet in Kapenguria to our destination at 3,000 feet: a village in the plains that sits beneath the towering hills of

Cherangani National Forest. Following the ribbon of the Moruny, I could see a path across the river that was just wide enough to fit one cart and a pair of oxen. We were traveling the same route that the British colonizers first forced so many Pokot men to build so that they could expand their rule from the white highlands into Kenya's northern deserts.

At last, the mountains broke apart to reveal a panorama of vast plains covered in thick brush, shrubs, and short trees, sloping gently downwards. The plains contrasted sharply against the looming mountains of Cherangani Hills, which sat shrouded in clouds 8,000 feet above us. We turned off the tarmac onto the sandy road that spans the base of the escarpment, forging rivers and streams that had plunged down steep runs and falls on their journey to Lake Turkana in the north. The air was dry and thick with dust. Men sat chatting and napping in small groups near riverbeds. Young men and boys strolled behind herds of grazing goats, zebu cows, and camels. Women and girls ported firewood, jerrycans of water, bags, and babies on their heads and backs. After an hour, we turned off the sandy route onto a path overgrown with shrubs and trees. I yanked my arms back into the car and rolled up my window as thorny branches scraped the sides of the car. For twenty minutes, we bumped along until we arrived at the next village (Fieldnotes, 7/3/18).

A Chief's Perspective. The chief, Mr. Lokaman, welcomed us into his home for an interview. We greeted his wife and mother sitting in the yard, then went into their sitting room, warm under the tin roof. His daughter, home on break from university, served us hot chai in metal mugs. Flies perched on our arms and foreheads and goats bleated outdoors. Mr. Lokaman told us how he had served his community for nearly two decades as chief and how his father also served as chief for four years during the colonial era. He explained that he sees his role both as a leader, as well as a teacher and role model because community members "are really examining how you live, if you are a good person, or if you are a person who says things without thinking, if you do

good work" (Plains Site 1, I4). He, like Mr. Lokal in the highlands, believed that the community's trust is earned: "Other chiefs, even if they try to get people to listen with a loud voice, they won't listen if the chief doesn't have good morals." His experience in the position meant he had witnessed changes in the community since and county government since Kenya's decentralization:

> People around here really have faith in me, but things are changing. People have begun to believe more in politicians. Once someone with the power of money comes here, they begin to ignore us a bit . . . So, they really listen to those with money, but we [chiefs] really don't have money. I don't have anything. I'm getting a salary of 30,000 [300 USD] every month. It's a very small amount . . . If you have a politician like an area MCA, they get more like 200,000 or 300,000 [2,000 or 3,000 USD] per month. Eh! That is so much money . . . People really have faith in politics. Like a man can [be educated] and start his own business, but his salary will be very small. But then someone who has only gone to class 7, 4, 5, can become a politician, chosen as an MCA, and the salary he gets is so large. It is really a problem here in Kenya. (Plains Site 1, I4)

Mr. Lokaman shared that the community "depend[s] on their leaders, like politicians" to provide water for them. They believe that MPs and MCAs can procure water for a community:

> The MCAs are the people who make laws in the county. [Whether an MCA will be able to bring a borehole] depends on which MCA is sharpest. If they ask and ask, insisting that their area is behind, they can ask for boreholes, or even food aid or a dispensary. They can do this, MCAs, all on their own. This borehole in our area came in 2015. Our area's MCA has not gone to school, but he has done many things, and he has helped a lot. In fact, the school [here] was built through his ability to

> request money. (Plains Site 1, I4)

While this model of governance worked to bring water to his community, Mr. Lokaman explained that politicians do not typically collaborate on such projects:

> A Pokot politician, they cannot help [another politician] who starts something like this borehole. The governor cannot come and upgrade it with solar. He sees the hands of another person. It is he [the other politician] who has brought this thing, so he cannot come to put his own hands. He only wants to begin something new, new, new. (Plains Site 1, I4)

This is because politicians use these boreholes as a means of gaining a community's votes. The community now has "faith in" the politician who brought their borehole: "They ask that . . . he will help them. [That politician] received votes from people here. Nearly everyone voted [for him]. They are really his people" (Plains Site 1, I4). So, just like constituents living on national forest reserves depend on elected officials for protection in the highlands, here they are expected to advocate for and fund wells and other community-identified development projects in the plains.

Mr. Lokaman was one of the borehole committee members in his community. He shared how he tries to encourage the other members to continue to serve by compensating them with a little extra food relief when it comes throughout the year:

> The committee tries to engage the community on matters concerning the well, but there is no individual benefit – like you go do a task and then you are paid wages. So, because there is no pay, they ignore committee members' call to come and do work around the borehole . . . One incentive that I use . . . when I'm given food relief for my villages, I consider those committee members first . . . I give them two bags of maize or rice. (Plains Site 1, I4)

Community and Committee Members' Perspectives. Community members at both sites largely agreed with Mr. Lokaman's account. Ko. Kriwoi, an elderly woman, believed that the government should bring new water infrastructure to the community: "We don't have the technology or knowledge to get water from the ground . . . This is a foreign thing. We have never seen it, and since the government knows much, it is their responsibility to bring [wells]" (Plains Site 2, I5). Kama Mnangat, a woman in the same community, agreed with Ko. Kriwoi that, "It should be the government's responsibility to bring us water." She added that although elected officials "are not doing the work they should be . . . we cannot do much. Whenever there is a public meeting, our elders go and pressure the government to bring us water" (Plains Site 2, I6). Losili, their neighbor, explains why this has been so difficult:

> Normally before we vote, we ask them [the person who comes here to campaign] to come provide water. They accept when they are soliciting for votes, but once they are elected in, they disappear. That has been the trend . . . There is no good formula for pressuring them. People say, "Let us wait until they come." We've never thought of going to the government offices. (Plains Site 2, I8)

Borehole committee members shared the same ideas with other community members. Kama Kibet shared her perspective as a chairwoman on the borehole committee at the first site:

> I am of the opinion that if the well is upgraded and we pipe the water to the homes, it is going to be more useful because people can plant trees and their gardens . . . There is no proper planning for that, but we are hopeful that somebody will come and put that for us . . . We have less understanding about [how to raise funds]. What we only do is hope . . . People here tend to be uninformed. That makes us to be less involved in making decisions, so our decisions are limited. But I admit, there are

people making higher decisions [about our borehole] than we [the committee] can make . . . Like the administration, the chiefs – they have more power. (Plains Site 1, I2)

In both communities in the plains, men and women from various financial and educational backgrounds agreed that local development projects, and subsequently their access to clean water, food assistance, and healthcare, depended on the goodwill, or political interests, of the politicians elected to serve their community, including their governor, senator, MP, and MCA.

Administrators' Perspectives. When I interviewed government workers about water management, they shared community members' belief that it is the county's responsibility to ensure rural communities' access to water services. While the 2016 Water Act makes commercial providers the primary means of expanding water access, it is rare to find such a scheme in West Pokot. Aquifers are extremely deep, have low yield, high mineral content that clogs borehole pipes, and unpredictable issues with salinity that make infrastructure and treatment cost prohibitive.

Like Mr. Otieno, the forest service officer featured in the last section, Mr. Nyaberi was a highly educated man from another ethnic group and had spent his career working in other county offices of Kenya's Water Resource Authority. He had recently been assigned to the West Pokot branch of Water Resource Authority. Mr. Nyaberi shared, "I even told my boss, actually, I didn't want to come here . . . You know, outside there, they see, eh, the Pokots are always fighting . . . Some were saying this place is dangerous." He then added, however, "It's different. I've gone to the field. I've met even Pokots themselves. They are *very* friendly. Very friendly . . . I even told my boss, "I wish you had posted me here earlier!"" Mr. Nyaberi compared West Pokot's wells to those in Nakuru, another county where he had worked:

In Nakuru town, they get most of the water from boreholes because they have got

> boreholes which pump even over 100 cubic meters per hour. But here if you get, let's say five cubic meters per hour, that's a very high yield. In Nakuru, if you only get five cubic meters per hour, they will usually abandon it. There is no need of pumping if it will bring up this little. But here if you get five cubic meters per hour, it's a lot of water. (Government, I1)

Water service providers are not only stymied by the expense of the projects, but by outsiders' common belief that the Pokot people living in the plains do not value clean water because they are accustomed to drinking brown, contaminated water. Having spoken to community members about what it was like before the boreholes were installed, however, this is certainly not their experience. Ko. Poriot, an older woman who had drunk river water all her life until the borehole was drilled, said for example, "We had many cases of amoebiasis, typhoid, brucellosis, cholera, so there are many diseases from dirty water." (Plains Site 2, I7). Still, this being his first year in West Pokot, Mr. Nyaberi shared his observations:

> I think that for some, [treating water] is expensive . . . I have seen even sometimes people taking brown water during the dry season. They don't care. They say that there is no alternative. I have seen them carrying it! . . . Maybe they have become immune. That's what I'm suspecting. (Government, I1)

Thus, although the communities hope the government will provide them with access to clean water, it is unlikely that the Water Act's plan to work though service providers is feasible in West Pokot's semi-arid regions. Section 94 of Kenya's Water Act of 2016 addresses this situation:

> Every county government shall put in place measures for the provision of water services to rural areas which are considered not to be commercially viable for the provision of water services. The measures . . . shall include the development of

point sources, small scale piped systems and stand pipes which meet the standards set by the Regulatory Board and which may be managed by the community associations, public benefits organizations or a private person under a contract with the county government. (pp. 1072–1073)

From interviews with administrators in 2018, it was clear that funding for these projects could not come directly from the county's Ministry of Water, but through the members of county assembly (MCAs) who are elected by ward constituents. Mr. Merimuk, an environmental engineer working for the county's Ministry of Water, was a Pokot man raised in the county but educated abroad. It was his job to drill boreholes wherever MCAs requested them. He explained how MCAs decide where to drill boreholes:

> We have twenty wards in the county. They do community participation on the ground. They identify what the major problems are . . . So maybe for Community A, they say, "Our priority is water, and we want a borehole." Then, for Community C, the same thing . . . But now, when it comes to the budget, these two communities are in the same ward. So maybe the MCAs now, they have funding like 3 million [$30,000] per ward for water [from the Ministry of Water] . . . At the end of the day, we tell the MCAs to bring us the list from public participation.
>
> But the bigger problem now is that we are [drilling] boreholes, but many are not operational . . . And why? Because the Ministry [budgets for] 1.2 million [$12,000] per borehole, but this will only drill the borehole, not equip it [with a pump]. Equipping it with either a handpump or solar . . . is another 1.8 million [$18,000]. [But] on the ground level, they are saying, "No, let us drill [the borehole] this year and next year we will equip it [with a pump]." So, they give you 1.2 million

> [to] drill the borehole. Once I drill it, I just have to cap it. I can't do anything until you give me the money now to go back and put a system. So, we have a number of boreholes that have been drilled, but we haven't done anything with! . . . It doesn't make sense! . . . We are telling them, "Why should you?" But the community tells the politician, "You drilled a borehole for [that village]! Let everyone be at the same level. It is better for us that we have the borehole dug than give another village the money." So those are the kinds of politicians that we are having a problem with. (Government, I3)

So, according to Mr. Merimuk, the county's main water funding comes through MCAs who tell the Ministry of Water where to drill boreholes based on the MCA's assessment of communities' needs. Not only do they choose the area or village where the borehole must be drilled, but they are able to control the timing and equipment that is installed. Mr. Merimuk added that this often means that MCAs focus on drilling new boreholes without budgeting for repairs:

> Currently, we are at 37.2% of West Pokot accessing clean water. We want to move that percent to at least 60 in the next five years . . . but the thing that will hit us back is the management issue . . . If we don't think about the management issue [soon], it is going to be very expensive because no one wants to pay for water. So, you can imagine now when you will be using half of your budget to repair the boreholes. It is a big thing. It will be a very big problem to repair more than 200 boreholes where people are not paying for water, and no one is ready to pay for water. (Government, I3)

While the Ministry of Water could help the politicians to think strategically about the water infrastructure in their constituency, politicians have a vested interest in maintaining control over

this process. Mr. Merimuk added, “We need a lot of support from the politicians because it is political to tell people [to plan to manage a borehole]. If the politicians are not supporting it, our hands are tied” (Government, I3).

Remember how, when describing his ability to influence CFAs, Mr. Otieno used the same phrase as Mr. Merimuk: “My hands are tied.” Both men expressed the same idea that, despite having the technical capacity to help a community access water or sustain a forest, they cannot control how CBNRM groups (in Mr. Otieno’s case) or elected officials (in Mr. Merimuk’s case) will respond. The Forest Service is limited by forest laws that dictate how much they can intervene in CFAs. Likewise, Mr. Merimuk feels that he is limited by the MCAs’ interest in satisfying the communities that they represent. In both cases, the men acknowledge that their technical knowledge and authority is challenged by others’ political interests.

Discussion

In the beginning of this chapter, I introduced a question from an administrator who lamented that CBNRM groups are often not sustainable because communities do not want to support them after administrators and NGOs have set them up. To understand why communities let some programs fail, he suggests one ask, “[O]f the people who are involved: What are their interests?” (Government, I4). Mainstream CBNRM discourse promotes the idea that the primary people involved – community members – have a strong interest in making CBNRM groups work because they gain access and control over local common pool resources through them (Blaikie 2006). Yet many scholars argue that the policy does not serve communities’ interests, but those of governing elites (Mutune and Lund 2016; Saunders 2014). Addressing this debate, I ask: How does CBNRM display and obscure political interests? In this section, I first discuss how communities and administrators perceive their interests, or the costs and benefits of CBNRM.

Next, I discuss how some interests are displayed in CBNRM discourse while others are obscured.

Interests in CBNRM. The logic that CFAs and borehole management groups benefit all stakeholders is central to the perpetuation of CBNRM policy both in West Pokot County and the global south at large (Kenya Forest Service 2015; Kenya Water Towers Agency 2016). In both types, however, most community members concluded that the benefits of joining or maintaining the group could not compensate for the costs of participating. Surprisingly though, the groups' limited material and value-based benefits seemed less problematic to the CBNRM group members than the challenges posed by the interference that resulted from politicians' political interests.

Interests in Community Forest Associations. In the highlands, Kenya Forest Service and Nature Kenya had worked with communities, performing what communities and government alike called "community participation," or a series of stakeholder meetings to develop the CFA, write bylaws, and draft an ecosystem management plan. According to the Forest Service, the primary benefit of joining a CFA is supposed to be members' ability to legally harvest forest goods and sell them through a legitimate forestry agribusiness market. When CFA members shared why they had initially joined the group, however, not one member cited the ability to legally harvest as a reason for getting involved. The group's main benefit – access to funding from Nature Kenya, the NGO which had helped to start the group – had been part of the reason why some members had joined, but when the NGO's project was completed, the CFA became inactive. Thus, the material benefits of joining a group seemed to be important in this respect.

Mr. Otieno described the CFA members as "laggards" [lazy] because they had allowed the CFA to go dormant (Government, I3). The members, however, had a different version of the story, saying, "Even though we have good intentions, we have no power." Despite the group's work, they saw that most community members were uninterested in joining or cooperating since "the

people expect [elected officials] to cover them," or allow them to continue living in, accessing, and/or harvesting forest resources illegally (Highland Site 1, I1). Likewise, the communities and groups observed that their elected officials were "reluctant to take care of the forest" (Highland Site 1, I2). The group had slowly stopped meeting not because they were lazy, as Mr. Otieno suggested, nor simply because they no longer had external funding, as the community members suggested, but because they made the practical, logical decision to not sacrifice their time and personal funds to work towards a goal that would be stymied by their elected officials. In this way, the political interests of governing elites also had a significant impact on how participants assessed whether it was worth it to continue maintaining the group. Participants seemed willing to sacrifice time and resources to attend meetings, but not when the group's power was limited by others.

Likewise, the community members who the Forest Service perceives as illegal squatters "encroaching" on a government forest reserve see themselves as the legitimate owners of land that was deeded to them in the 1990s. The small contingent of community members who look to their elected officials to protect their land rights do so because they stand to lose their homes if the contested land that they live on is officially made a forest reserve. Despite this being a relatively small group living in the forest, this conflict has so permeated the community's discourse that just using the word "forest" to describe the local environment implies that the speaker agrees that the local land is a forest reserve. Thus, the community "neglect[s] the CFA because they believe it is encouraging the foresters" (Highland Site 2, I). For community members who can do nothing but wait for this case to be settled in the courts, refusing to join the CFA is a way to resist Kenya Forest Service by refusing to legitimate the idea that their local context is a "forest" reserve. Thus, the small group of community members living on contested lands had a high material interest in not joining the CFA. Those living outside the forest, however, resisted joining both out of a community

norm that opposes the Forest Service's interference and out of mistrust of the Forest Service, both of which affirm Ostrom's assertion that shared norms and trust are critical to effective common pool resource institutions like CFAs (Ostrom 1990, 2009).

The Kenya Forest Service, however, stands to benefit most from CFAs. The national agency's common practice of posting employees to work outside their home counties is meant to keep foresters from allowing illegal harvesting in exchange for gifts. Because most foresters are outsiders though, CFAs act as a critical diplomatic link to the communities. Moreover, by delegating the management of specific forests to CFAs, the Forest Service reduces the number of people and the amount of fuel necessary to patrol forest reserves.

Interests in Borehole Committees. While the CFA members at least had the opportunity to access Nature Kenya's funding, borehole committees offer no individual material benefits. The community selects a few people to serve on the committee for the collective good of all those who use it, and it is indeed service work. Members must sacrifice their own time to clean the borehole, organize schedules to regulate when people fetch water, and collect money if the borehole breaks. None of these acts yields individual benefits; rather the benefits of their personal sacrifice will be shared among all those who use the well. Affirming that this was true, one chief shared that he tries to appreciate the committees' work by at least giving members an extra bag of maize or rice when the village receives food relief during times of drought. This one intermittent benefit was the only exclusive benefit that I heard of.

Still, the few community members were willing to be on the committee if it will prolong the borehole's useful life. Yet, the borehole committees believed that "there are people making higher decisions [about our borehole] than we can make . . . Like the administration, the chiefs – they have more power" (Plains Site 1, I2). Despite their position on the committee and their hopes

and good intentions to upgrade the borehole with a solar pump and piped water, they felt unequipped to do work beyond the basic responsibilities.

This arrangement appears to demand much from committee members, but almost no personal benefits that they would not experience if they were not a community member. The committees' sacrifices yield neither personal benefits, nor power to influence upstream water extraction, nor a say in the county's water budget, nor recognition of the essential work they do to maintain the county's water infrastructure. Rather, the committee members who do participate do so because of shared norms of cooperation among members and trust in the chief who helps lead the group. This largely agrees with Ostrom's findings on the reasons why communities are, despite the challenges and personal sacrifices involved, willing to cooperate to maintain a common pool resource together (Ostrom 1990, 1998a, 2009)

Community and committee members shared a common belief that borehole committees cannot solve communities' water access issues due to the challenges posed by county politics. In the highlands, politicians were interfering with the CFA's ability to teach and enforce forest law to communities by enabling the communities to ignore forest law. In the plains though, constituents complained that politicians agree to bring water to the community "when they are soliciting for votes, but once they are elected in, they disappear." At that point, the communities have "no good formula for pressuring them" to improve local water infrastructure (Plains Site 2, I8). Thus, communities agreed that elected officials' neglect significantly limits the committees' power to improve local water resources.

While communities were eager to blame the Forest Service for the CFA's failings in the highlands, no one I interviewed in the plains ascribed this failing to the Ministry of Water or Water Resource Authority. This is likely because community members in the plains felt that they knew

very little about the government aside from their connections to local representatives like MCAs. The accounts of administrators in those water offices corroborated communities' perspectives, as they too wanted to improve water services in the county but said their "hands are tied" because of the elected officials' control over water infrastructure plans in their wards.

Politics of Interests. In the literature review, I highlighted three complementary definitions of interests: material, value-based, and political. I say that these are complementary because a one-sided view of interests can have deleterious effects. Hardin's (1968) prediction that "ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons" triggered a wave of privatization and coercive policies that had dire implications for indigenous communities in the global south who relied on open access to local natural resources for their sustenance and livelihoods (Duffy 2016). Ostrom (1990, 1998, 2000) dedicated her career to countering this argument, portraying communities not as Hardin imagines them – self-interested herdsmen single-mindedly interested in overgrazing their own flock on an open pasture – but as groups capable of cooperating to sustain the commons through norms of trust and reciprocity rooted in value-based interests.

While my findings support the argument that groups are motivated by both value-based and material interests, I argue that any analysis of CBNRM would be incomplete without considering political interests. This research largely agrees with Nelson and Agrawal (2008), who used high-level case studies to introduce the idea of patronage interests, or governing elites' incentive to retain control over a valuable natural resource both so that they can continue to materially profit from renting the resource to others and maintain the loyalty of those who rely on them to access the resource (Nelson and Agrawal 2008). Beginning from a grounded theory analysis, this research was neither designed nor analyzed with this concept in mind. After finding

the persistent theme of governing elites' interests and turning to literature, however, I found this theme perfectly aligned with this concept of patronage interests. Thus, the findings offer a particular example of how elected officials' patronage interests can disrupt CBNRM groups' work at the community level, reducing the groups' ability to control their local natural resource and, in turn, their willingness to contribute to the group's collective goals.

While few scholars parse the effect of patronage interests specifically on CBNRM, several have argued that local elites do disrupt and stymie CBNRM by determining the purpose of the group or coopting its benefits (Adams et al. 2018; Adeyanju et al. 2021; Chomba et al. 2015). Thus, this project contributes to this larger body of work that prioritizes the study of political interests in natural resource management (Robbins 2012; Walker 2007). Political interests are not important because they are exclusive of material or value-based interests; rather, the study of political interests considers how some individuals leverage their positions of power to pursue their own interests to the detriment of others. This is especially important when considering whose interests are displayed and obscured through CNBRM.

Displayed and Obscured Interests. While the first part of this discussion section asks what interests all the participants have in CBNRM, this section asks how some groups' interests become the normative logic that frames and advocates for CBNRM while others' interests are obscured. On a global scale, CBNRM policy itself is increasingly on display in international organizations' policy papers, states' laws, and the programs that NGOs sponsor. In several theoretical papers and high-level case studies, scholars have argued that this is because neoliberal capitalism in the global south promotes the logic of offloading the responsibility for managing common pool resources to communities so that natural resource agencies can lower the costs of environmental management (Brosius et al. 1998; Dressler et al. 2010; Leach et al. 1999; Nelson

and Agrawal 2008). Yet, there is little empirical evidence to explain how this process happens.

While CBNRM group members, chiefs, and administrators all offered unique logical explanations for why one should or should not support CBNRM groups, administrators' explanations stood apart in one respect; they explain CBNRM groups not just as they are, but in terms of how they are "supposed to" be. The administrators frequently described CBNRM in the subjunctive mood, which is used to describe, insist, advise, and demand, far more than community members. Administrators most commonly spoke in the subjunctive when comparing how a CFA or borehole committee is supposed to work in theory against how the policy actually plays out in communities.

This linguistic variation is slight, but I argue that it is one of the observable ways that administrators make their own interests – their imagined and idealized view of CBNRM – into normative interests that represent and obscure those of the communities. The administrators freely suggested that communities change their behavior to align with policy. Some critiqued CBNRM policies, but they rarely made statements suggesting that the government should change its rules. It is through this subtle linguistic choice that one can observe how the state's logic of CBNRM – the idea that it should be in a community's best interests to sustain local common pool resources through a CBNRM group – is imposed from the top (the state's laws) down to the bottom (communities). Communities, in comparison, almost always spoke in the indicative tense to convey facts and their personal opinions on CBNRM. Communities often challenged the government's approach to governing their boreholes or forests, but this rhetoric largely stayed within the community.

This finding provides an example of how discourse, or society's means of conveying and practicing power through diffuse acts, shapes our perception of what is normal (Foucault 1975,

1978). The logic of CBNRM can be wielded by administrators to construct ideal community behavior and characterize communities' behaviors as deviant. In the case of CFAs, the Forest Service then uses that deviance as justification for interfering in the CFA. In the case of borehole committees, that deviance – particularly the idea that communities are "immune" to dirty water – can justify administrators' neglect of a community's right to adequate water service.

Conclusion

This study affirms the findings of the small number of empirical studies that seek to understand how the theory of CBNRM differs in practical implementation (Adams et al. 2018; Adeyanju et al. 2021; Dekker et al. 2020; Heffernan 2022). There are very few studies, however, that intentionally sample community members, CBNRM group members, and administrators. Most conduct interviews mainly or exclusively with government officers on the grounds that they are "key informants" about CBNRM. I argue, however, that the political interests that shape discourse surrounding CBNRM require a feminist epistemology and methodology, which asks the researcher to carefully sample a wide range of perspectives, but to center the perspectives of the marginalized (Harding 1987, 1993). Indeed, if researchers do not mean to obscure communities' perspectives, we must be intentional about sampling, critical of our assumptions about who is a "key informant," and carefully consider if and how communities' perspectives are displayed in our research. If we align our work with only one set of elite voices, we run the risk of obscuring the opinions of the community members who we are trying to better

understand. This confirms the idea that one must remain critical of whether policies that claim to be "bottom-up" are truly in the interests of those the policies are said to serve (Cleaver 2001; White 1996). Thus, it is critical to consider how both our assumptions and how participants' political interests can limit the perspectives represented in research so that we can have a fuller, more

complete understanding of why CBNRM does and does not work.

I have used a grounded theory approach both to analyze the data as well as to develop the research question before situating my findings in literature. Thus, the critiques of literature are not necessarily mine, but the critiques of the participants who shared their perspectives on CBNMR with me. I find that while CBNRM stakeholders are certainly motivated by material and value-based interests. This largely agrees with those who study the role of institutions in common pool resource management. Yet, I also find that elites' political interests can override and alter the goals of CBNRM programs and stymie CBNRM groups' power to make meaningful decisions about their local common pool resources. While some research considers how the role of local and regional elites can disrupt CBNRM, my findings specifically show how elected officials' patronage interests – a type of political interests – are disrupting CBNRM groups' effectiveness in West Pokot County. I suggest that future research consider whether and how patronage interests affect CBNRM groups in other contexts.

More generally, these findings agree with the critique that communities are not heterogenous, but microcosms of the diverse positionalities and experiences that characterize broader society (Blaikie 2006; Meinzen-Dick et al. 2014). This study shows, however, that while "communities' interests" have become the centerpiece of research on common pool resource management, those are not always the interests on display in CBNRM discourse. In research, particularly, the conflation of elite administrators' opinions with those of communities has the potential to obscure communities' dissent of policies that elite administrators imagine should work but are sometimes impractical or even untenable. This finding broadly suggests that research on any policy that is "supposed to" be in the interests of communities, especially the interests of marginalized groups, demands attention to the epistemology and methodology that inform a

researchers' decisions about who to interview and how to present multiple, competing perspectives. Most importantly, one must remain critical of any discourse that portrays a program as "bottom-up," critically assessing whether a policy is truly created by and for the benefit of marginalized or less represented communities.

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CHAPTER 5: EMPOWERMENT IN CBNRM PROGRAMS

Introduction

It was a chilly day in the Kenyan highlands when I interviewed Chepo Chepos[1], a middle-aged farmer, on her way home from the market. We were speaking in Swahili when I asked her how she became one of the leaders of her community forest association (CFA). She had joined the CFA when it started around 2012 and was elected by the community as one of the group's leaders. It is unusual for women to be leaders in this rural region of western Kenya, so she continued, "The government said that there is a thing called 'gender' [English word]. So, 'gender' must be there. Men and their wives separately – that is not a group, and it will not continue."[2]

CFAs and other groups like borehole committees have become an increasingly common method of environmental governance in the global south, aligning with a trend called community-based natural resource management (CBNRM). CBNRM is intended not only to involve communities in sustaining local, publicly accessible natural resources, but to empower women and marginalized communities, which is why women like Chepo Chepos are often invited into leadership positions in CBNRM groups (Government of Kenya 2023; United Nations 2017). Yet, research on women's participation in these groups finds that their leadership titles do not usually lead to shared control over the groups' resources, decisions, and outcomes (Adams, Juran, and Ajibade 2018; Agarwal 2001; Meinzen-Dick and Zwarteveen 1998). Several studies compare CBNRM's policies against how the policy is actually practiced and are critical of the policy's

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[1] Pseudonyms are used for all participants for confidentiality. The Pokot pseudonyms have been selected to align with the individual's gender and stage of life. Proper addresses, such as Kama [Mother of], Ko. [Grandmother/Elder], Madam (for female teachers), and Pastor are used as applicable. Pseudonyms with English, Biblical origin are given to pastors and teachers, who introduced themselves by such names.

[2] Untranslated phrase spoken in a Pokot dialect of Swahili: "*Serikali inasema kwamba kuna kitu inaitwa 'gender.' Lazima 'gender' ikuwe. Wake na wanaume pekee yao - hiyo sio kikundi na haitaendelea*."

claims to empowering marginalized communities, as they find that most governments do not actually devolve sufficient land rights to communities for them to increase their control over local natural resources (Dekker, Arts, and Turnhout 2020; Heffernan 2022; Nelson and Agrawal 2008; Saunders 2014). Very few studies, however, investigate how equitable the empowerment process is within groups (Adams et al. 2018; Chomba et al. 2015), and almost none critically engage with theories of empowerment to question the substance of CBNRM's claims to empowerment.

In this chapter, I begin by describing the contested meaning of empowerment, why CBNRM policy is assumed to be empowering, and the current state of the debate over whether CBNRM is truly a means of empowerment or, alternatively, a form of subtle government control. I then investigate how the relationship between CBNRM programs and empowerment for women and marginalized communities. I analyze interviews with diverse stakeholders in two types of CBNRM programs – CFAs and borehole committees – in West Pokot County, Kenya. I compare participants' experiences with CBNRM by key attributes of their intersectional identities. Based on this analysis, I find that the NGOs and government agencies that train CBNRM group members give them access to limited and tailored knowledge, skills, and resources that neither enable them to make strategic choices among viable alternatives, nor to critically challenge the systems of power that limit their free choice and wellbeing. Yet, both outcomes are considered essential per a feminist definition of empowerment. These findings are true for both men and women in the four marginalized communities where I collected interviews, but the consequences are felt more keenly by women.

Literature Review

CBNRM is a policy trend that promotes the decentralization of natural resource management from national offices to smaller units like counties and municipalities based on the

assumption that those living near the resource will be more motivated to manage it sustainably, efficiently, and equitably (Blaikie 2006). The policy began to take root in the 1990s as it found synergy with several trends in international development, including three popular ideals. First, the policy was regarded as an 'austerity' measure since it allowed governments to cut expenditures by reducing the number of paid government officers required to manage national forests, parks, and watersheds and offloading their work to communities (Dressler et al. 2010). Second, CBNRM was seen as 'participatory' because it involved communities in managing local natural resources (White 1996). Third, the policy was described as 'empowering' because the policy is intended to decentralize control over natural resources from the central state to communities (Blaikie 2006; Dressler et al. 2010).

Because CBNRM could be described as promoting the goals of financial austerity, community participation, and empowerment while also promoting the central goal of CBNRM – environmental sustainability – the policy was adopted into the discourse and programs of international financial institutions, states, and NGOs. Now, although it takes many forms, the policy is nearly ubiquitous across states in the global south (Cox, Arnold, and Villamayor-Tomás 2010). Yet scholars question whether CBNRM can be described as 'empowering' (Chomba et al. 2015; Heffernan 2022). In this section, I first explore the contrast between how scholars define 'empowerment' and how the term is more loosely applied in development discourse. I then discuss the alternative argument that CBNRM is not 'empowering,' but a means of developing 'environmental subjectivity' through 'governmentality' to control populations in the global south.

Empowerment. 'Empowerment' is a term that has been used so frequently and loosely in international development that its meaning and the boundaries between what is 'empowering' and what is not can seem unclear (Cornwall 2007, 2016; Rowlands 1997). The term has been sharply

contested by feminist scholars, who specifically study 'women's empowerment,' or the process of recognizing and challenging patriarchal structures to achieve greater equality between men and women (Batliwala 2007; Cornwall 2016; Kabeer 1999). The most widely accepted definition of 'empowerment,' though, describes it a process of building power, or the ability to make strategic life choices from among viable alternatives (Kabeer 1999).

Feminist Empowerment. With roots in Freirean philosophy and the western feminist movement, empowerment was first defined as the process of consciousness raising among the marginalized to perceive their subordination as unjust along with collective action to dismantle systems of subordination (Batliwala 1994; Cleaver 2001; Freire 1973; Kabeer 1999; Rowlands 1997; White 1996). For the sake of clarity in this chapter, I refer to this as a feminist definition of empowerment. This process of empowerment is intended to liberate the marginalized by expanding their 'power within,' or ability to ask critical questions about an unequal status quo, challenging their position in society by building collective 'power with' others (Batliwala 1994; Freire 1973; Rowlands 1997). Feminist empowerment neither requires nor implies a specific outcome; the process of consciousness raising is regarded as a worthy end in itself regardless of the unexpected outcomes it produces (Batliwala 1994, 2007; Malhotra and Schuler 2005; Mason 2005; Oxaal and Baden 1997; Rowlands 1997).

Development-Centered Empowerment. As feminists shared this idea in development circles, however, some proposed that the feminist version of empowerment could be both a worthy end and a potential means to economic and human development, as those who are empowered are in a position to make strategic life choices (Kabeer 1999; Sen 1985). To accomplish the goals of both the feminist empowerment process and economic or human development, however, would require that an empowered person – one who has gained a full understanding of their choices –

will desire the same goals as the development program that is said to empower them. Thus, a develop-centered definition of empowerment drops the requirement of critical consciousness and assumes that empowered individuals will want the same thing that development practitioners want for them (Batliwala 2007; Cornwall 2007).

For example, in international development, the term 'empowerment' is often rhetorically applied to economic development programs (Duflo 2011; Narayan 2002; Samman and Santos 2009). In these programs, recipients of development receive a curated set of resources and knowledge, which are seen as sources of power, that development practitioners guide subjects to leverage in order to improve their livelihoods (Kabeer 1999). Yet recipients are not informed why donors are paying for their economic development. Indeed, international development programs allow wealthy donors and states to steer populations in the global south to achieve outcomes like lower birthrates and improved health, education, and skills to lift individuals just far enough out of the 'poverty trap' (Sachs 2005) that they are healthy, unencumbered by disease and children, and have the skills necessary to perform labor that is essential to the global capitalist economy that bolsters donors' own wealth and power (Adams 2020; Escobar 1999). Thus, development-centered empowerment seeks to build a person's power to make strategic life choices, but does not require development recipients to develop critical consciousness of the systems of power that made them recipients of development, rather than donors or administrators (Cornwall 2016).

Unsurprisingly, feminists are highly critical of this application of the term in popular discourse (Batliwala 2007; Cornwall 2007; Parpart, Rai, and Staudt 2002). Although many of the goals of development-centered empowerment are not intrinsically bad, these scholars problematize development-centered empowerment because recipients of development are almost never allowed to invert this process by steering the desires, goals, and health of donor states' populations (White

1996). The muddling of two ideas under one term might result from development scholars and practitioners failing to practice reflexivity, or critical self-reflection on one's power, interests, and intentions, which allows one to assume that recipients of development will desire the same goals as administrators (England 1994; Fritz and Meinherz 2020; White 1996). Thus, development-centered empowerment seems to reify global power imbalances that allow scholars and development workers in the global north to impose their own desires and will onto recipients of development in the global south while defining the act as benevolent charity (Batliwala 2007).

CBNRM and Empowerment. CBNRM is often described as 'empowering' because the policy allows communities to take responsibility for making certain decisions about local natural resources (Chomba et al. 2015). Yet, critics argue that this is simply a rhetorical tool to pursue the programs' real goal – environmental sustainability – while making the approach more palatable to the community members who are invited to join CBNRM groups (Blaikie 2006; Dressler et al. 2010; Heffernan 2022). Thus, theoretical papers hypothesize that, despite rhetoric that describes CBNRM as empowering, the policy leaves no room for these groups to pursue the goals of feminist empowerment (that is, critical consciousness and liberation) since their intended outcome (environmental sustainability) is set before subjects are ever invited to participate in a CBNRM group (Blaikie 2006; Cleaver 2001; White 1996).

Indeed, the decentralization of environmental decision-making that is described as 'empowering' rarely involves the complete transfer of authority and control from the state to a local government. For example, findings suggest that CBNRM is most effective when the value of a natural resource is high and local rights to the resource are secure (Cox et al. 2010; Ostrom 1998). Yet, political elites often leverage their positions of power to retain control over the resources for their personal benefit by limiting a community's rights to land ownership and use,

and the decisions the community can make about the land (Adeyanju et al. 2021; Chomba et al. 2015; Nelson and Agrawal 2008). Thus, despite CBNRM's promise to empower communities, "the promise is not made for, nor delivered to, the community at all, but rather to target-chasing, fundraising members of the development industry and natural scientists primarily concerned with pursuing a conservation agenda" (Blaikie 2006:1944).

Governmentality. Going one step further, some scholars argue that development-centered empowerment does not just serve the goals of the development industry but reifies states' power through the process of 'governmentality.' Foucault developed the term 'governmentality' to describe the modern process through which the state ceases to govern by coercion and instead governs through the internalized self-governance of its subjects (Foucault 1975). The state's logics, expert knowledge, and complex administrative apparatus are repeated in discourse and practiced in everyday life until they seem natural and necessary to sustain life (Escobar 2004). Humans internalize the government's logics, or mentality, to the point that the state no longer needs to discipline or coerce them to comply because they willingly self-govern their thoughts and actions of their own volition (Bakker 2012; Escobar 1999; Foucault 1975).

Rather than liberating or empowering subjects, Foucault argues that states are instilling their subjects with an internalized 'subjectivity' through the process of governmentality (Foucault 1975). In this process, individuals learn how to adopt the state's logics through the passive observation of stylized speech and acts (Butler 1988). They might 'try on' the logic, reenacting those words and movements until their bodies exhibit the evidence of their belief in that logic (Butler 1988; Sultana 2011; Swyngedouw and Heynen 2003). As the idea is written on their bodies through repeated acts, it is inscribed in their patterns of thought and in that process one begins not just to bear the responsibility to represent and reproduce these logics, but to depend on them for

their identity (Foucault 1978). Thus, subjects learn not only to self-govern their actions in public, but also in the privacy of their homes and the intimacy of their thoughts, beliefs, and consciousness. This is the process by which modern states instill in their subjects a 'subjectivity,' or a reflexive understanding of one's self in relationship to others (Butler 1990).

Environmentality. In his book, *Environmentality*, Agrawal (2005) applies the concept of governmentality to environmental governance. He explains how 'technologies of environmental governance,' or "the strategies of knowledge and power that [create] a domain fit for modern environmental government," are represented and reproduced through discourse, politics, institutions, and subjectivities (pp. 6).

In his research on forest conservation in India, Agrawal (2005) finds that the government shares new environmental logics through technologies like CBNRM to produce an 'environmental subjectivity' in citizens, or an intimately held belief about what constitutes the environment and how one ought to relate to it that shapes one's identity and purpose. He finds that these environmental subjectivities rely on the western environmental science that teaches how humans can shape and conserve nature through everyday actions. Citizens are taught the logic of 'environmental sustainability' over and over until they begin to truly see themselves as environmental caretakers, believing in their responsibility to conserve, and practicing that belief both in public acts and in the privacy of their own homes. Eventually, the state no longer needs to openly coerce its citizens to conserve because they willingly consent to govern their own actions to achieve the state's goal of conservation (Agrawal 2005).

Thus, environmental subjects' internalized desire to care for the environment makes the responsibilities given to them appear to be empowering. Yet, the policy of decentralizing the responsibility for environmental management to citizens might also be characterized as control

through the formation of environmental subjectivities. Agrawal asserts that "the relationship between government and subject formation is one of mutuality and dependency" (Agrawal 2005:198). Thus, environmental subjects depend on the government's environmental discourse to justify their actions. At the same time, the state's task of controlling and conserving nature is made possible through the continual formation environmental subjectivities (Robbins 2012). This is not necessarily problematic, but this process, like development-centered empowerment, does not require citizens to critically assess their subjugation to the states' will or others' control.

Empowerment or Control Through Environmentality? Several studies have asked whether CBNRM is empowering, but do so by equating empowerment with increased rights and decision-making power to control land and its resources (Chomba et al. 2015; Dressler et al. 2010; Heffernan 2022; Mutune and Lund 2016). Recall, however, that one prevalent definition of empowerment prioritizes the ability to make strategic life choices from among viable alternatives (Kabeer 1999). CBNRM claims empowerment as a central goal (Blaikie 2006), yet if CBNRM is a truly technology of environmental governance used to form environmental subjectivity (Agrawal 2005), then one has reason to question whether and how those invited into CBNRM groups are allowed to critically assess the value of the state's environmental logics and consider alternatives. Thus, in this chapter I seek to understand whether and how CBNRM empowers group members by expanding their power within, their ability to make strategic life choices with a variety of options, and their ability to challenge systems of oppression (Kabeer 1999; Rowlands 1997). Based on critiques of empowerment and Agarwal's concept of 'environmentality,' I expect that the state's goal of forming environmental subjectivities limits the degree to which administrators of CBNRM programs actually work to empower program participants (Agrawal 2005). Thus pose the question: How are CBNRM programs used to empower and control women and marginalized communities?

Methods

Case Background. This study performs a grounded theory analysis of 43 in-depth interviews and fieldnotes collected by the author and a research colleague in the Muruny River watershed in West Pokot County, Kenya in June and July of 2018. The county has performed among the bottom three of Kenya's 47 counties in many metrics of water security and women's power. For example, 55% of West Pokot's population relies on surface water as their primary source of drinking water, 84% use no form of water treatment, and 19% do not have enough drinking water. West Pokot also scores among the lowest counties in quantitative proxy metrics of women's power: Only 26% of women can decide how their earnings are spent, just 43% have a physical or mobile bank account, and 71% believe there are certain situations when a husband is justified in beating his wife (KNBS and ICF 2023). When compared with earlier census data (KNBS and ICF 2015), it appears that West Pokot is making slower progress towards improving women's equality and water security than other counties. Moreover, much of its population lives in rural areas where CBNRM programs serve as the state's primary strategy for improving water access. Thus, West Pokot offers an ideal space to study whether and how its CBNRM programs integrate empowerment.

West Pokot has a variety of CBNRM groups, but this study looks at the two most common. The first, community forest associations (CFAs), manage community forests in the small region of montane forested highlands to the south of the county. The second, community borehole committees, manage boreholes in the semi-arid plains to the north. The former works to limit the harvest of trees and forest goods to ensure adequate regrowth rates while the latter limits water extraction to ensure adequate groundwater recharge throughout the dry season and to limit damage to the borehole's pump. Women are expected to take equal leadership roles in both institutions.

Positionality. This research is founded on principles of feminist epistemology and methodology, which require the researcher to acknowledge their influence and control over a project's design, data collection and analysis, and how they affect and are affected by research participants (DeVault 1996; Harding 1993). While I am a white woman from a US academic institution, I have made every effort both to practice reflexivity, learn, and adapt to the culture in West Pokot (England 1994). I have been traveling to this region for eleven years and have learned to speak fluent Swahili. Before I ever started collecting this data, I traveled to West Pokot four times and worked for two summers as an unpaid intern with a grassroots organization that was drilling water wells around the county. While helping them perform program evaluations, I interviewed women in over eighty villages across every district in the county, developing relationships with three colleagues – Festus Ting'aa, Caroline Rumaita, and Theresa Chemtai – who later became research consultants for this project. During those first rounds of interviewing as an intern, I learned to adapt to Pokot culture, developed the relationships that made this research possible, and developed the questions that inform this current research project.

I seek to make my own goals clear. First, while this research evaluates transformative tools – CBNRM and empowerment – it does not follow that I should be the one applying those tools in communities. Rather, I seek to offer a well-rounded analysis of how these tools are being used so that the research participants' communities, NGOs, and government officials can make informed decisions about how to implement these tools in ways that they deem valuable. Second, because I value empowerment as an end in itself, I do not wish to judge the merit of community members' choices, but to understand the extent to which they make those choices free from threats, coercion, undue influence and with a broad understanding of their options.

Sampling and Data Collection. Because this research subscribes to feminist standpoint epistemology, I took care to sample multiple and varied perspectives on CBNRM while making the perspectives of the marginalized – or in this paper, rural community members and women – my central object of study (Harding 1993). Thus, I purposively sampled multiple stakeholders of all genders, education levels, and ages. I interviewed thirty-three community members living in four villages – two in the highlands and two in the plains – in the Muruny River Watershed, which is the major watershed that flows from the highlands to the plains. I chose these villages based on their geographic location in the watershed, the presence of a CFA or borehole committee, and whether a colleague had a relationship with a local contact and/or chief who could help identify the first two to three research participants. After that, we used snowball sampling to meet the rest of our sampling quotas in that village. In each village, we interviewed eight to nine people total, including the chief, one to two men in a CBNRM group, one to two women in a CBNRM group, two men not in a group, and two women not in a group. I also identified all major NGOs and government offices involved in administrating these groups, then asked to schedule a meeting with an employee who works with borehole committees or CFAs. I met with seven government employees and four NGO employees.

The interviews were structured to discuss access to, knowledge of, and control over forest and water resources, with questions customized for each stakeholder group on how their role allows them to manage their local natural resources. When participants preferred to speak Pokot, a research colleague translated on site. I conducted interviews in English and Swahili myself.

Data Analysis. I used a grounded theory method of analysis, beginning from participants' own descriptions, to develop major themes in order to develop a grounded theory that explains the how CBNRM affects local power dynamics (Charmaz 2014). I analyzed the data in MaxQDA

2022, a qualitative data analysis software. To answer my research question, I coded data for themes encompassing power, control, and intersectional identities.

In an earlier stage of data analysis, I coded segments where participants described their identity and created a list of variables describing participant attributes such as gender, religion, age, education level, and role in CBNRM. I transferred the codes from my prior analysis and the variable list to the analysis for this chapter. Since I focus this chapter's analysis on power, I added the subcode "access to capital" under the "self-description" major code to capture when participants described their access to money, wealth, and connections in the first round of coding.

A basic query of the term "empower" shows that the term was only said three times total in the 43 interviews. This was neither surprising nor concerning, as the concept of "empowerment" is so ambiguous that it must be broken down. To understand how participants describe the two key concepts in my research question, empowerment and control, I read all the interviews to develop a list of in vivo terms that participants use to describe how humans *practice power* during the process of accessing and managing the environment. The list included more obvious terms such as "force," "power," and "control," which depict zero-sum power, or power that is exercised over another. I also found terms such "decide" and "choose" which describe autonomy. Drawing on Foucault's definition of power as inseparable from knowledge, I coded terms such as "teach," "convince," "make to understand," and "encourage to," which capture everyday discourse and knowledge production. Finally, I included power that is gained through relationships with others, captured in the terms like "coming together." After compiling this list, I grouped these concepts into four minor categories of "make to understand," "control/force," "able to," and "coming together." I then used MaxQDA's complex query feature to run four queries – one for each of the minor categories. For each search, I queried intersections of passages where respondents were

speaking *and* mentioned at least one of the in vivo terms on the list under that minor category. I reviewed the query results to ensure that the in vivo term was used in reference to social power, then auto-coded the included passages under the corresponding minor category.

In the second round of coding, I retrieved the segments under each minor category, annotated the passages, then drawing on participants own words, wrote memos that explain how participants practiced power and control in new ways through the CBNRM groups. While coding those segments, I also developed the major code "power comparisons" where participants directly compared their power to that of another person or group. These comparisons along with my first round of coding led me to perform comparative analyses of power/control segments spoken by (a) men and women, (b) administrators and CBNRM group members, and (c) those living in villages in the highland and plains. While I had already developed memos on unique perspectives of administrators versus group members and highlands versus plains for chapter four, I had not done so for men and women. I read through the data again to code for segments where participants discussed Pokot practices and beliefs unique to men and women. I developed the major code men/women and wrote a memo on this code, focusing in particular on how men and women relate to water and forests in unique ways. I used these memos to develop the following findings section.

Findings

My goal in this chapter is to explain how CBNRM programs are used, both by community members and by administrators, to empower and control marginalized communities and women. While CBNRM policy is often described as empowering in development rhetoric, it has also been described as a technology of environmental governance that is used to control populations by forming new environmental subjectivities. To better understand the conflicting goals of government control and community empowerment, this section shows how the introduction of

CFAs and borehole committees has affected the way that humans practice power through the process of accessing and managing the environment. I organize the findings into two sections. The first compares findings in the highlands and plains, and the second compares findings from interviews with men and women.

Highland Community Forest Associations

Control by Force. In 1962, the Kenyan government established national forest reserves and charged the Kenya Forest Service (KFS) with the task of keeping locals out. Hon. Kapel[3], a man representing a highland ward in the county assembly of West Pokot, explained how the KFS used to control the forest: "The first approach they [KFS] were using was force. They were evicting people by force, arresting them, taking their animals, burning houses. So, it created some bad blood between the [KFS] enforcers and the community" (Highland Site 1, I5). Community members like Lomeri, a CFA leader, explained why people resisted despite the KFS' displays of force:

> When the government [was] taking care of the forest by themselves, they left out the community living by the forest, [but] people kept destroying the forest . . . they [the KFS] came to realize that they had left out one stakeholder. That is why [they] developed the Forest Act of 2005 – to involve the community in taking care of the forest. (Highland Site 1, I1)

Control through Understanding. As Lomeri said, the state's environmental management strategies changed in 2005 when the Kenya Forest Act made it possible for communities to create formal CFA agreements with the KFS. This allowed CFA members to enter and use a bounded

[3] "Hon." is the common abbreviation of the title "Honourable," which is used for Kenyan members of county assembly (MCAs) as well as members of parliament and the senate. Hon. Kapel was the elected representative of his ward, which is roughly comparable to a state district in the US. Thus, he was a member of Pokot's county assembly, which is like a state legislature in the US.

area of “community forest” in exchange for monitoring the area, reporting illegal activity, and harvesting sustainably. Thus, the KFS no longer needed to control the forest through visible displays of power, such as by evicting people living in the forest and burning their homes, and could use the CFA to develop “a diplomatic kind of relationship between the community and the foresters” (Highland Site 1, I5). Participants agreed that obvious shows of power that were seen in former displays of the KFS’ force are now largely absent, aside from occasional arrests of those caught deforesting without a permit. Yet, it appears that the KFS continues to maintain a much more subtle, yet effective control over communities through CFAs. Hon. Kapel offered an example of how the KFS has altered the way they achieve control when faced with community resistance:

> [When the potato was introduced] as early as 1958, people resisted. In fact, they were given some seeds. They boiled and then planted them. Then they [said to] ask whoever brought the seeds, “[Why] did these things not germinate?” But they themselves boiled because of resistance. That was because there was a lack of public participation. And the same thing [with KFS]: They were given some trees to plant. They were even boiling [the seedlings] so that they may not grow! You know, such a kind of resistance. Now, that kind of resistance will not be there if we make them to participate in their own decisions. [CFAs work] because they don’t arrest; they make you understand . . . We use public participation so that people may not resist. (Highland Site 1, I5)

Here, Hon. Kapel explains that the best way to defuse “resistance” is not to “arrest,” or exercise visible power over communities, but to make them “understand” by involving them in “public participation.” He went on to explain that while the CFA is “planting some trees, much of [their work] is to make people understand the importance of trees or having and conserving the

forest" (Highland Site 1, I5). Likewise, a government officer in the KFS described the CFA's public meetings as a place where they are "spreading the gospel of tree planting" (Government, I3). Lomeri, the CFA leader, shared that, especially when they do not have funding for projects, CFA members' primary work is to serve as "role models" and to "raise awareness" by teaching their neighbors about conservation. These were ideas that every CFA member expressed. Their goal, Lomeri explained, is "enlightenment," or a process in which the community comes to "see the value of having a forest and they come to make decisions that we, now, by ourselves are going to take care of the forest" (Highland Site 1, I1). One CFA member, Lokori, shared:

> When this organization [the CFA] came in, I was excited to join because I love the environment. On my land, I have conserved the trees and I felt that was good. So, I joined so that I can now go out to teach people how important it is to conserve the forest . . . When you have your own forest, your children will not lack firewood. If you want to fence your land, you have your own . . . I contribute by creating awareness about how important it is to take care of the forest . . . So, whenever there is a small gathering, I seek an opportunity to teach people. (Highland Site 1, I3)

Desired Outcomes of CFAs. Thus, the CFA is not just involved in educating people about forest laws. Rather, members believe that their primary role is to repeat messages about the importance of the forest and the community's responsibility to conserve that space. This practice of teaching and sharing ideas about conservation is the primary way that CFA members practice power in their communities. They have adopted the logic of conservation and aim to change others' personal beliefs and values so that others will willingly reforest and conserve the environment because they have come to believe that reforesting is in their best interests. Lomeri shared:

> We had a tree nursery and some people from the community came to steal the seedlings. When we reported it to KFS, they said, "This is our target! If people have come to steal seedlings, they now understand the value of planting trees." That exposure had expanded their knowledge. (Highland Site 1, I1)

In other words, the KFS positively reinforced the CFA for sharing discourse about the value of planting trees. Once people understand the value of trees, the CFA members all expressed hope that the community will work to conserve the local forest and reforest their private plots so that the environment will continue to provide resources like timber and medicinal plants, and services like groundwater retention and filtration. Chepo Chepos shared, "People are growing [indigenous trees] now, and if they continue like this, I believe the area's forest will come back. It might not return to what it was like before, but we will try" (Highland Site 1, I4).

Borehole Committees in the Plains. While CFAs oversee a large area of community forest, borehole committees maintain one relatively small, human-made resource. Still, both resources are publicly accessible and finite. The West Pokot County government is drilling many wells, but there is only one group – a grassroots NGO – that is training borehole committees. I interviewed community members in two villages with boreholes drilled by the NGO, as well as with two men – Mr. Loktari and Mr. Komol – who lead the borehole committee program.[4] The two men first shared how NGOs and the government started drilling boreholes in West Pokot County:

> There are many needs here: the church's needs, the need for water, the need to build

[4] I worked with both these men in 2014 and 2016 when I worked as an intern for this NGO, and both have been great supporters of my research. During the interview and analysis, I have been cognizant of my positionality and worked to keep my biases from interfering with reporting the findings. I am hesitant to critique their approach because I respect both as authorities on this topic. The NGO they work for is well regarded throughout West Pokot because it is willing to try new programs, perhaps fail, then adapt and improve all with the goal of meeting the need for secure water access. Thus, I admire their work, recognize the NGO's limited resources, and appreciate their willingness to be interviewed so that others can learn both from their success and from the potential weaknesses I share here.

> schools and hospitals. This is because this area *uliwachwa* [was marginalized/forgotten] during colonial rule and rural areas were left out of development by the government of Kenya [even after] Independence. There are so many things where we are just behind the rest of other Kenyans . . . And of course, we only have four rivers which run throughout the year. The rest of the area is just dry, bare. So, they [our NGO leaders and sponsors] saw fit to drill wells around the communities. (NGO, I1)

Most of West Pokot is not made up of highland forest, but of semi-arid plains covered in thorny brush and carved with seasonal riverbeds. Aside from the highland forest, which makes up only a small part of the county, most of West Pokot does not contain natural resources that can be harvested and sold at a high price. Thus, while the colonial and post-Independence governments sought to control highland forests, those governments allowed the humans in the plains to be marginalized and the task of managing their surface water forgotten. Thus, while the KFS has been patrolling forest reserves since Independence and established CFAs in 2005, there has been little to no supervision of water resources in the plains. Moreover, boreholes were drilled and borehole committees formed not because communities in the plains were able to influence the government to improve water services, but because the NGO and its foreign donors "saw fit" to do so.

A Need for Order. In this section, I explain the local challenges that make boreholes necessary. While boreholes offer secure safe, reliable drinking water, West Pokot's aquifers are insufficient. An engineer in the county's Ministry of Water explained that boreholes are drilled to a depth of about 150 meters in most areas to access groundwater. Even at that depth, he explained:

> We don't have very good aquifers when it comes to yield . . . I think the highest we have got is about six cubic meters per hour, which is still very low, but most of

> them yield around one cubic meter per hour. But because we don't have an alternative source, you have to just go and drill those boreholes. (Government, I3)

The issue of the boreholes' low output is exacerbated in the dry season when the borehole is used through the day and night (NGO, I1). During the rainy season, local women share the well with school children and cattle. During the dry season, however, the area is overrun with visitors from a wide radius of villages whose seasonal water sources, like shallow hand dug wells, go dry. Women come to queue for hours to fetch one jerry can of water while men come with hundreds of livestock that drink borehole water from a cement trough a few feet away. Thus, in the dry season, low output and near constant demand translates into long queues and crowds at the borehole. The community at the second site faced such issues every dry season, as there are no rivers that flow year-round within a day's walking distance. While the first site is situated between two major rivers, it still has this issue. Kama Chebet, a member of her local borehole committee, shared:

> It is really overcrowded. [When] there was a cholera outbreak, people decided that they were not fetching water from River Moruny and River Weiwei, so all the villages – they came to fetch this water . . . There was a lot of disorder in the way people used the borehole. Students, the community - they were taking baths around the borehole . . . The children really misused the borehole pump. (Plains Site 1, I1)

It is also common for fights to break out among such crowds. A male committee member shared:

> When the animals come and people want to fetch water, there is a lot of conflict . . . The men say, "Our animals first," and that is where the conflict comes in . . . A woman can become so tough that she's ready to fight with a man . . . They really fight, even until they get bruised and blood comes out (Plains Site 2, I3)

Thus, while the borehole brings more reliable water, it can also bring "conflict" and

“disorder in the way people use the borehole” (Plains Site 1, I1). Even more problematic, though, is that boreholes like these often break, and when they do, communities do not have the skills or means to pay for repairs. Mr. Loktari explained, “If we drill a well and just leave it that way, nobody will take care of the borehole” (NGO, I1). As a result, villages are deprived of what is often their only dependable source of drinking water during the dry season. Thus, all those I interviewed who were involved in borehole management believed that borehole committees are necessary to manage disorder, conflict, and potential damage by regulating when certain groups can fetch water and how the community should act to care for the pump and groundwater below.

Control Through Understanding. Mr. Loktari and Mr. Komol were both instrumental in developing the NGO’s program that helps communities elect a borehole committee and trains members to manage the borehole. I asked Mr. Loktari why the NGO started training the groups:

> There are so many people in the government . . . who are trying also to put some wells, but because they have never involved the community from the word “go,” then the borehole breaks. Nobody is responsible. So, the idea came that we need to develop a skill whereby we partner with these people, and doing that has helped. I mean, across the whole of Pokot land, [this NGO’s] boreholes are the ones functioning. It is just because of a simple reason, you know: Partnering with them, involving them. They know everybody is responsible for their part. (NGO, I1)

Like Hon. Kapel, Mr. Loktari argues that the government and NGOs must “develop a skill” of “partnering with” local populations. The purpose of that skill in both cases is to make local populations believe that they are “responsible for their part” maintaining the forest and boreholes. The language of “community participation” makes this program seem empowering, but in this section, I explore what “participation” means in this borehole program to understand whether the

mechanics of “participation” serve to empower and/or control local populations.

(1) Selecting the Village. Most community members were unaware of how the NGO selected their village to receive a well. For example, one borehole committee member said, “One time people just popped up here . . . and said that they want to build water in this community” (Plains Site 2, I3). Community members who were aware of that process shared that they were not able to request the borehole from the NGO; rather, they relied on local and elected elites to make the request for them. Another committee member said, “We really told our area’s MCA to look for somebody who could drill a well for us. So, we believe he is the one who went to meet with [the NGO] to come and drill water” (Plains Site 1, I7). Thus, average community members neither know how to request a borehole nor understand how a site is selected.

(2) Letting the Community Choose a Borehole. After the village is selected to receive a well, the NGO instructs the chief to call a public meeting. Mr. Komol and Mr. Loktari travel to the village to lead a day-long meeting to explain why the community should want the well:

> During the baraza [meeting] we ask, “So you want water? This is the cost of you having the water, and this is the cost of you not having water” . . . We go breaking it down . . . “If you were to sell cows, [it would cost] around 280 cows.” And they are like, “Waw!” Then, “If you convert it into goats, you will collect 1,800 goats!” So in the process, they will know that a well is very expensive . . . So then we explain, “During the year, do you get typhoid?” They say, “Yes.” “How much does it cost for you to treat yourself for typhoid?” . . . They will see that they are spending a lot of money [and] it is very important to keep the well. (NGO, I1)

The community is taught the value of the well by translating its cost to livestock and strategically guided through logic that shows how much the local population will benefit from the

well. The NGO does not teach the local population about the costs of maintaining the well, the chances of it breaking, the potential for low yield, or the overcrowding that will come during dry seasons, nor are they taught about any of the viable alternative methods of accessing safe water. Next, Mr. Komol explained how the community agrees to maintain the well after it is installed:

> By that time, you tell them, "We are not going to maintain the well because it is very expensive, so you'd better tell us if you are going to sustain it by yourselves or not. If not, we will go to the next community, who are ready." So, they say, "No, we are going to do it. We are ready. We will do our best." . . . We also ask them, "Do you want the well, or should we go . . . buy this many animals and bring them to you [instead]?" So, they say, "No, no! We choose a well" . . . Then they are a part of the process and in the future, they are ready to pay the price of maintaining the well. (NGO, I1)

The NGO only offers two real options at this meeting. The village can either accept the offer of clean water on the NGO's terms or they can reject it and let the offer go to another village. There is a third option – Mr. Komol offers to give them 21,000 USD worth of livestock – but he could not follow through on the offer since the NGO's must adhere to donor's requests that their money fund boreholes. Thus, the community is provided with limited and carefully selected information that instills a specific logic and value. Then the community is given a free choice to participate, but of course, every community accepts the offer of clean water on the NGO's terms.

(3) Training the Committee to Manage the Borehole. After the borehole has been drilled, the NGO helps the chief to hold a second public meeting and residents from the surrounding villages gather to nominate and elect a borehole committee of five men and five women. Then, the NGO trains the committee how to manage the well. Mr. Loktari explained the training:

> We train them in some skills to manage the borehole, [like how] to assess when the borehole has developed some problems. The committee then has an idea that when the borehole behaves like this, maybe the rubber is worn out, maybe the pipe has burst inside . . . Then they can just communicate with me, tell me what happened so that I can know what the problem is, and we can send a team to go and fix it. So, [they] feel like, 'This is ours . . . We are the owners of the borehole, not [the NGO].' (NGO, I1)

The goal of the training, then, is to instill committee members with the belief that they are responsible for the well. The committee learns specific skills to identify mechanical issues and to regulate use. For example, they manage overcrowding by regulating how many jerry cans someone can fetch and enforcing strict timetables for when school children, women, and men with animals can fetch water. The committee agrees to regularly monitor the area, teach people how to use the pump gently, keep children off the pump, and instruct people to bathe and do laundry in separate areas. During the rainy season when people are farming, the committee members who live farther from the well do not have time to stay and monitor the area, so the one or two people living near the well take on this responsibility. A community member observed, "The people who live close are really taking care of the borehole . . . Community members are watchdogs for taking care of the borehole [in case] children can come and play with the pump" (Plains Site 1, I8). Another shared, "The committee makes sure that . . . people [are not] taking a bath close to the borehole. They do a lot of cleaning" (Plains Site 2, I7). And a third added, "The committee has really helped to settle disputes and to create peace in using the very scarce resource of water" (Plains Site 2, I3).

(4) Teaching the Community to Pay for Repairs. When the borehole does break, the cost to repair the well varies dramatically. Mr. Loktari and Mr. Komol said that they ask locals to collect

about 7,000 shillings [70 USD in 2018] to pay for part of the repair. Each household that uses the well is expected to contribute 50 to 100 shillings [50 cents to 1 USD in 2018] depending on the number of local households. The 7,000 shillings pays for the repair team's labor and their lunch in the village. The NGO pays for the vehicles, fuel, and parts, which vary in total cost but are always more than what the community would pay. Mr. Loktari explained, "The amount of the money for buying rods and all that is a lot of money, but this 7,000 is just nothing. It is just for them to realize that [they] are also participating in the process [and] that we are partners with them" (NGO, I1). The NGO also teaches the committee how to find other sources of funding:

> Mr. Komol: The training helps these people to expand their minds to not only think about [our NGO], but to engage other stakeholders in case of repairs. We sensitize them that if any other investor comes in, you may propose that that investor put in a solar or upgrade the borehole. It helps to widen their thinking so that they are not just thinking that it is only [about our NGO]. So, they can engage various stakeholders.
>
> Mr. Loktari: The stakeholders that he is saying [are] like a Member or Parliament, or a Member of County Assembly. If the question arises, "Where will we get funds [for repairs]," we have found that there are so many ways that you can make funds! . . . You can approach the area MP, [or] MCA, [or] the Water Resource officer in the county . . . They have some development money . . . And you can call a community harambee[5] together to collect some money. And so, they say, "Okay, wow! Those are good ideas." (NGO I1)

[5] A *harambee* is a public event where a village comes together, building their power with other local residents, to contribute funds to a project that would otherwise be unaffordable.

The NGO offers a wide array of information about fundraising because I cannot afford maintenance. Mr. Komol uses language such as "expand their minds" and "widen their thinking," both of which sound like a version of feminist empowerment. Yet, residents and the chiefs believed that elected officials will not pay to repair an existing well because it is better for their political image if they fund a new project. Likewise, while holding a harambee is an option if the community only needs to pay 7,000 shillings, paying the full cost of repairs and upgrades is "truly difficult" as most households in the plains live in extreme poverty (Plains Site 1, I5).

As of 2018, neither borehole needed a repair, but in 2022 both had broken and were unusable. The committees had called the NGO, but the NGO had been unable to subsidize the repairs because the damage was too extensive. Likewise, the community could not afford the repair, so the committee disbanded, and the local population returned to drinking surface water.

Desired Outcomes of Borehole Committees. Like CFAs, those training these committees desire that the group repeat discourse that instills the idea that it is the community's responsibility to care for the local forest or borehole. I asked a chief what the committee's role is in his village:

> [There] is something that comes from within. There is no salary available. No locals [praise] them. They go on his or her own [to] keep the troughs [clean]. If you teach these people, they learn their roles. They see that God has really chosen them to lead others [and] to help them. (Plains Site 1, I4)

Thus, the committee members serve not for personally, but because they have accepted the NGO's instruction and now have "something that comes from within," or the internalized belief that must manage the well. This belief was evident in every interview with the borehole committee members. A chairwoman shared, "I have really benefitted as a committee member . . . I feel

responsible because I don't want to go back and fetch water in the river" (Plains Site 1, I1). A chairwoman said, "I create awareness among the community members that this is our resource together, and we need to take care of it . . . it is for the benefit of all of us" (Plains Site 1, I3). These phrases are nearly identical to those used by CFA members to explain why they conserve the forest.

Committee members usually linked this sense of responsibility to a material benefit, saying that they were proud to be responsible for managing a resource that enables the "reduction of waterborne diseases" and "cleanness" (Plains Site 1, I3). A chairwoman shared:

> I can take baths, the children get to take baths, and we have cleanness. I can wash my clothes. I am sure of safe drinking water, cooking . . . My mind [has] changed. The water is reliable . . . I don't need to think about going to fetch water [for drinking], for the young goats, using in the house . . . Any time I want water, I just walk to the borehole . . . The way you see me now, I feel my health is good. (Plains Site 1, I7)

The chairwoman not only describes good "health," but an improved level of wellbeing that results from being "sure of safe drinking water." While commodities like clean drinking water and the physical outcome of health might be described as material, both communities shared the that the well had brought a new standard of wellbeing that is linked to having reliable water. One aspect of this wellbeing involves good "hygiene." The community has developed a shared belief that looking and smelling clean is respectable, and internalized that value to the point that it shapes their sense of self, feeling more confident when they are clean:

> The hygiene has really increased, so we feel that we are cleaner than before . . . People used to smell. Because people are taking baths [though], there is a lot of cleanness . . . It really brings a lot of respect when you take a bath, even confidence!

> Somebody who has not bathed is not confident to stand before people. You don't admire someone so much who has not taken a bath because [they're] dirty. (Plains Site 1, I2)

On a larger scale, the NGO workers and community leaders shared the belief that boreholes are changing the Pokot's semi-nomadic lifestyles, meaning individuals who have seasonally migrated all their life are now able to live year-round in one place. One female resident explained:

> Before the borehole was dug, the government put a school here, but during the dry season, we migrated with the children. . . and the teachers would be left alone. So, it was difficult to begin a school . . . People now live here. The main reason that we used to migrate was because of a lack of water, but now that there is water, there is no reason for people to be moving . . . We have started building permanent houses with the mind that we are no longer moving. (Plains Site 2, I6)

Thus, boreholes affect more than human health; they transform the daily lives of whole villages who are now able to settle and invest in one plot of land. This process of settling down is integral to the Kenyan state's ability to count, track, and provide public services like schools that reinforce the behavior staying put, but might also strengthen the government's ability to make and enforce rules to control the population. Moreover, borehole committee members become compliant, willing contributors to this goal as they hear, repeat, and practice the belief that it is their responsibility to manage the well. Indeed, they willingly sacrifice to maintain the well because they have come to rely on it not just for physical hygiene, but so that they might embody the ideal of "cleanness," or a confidence and belief that their bodies are worthy of respect that has become integral to their identity. This is learned both from the NGO's discourse as well as through personal encounters with clean water and the changes it brings to one's mind, body, and habits.

In the next part of this findings section, I explore how men and women's responsibility to care for boreholes and the forest shape their experience with CBNRM.

Comparing Men and Women's Experiences with CBNRM. I introduced this paper with a quote from Chepo Chepos: "The government said that there is a thing called 'gender' [English word]. So, 'gender' must be there. Men and their wives separately – that is not a group." She continued, "We [women] were brought into the [CFA] group little by little. There are a few chairpersons who are mama [mothers], and a few secretaries are mama . . . Mama must be mixed in" (Highland Site 1, I4). The term "gender" was rarely used in the interviews, and when it was, it simply referred to this idea that men and women must be equally represented in development projects. As with the idea of "participation" though, I evaluate the mechanics of gender representation in CBNRM groups by investigating how women are empowered and/or controlled through these groups.

Men's Work. In both the highlands and plains, men are responsible for taking care of the large animals while women are responsible for fetching water. There are exceptions to both rules, of course. Men might fetch water for large events when women are busy cooking, but only if they can carry the water by donkey or motorcycle. Men need water for their animals as well. In the highlands, when water is piped onto one's homestead, "It's not just women who are excited. Men are excited too because their livestock get water at home" and produce more milk (Highland Site 1, I1). Yet, it is usually boys who are asked to take the animals to drink water: "Not all men go to the river [with their animals] because maybe a boy is assigned to take care of the animals. The men, they go where they want" (Plains Site 1, I1). Men in the highlands tend to have more work than men in the plains since they are involved in farming, harvesting firewood, constructing homes, fencing, and harvesting forest goods like medicine and honey (Highland Site 1, I1). Men in the

plains, however, unanimously agreed that they are not required to fetch water.

Women's Work. In the four rural villages that I visited, the Pokot belief that it is a woman's responsibility to fetch the household's drinking water was unwavering. Women repeatedly shared the belief that "men will never help their wives" with household work or fetching water (Plains Site 2, I7). Kama Chebet, a mother in the plains explained how her responsibility to fetch water from the river shaped her daily work before the borehole was drilled:

> I am a mother, and I am a wife. I take care of my family and it is my responsibility to make sure that my family gets food and water . . . Women have many responsibilities at home. [After waking,] you make sure to milk your goats and now open the goats for grazing. Now, about 8 am, you go to the river to fetch water. It takes two hours to go and come back . . . Because the river is far, you use that [20 liters of] water for two days . . . and ten [people] at home. People did not take baths. It was only for cooking and cleaning . . . We did not wash utensils . . . and you drink little. (Plains Site 1, I1)

I share Kama Chebet's regular struggle to procure water not because it is unique, but because this description was common among all the women I interviewed in the plains. Women in the highlands also have many chores and, despite water being plentiful year-round there, the work of fetching water is still difficult because women must carry water up steep hills. Madam Irene, a woman in the highlands, is a teacher at the local elementary school, a farmer, a mother, and a wife, although her husband lives in another city. She struggled to get all her work done in a day:

> You know, the other women in the community, most of them are housewives, so during the day they are at home. They can fetch their water at their leisure . . . they

> weed their gardens . . . washing, preparing lunch for their kids . . . milking. [But,] as a teacher, I come from school at four. You reach home and there's no water. You go and fetch water – maybe 20 liters of water. That's not enough for the family use and everybody to take a shower. My calves need water to drink and I don't have a husband to take them to the river. And by the way, the river where I am fetching is around two kilometers from here . . . Maybe I would go three times to the river fetching water, then everything is still waiting for me to do [and] you cannot pay money to get somebody to fetch water daily. It is very costly. (Highland Site 1, I8)

Women's beliefs about their responsibilities shape both their daily work and their bodies. Women rarely have access to donkeys to fetch water, so they carry water in 20-liter jerry cans on their heads and often walk with a baby or toddler tied to their backs. Women in the highlands and plains complained of back and neck pain from the task. One woman shared that when "women were going very far, there were a lot of miscarriages . . . it was such a horrific time" (Plains Site 2, I2). In the plains, the work of pumping the borehole can also be difficult, causing "sore chests" (Plains Site 1, I4). Kama Chemsto complained that despite this physical labor, husbands "don't want to hear when you are tired . . . They are not merciful enough to recognize that women are doing a lot of work. They don't care. Our men are very harsh" (Plains Site 4, I7). Thus, when a household lacks piped water, as most do, women's bodies are the physical infrastructure that carries water to the home. While everyone who drinks surface water can suffer from physical ailments, it is women alone who feel the added pain of transporting that water to the home.

While physical pain was common among all women without piped water, women in the highlands never described anxiety from water scarcity. Women in the plains, however, consistently described worry about whether they would be able to find water the next day. Later in my interview

with Kama Chebet, she began speaking with a collective “we,” referring to women in the plains:

> We lived with a lot of worry. Even in the middle of the night, we would start imagining, thinking of where you would go to the river, how my children would get water for cooking . . . We used to have a lot of quarrels . . . When you [went] to the river, you took time, but the men don’t want to know that it is far. They quarrel, “Why have you taken all this time? Where is the water for my bath?” . . . You just bring the water, then he would take the jerry can, take a bath, and leave . . . They didn’t care . . . so it’s up to you. You have to go back. So, the day that you go to fetch water, you would pray that the men would not be around. [Laughing quietly] . . . The borehole has really changed the community, [especially] in homes - the conflicts between the husband and wife . . . Now men go by themselves to the borehole. They have water and they take a bath, and nobody says that they need water. (Plains Site 1, I1)

This belief that women alone can fetch water is so ubiquitous that not one participant – male or female, college educated and illiterate, in the highlands or plains – stated or even mused that men should fetch water for the family. This belief is so bound up in women’s identities, shaping their daily work, their bodies, their desires, and worries, that despite it being unusual for women to lead in Pokot culture, women are expected to make up half of a borehole committee.

Women’s Responsibility to Manage Boreholes. Mama Chebet was serving on the borehole committee along with her neighbor, Mama Kibet, who was the chair of the committee. Mama Chebet concluded her interview by saying, “We feel like it is quite in order for a lady to be the chairperson because a man does not feel the pain of going to the river and fetching water” (Plains Site 1, I1). In my next interview with Mama Kibet, she echoed this idea before I could even bring

up the topic of women's leadership on the committee. I had asked, "Do people feel that it is the responsibility of the government to bring water?" When she replied:

> We are generally unaware of who is supposed to bring us water because they [men] think women should be going to the river or wherever there is water. It is none of their problem . . . We think that maybe we can ask the governor to drill water, but we don't trust that he can do that because he has never done one [a borehole]. We think that he is capable to do that, but maybe because he doesn't care, he may not be able to do it. And mostly, it is women who feel the pain. Men don't feel any pain because women use a lot of water in cooking, washing. So, men only just come to find meals ready, and they are able to walk to the river, take a bath, come back. But the whole burden is left for women. (Plains Site 1, I2)

Thus, Mama Kibet and Mama Chebet each shared the belief that women should lead borehole committees because women will be motivated by pain to fix the borehole if it breaks. Both had been chosen by the community in an election led by Mr. Komol and Mr. Loktari. Mr. Komol explained how the NGO decided that committee must have five men and five women:

> Remember, there are some wells [where], if it breaks, nobody goes to repair it. So . . . we want to elect a committee who are going to take care of the boreholes. [At the first election] the men agreed unanimously that the chairperson should be a woman because these are the people who are directly involved in matters concerning water. So, we used that as a rule [for] all the boreholes that [the NGO] has done. So, wherever we go . . . they unanimously agree that women know the pressure. Because if we elect a man to be a chair for a water resource, if there is anything wrong, men will not feel the pain of not having water at that moment. But

> if we have women, because now they go very far to fetch water, the first day they miss water, they will seriously engage everybody in the community to repair the borehole. (NGO, I1)

Mr. Lorete, a man who works for another NGO that has drilled several boreholes in West Pokot, shared that his NGO does the same during elections of borehole committees:

> They select the members of the community to be on that committee, and it has to have that gender rule. There are at least 3 women. Like if there are 9 men, 3 must be women, or even more than that! Because if you look at the issue, the issue of water affects women even more than men. (NGO, I3)

The female members of borehole committees were generally willing to do their best to maintain their boreholes. Only one woman on a borehole committee admitted, "I was not hoping to be a committee member, but the community chose me" (Plains Site 2, I3). Yet, several shared the concern that they would not be able to raise money if the borehole did break. For example, when I asked Mama Kibet, "As a woman, do you feel like you can go and make that request of the government [for water], or is that a man's role?" She shared:

> We feel like we could go ourselves, but where are the resources? We have no resources to take us to where we should request water. And another thing is that we don't know where to begin. How are we going to begin making a request to the government offices? (Plains Site 1, I2)

This would indeed turn out to be a hindrance to the committee. Despite all the training that the borehole committees received, the wells at both sites were broken and unusable when I returned in 2022. The committee found no other donors to pay for repairs or to drill another well. So, on the same day that the borehole broke, all these women who benefitted so much from clean, reliable

water returned to fetching surface water and to bearing that burden on their own minds and bodies. Thus, despite CBNRM's claim to empower women, the women serving on the borehole committees sacrificed valuable time to serve on the committees but received neither the resources nor the skills to be able to repair the well themselves. And despite the daily recognition that women bear the unequal burden of fetching water in the plains, none of the women I spoke to in 2022 were able or willing to question whether men might start fetching water until the well was repaired.

Discussion

CBNRM is often described as empowering because it displaces control over a natural resource from the central government to local governments and communities (Blaikie 2006; Dressler et al. 2010; Heffernan 2022). Yet, the definition of 'empowerment' and its intended outcomes are themselves quite contested (Cornwall 2016). Indeed, many development-centered approaches to empowerment have been criticized for working more to steer and control populations than to enable them to make strategic life choices from viable alternatives or to recognize and challenge systems of subordination (Batliwala 1994; Rowlands 1997; White 1996). Drawing on participants' own descriptions of the way that power is practiced through CBNRM groups, I seek to understand how CBNRM programs are used to empower and control women and marginalized communities.

Group Members Practicing Power Through CBNRM. Borehole committee members in the plains and CFA members in the highlands described two new ways that they were able to practice power by joining their CBNRM group. First, both allowed the group members to make rules and monitor how the local population can use or harvest a resource. For example, the CFAs allow members to monitor resource use and to develop local rules to control how others access the community forest and harvest its resources. Likewise, borehole committees allow committee

members to set rules to control who can fetch water at certain times, how much water they can fetch, and how they act in the area around the borehole. In both instances, these are ways that CBNRM group members expand their power to make decisions about their local resource and the authority to control their natural resource by practicing power over other people in the village. This finding largely agrees with the general claim that CBNRM is 'empowering' because it devolves control over a local natural resource to a community (Blaikie 2006; Dressler et al. 2010).

Second, members of CFAs and borehole committees shared that they felt that they gained a position of authority from which they can share messages with others living in their area about the importance of conserving the forest in the highlands or maintaining the borehole in the plains. Recall how one CFA member said, "I joined so that I can now go out to teach people how important it is to conserve the forest . . . Whenever there is a small gathering, I seek an opportunity to teach people" (Highland Site 1, I3). Members described the CFA's main goal as "enlightenment," or a process in which the community comes to "see the value of having a forest and they come to make decisions that we, now, by ourselves are going to take care of this forest" (Highland Site 1, I1). Borehole committee members did the same and shared a remarkably similar message. One member shared, "I create awareness among the community members that this is our resource together, and we need to take care of it . . . it is for the benefit of all of us" (Plains Site 1, I3). Thus, in both cases, the CBNRM group members felt that their position in the group allowed them to share the message that it is the community's responsibility to care for their community forest or well.

Framed in a loose, development-centered definition of empowerment, one could argue that the CBNRM groups are 'empowering' in the sense that they expand group members' power by enabling them to make decisions about how to manage their natural resources and their ability to share new ideas with the community (Kabeer 1999). Yet, Kabeer (1999) specifically defines the

‘power’ built through ‘empowerment’ as the ability to make strategic life choices from among viable alternatives. Moreover, none of the CBNRM group members described a process of ‘empowerment’ where they developed these abilities alongside their ‘power within’(Rowlands 1997). Rather, their power is better described as authority, or even responsibility, that was bestowed on them from the top-down (White 1996) by the Kenya Forest Service on the CFA and the NGO on the borehole committee.

Empowering or Controlling Marginalized Communities? While the CBNRM group members appear to have gained power to make limited decisions about their local natural resource by joining a CFA or borehole committee, one must examine how and why they gained that power. In both cases, the Kenya Forest Service and NGO’s work was described as “participatory.” Yet, the process of participation was not used for, but practiced on the four marginalized communities in the highlands and plains.

Recall how the highland MCA described participation: “Resistance will not be there if we make them [community members] to participate in their own decisions . . . We use public participation so that people may not resist” (Highland Site 1, I5). Likewise, the NGO workers who train borehole committees described participation as a “skill” that is used to make local populations accept and acquiesce to the top-down idea that they “are the owners of the borehole, not [the NGO]” and are “responsible for their part” in maintaining it (NGO, I1). In both cases, “participation” was used not to allow the community to determine the direction that a CBNRM program would take, but to make the community feel that they had some opportunity to give input so that they would agree to the government or NGO’s (the administrators’) goals.

The administrators clearly stated these goals and the CBNRM group members repeated them often. For example, the MCA explained that joining a CFA “make[s] you understand . . . the

importance of trees, or having and conserving the forest" (Highland Site 1, I5). Likewise, the NGO shared that the participation process is used to ensure that borehole users are "ready to pay the price of maintaining the well" (NGO, I1). Given the similar goals of the two CBNRM programs, it is unsurprising that members of CFAs and borehole committees shared the message that it is community members' responsibility to care of their forests and boreholes.

Based on these findings, I argue that this process of participation cannot be defined as 'empowerment' for two reasons. First, while the administrators are giving communities control, or decision-making power, over a new resource, their power to make decisions about the resource are limited and are themselves subject to administrators' control. This finding affirms the existing critiques of CBNRM's stated goal of empowerment that find that governments and elites rarely fully decentralize control over a natural resource to community (Blaikie 2006; Chomba et al. 2015; Dressler et al. 2010; Heffernan 2022; Mutune and Lund 2016).

While my findings do agree with these studies, I argue that CBNRM must be examined according to and by the standards of a clear definition of empowerment. Drawing on the popular definition of empowerment as a process of building one's strategic life choices from among viable alternatives (Kabeer 1999), it becomes even more clear that communities are presented with choices that are so limited that the only acceptable choice is clearly to accept the administrators' terms. For example, in the highlands, communities are offered the choice to join a CFA, but the only legal means of accessing and harvesting forest resources is by joining the group. Likewise in the plains, communities are offered the choice to accept a borehole together with the responsibility for managing it, but if the community rejects those terms, there are no other viable options for accessing clean water. Thus, the administrators construct the appearance of choice through the practice of public meetings, the presentation of limited information, and an invitation phrased as a

question of whether the community will accept this new ability to care for a resource. Thus, I argue the decision-making power given from the top-down should not be described as empowerment, but a subtle form of control that is used to achieve the goal of sustaining a natural resource and decreasing the NGO and state's burden of paying to maintain and manage natural resources.

Second, although the program administrators introduced the four communities to new ways of thinking about the borehole and forest, even saying they are "expanding their [the community's] minds" (NGO, I1), these administrators present limited and carefully selected facts that construct a logic of conservation. This logic is built on explanations of how a community will a benefit if they are willing to conserve their community forest and sustain their local borehole; it is not meant to enable local populations to expand their 'power within,' or their ability to ask critical questions about the unequal status quo (Rowlands 1997). Instead, the administrators of the CBNRM programs in West Pokot appear to be doing the same thing that Agrawal (2006) finds the Indian state does through their community forest management groups: subtly developing the government's control over populations by developing a new 'environmental subjectivity.'

Recall how the highland MCA shared that CFAs work "because they don't arrest; they make you understand" (Highland Site 1, I5). Through the technology of CBNRM, the external discourse on the logic of conservation leads one to "understand" their role as an environmental conservationist. A chief in the plains shared that "if you teach people, they learn their roles" in environmental management, that this understanding becomes an internalized motivation, or "something that comes from within" (Plains Site 1, I4). Through the act of using and maintaining the well, and reciting these logics to themselves and others, this understanding is reinforced as CBNRM group members' perceptions of themselves are transformed by the borehole and the group. Borehole committee members described how they gained a "confidence" and a sense that

they are more worthy of "respect" because they embody "cleanness." Thus, despite the fact that members are not paid, and their voluntary work is not always praised by others, the group members become willing participants in the NGO and governments' goal to conserve public forests and boreholes. Thus, although the CBNRM groups have not been entirely successful in sustaining those resources, administrators have succeeded in developing and steering the desires of local populations to willingly self-govern their actions to work to achieve the state and NGO's goals.

Empowering or Controlling Women? Both the Kenyan government and UN have communicated that community-based water and forest management groups should be serving the dual purposes of sustaining natural resources and empowering diverse communities (Government of Kenya 2023; United Nations 2017). Yet, as with CBNRM's goal of empowering marginalized communities, I find that in both the highlands and plain, CFAs and borehole committees describe a "gender rule," or the requirement that the groups' leadership include both men and women in the community. Despite other studies findings that suggest that women gain less decision-making power than men through these types of groups (Adams et al. 2018; Agarwal 2001), I found no evidence that the groups offered men and women different levels of authority. I did find, however, that women had fewer resources than men to be able to leverage that authority to engage with the government and donors. In general, the groups were given so little power to begin with that men and women alike seemed to confidently occupy the positions of authority given to group members. Yet, it is possible that the women I interviewed were less critical of those situations where men may be taking up more power than women.

Indeed, women were required to serve on borehole committees not for the goal of "empowering" female leaders and expanding their ability to make strategic life choices, but because "men will not feel the pain of not having water" if a borehole breaks (NGO, I1), whereas

"it is women who feel the pain" when a borehole breaks (Plains Site 1, I1). I find that Pokot women have an environmental subjectivity, or a belief that they alone are responsible for fetching water for their household that shapes their perception of self and their bodies. Women endure both the physical pain of fetching water and must perform the emotional labor or worrying about water insecurity. Pokot women's environmental subjectivity preceded that created by the state and NGOs through CBNRM groups. Yet, administrators know that women will inevitably feel pain when a borehole breaks and purposefully require women to be on borehole committees. The invitation is framed as an opportunity that women can benefit from, yet women are strategically selected to serve on committees because administrators know that women will be more willing participants in the CBNRM groups' goals because of their female positionality. Women serving on CFAs in the highlands also bear the burden of fetching water, but they are not invited to join CFAs because of that since the group is working to manage a community forest, which is traditionally managed by both Pokot men and women.

Thus, women in the plains are not invited to join borehole committees to empower them, but to take advantage of their existing subordination so that administrators can more effectively control the marginalized communities where these women live. In this way, administrators leverage Pokot women's environmental subjectivity to subtly coerce them to comply with their organizations' goals of maintaining the boreholes, albeit sometimes unintentionally. This is most evident in the absence of any discourse, resources, or outside social support that would allow women to critically assess and challenge the hegemonic belief that a Pokot man must never be found fetching water. Future research might investigate the obstacles that CBNRM administrators face in sharing alternative gender discourse both in West Pokot and in other patriarchal societies that pair male and female identities to unequal burdens of environmental responsibility.

Conclusion

In this chapter, I addressed the common assumption that CBNRM programs are inherently empowering for the women and marginalized communities who participate in them. I first argue that while some scholars investigate CBNRM's claim to empower marginalized communities and women have found the policy lacking, the studies fail to provide a clear definition of 'empowerment' and of 'power' (Chomba et al. 2015; Dressler et al. 2010; Heffernan 2022). This chapter serves to offer a more thorough critique of CBNRM's claim to empowerment by critically engaging with theories of empowerment (Kabeer 1999; Narayan 2002; Rowlands 1997). This literature serves as a foundation for later assessing how 'empowerment' and control are practiced through CBNRM in the discussion. I find that the NGOs and government agencies that train CBNRM group members bestow access to limited and tailored sets of knowledge and decisions that work to construct the façade of free, informed choice around CBNRM, itself a technology of environmental governance. Through interviews with CBNRM administrators and CBNRM group members, I inspect the inner mechanics of the technology. My findings agree with those of Agrawal (2006), who argues that CBNRM is a form of governmentality that enables the state to better control and govern the environment through the formation of environmental subjectivity. I, too, find that the capabilities devolved to communities are better characterized as internalized responsibilities.

I add to Agrawal's findings and literature that evaluates CBNRM by specifically interrogating the claim that the policy empowers women. I find that while women in the highlands are simply invited to join groups based on a state requirement for gender representation in leadership, women in the plains are invited to join borehole committees because of the hegemonic belief that Pokot women are responsible for procuring water. Thus, even though women who fetch

water from boreholes no longer bear the same physical and emotional burden that they once did, they are invited to join borehole committees because if the borehole breaks, CBNRM administrators know that women will be the ones who will bear the negative consequences and, in turn, will be more motivated to engage the community to repair the well. Yet, the CBNRM programs never offered alternative discourse, resources, or support for women to challenge the subordinating belief that men cannot fetch water. In other words, the programs prioritized the sustainability of water infrastructure over the goal of expanding women's 'power within.'

If government agencies and NGOs truly seek to empower communities, I argue that they must reflexively consider their own interests and recognize and openly state the limitations of what they can and cannot offer communities. Then, within those limitations, they can design programs that intentionally expand women and marginalized community members ability to make choices free from threats, coercion, and undue influence with a broad understanding of their options.

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CHAPTER 6: CONCLUSION

This dissertation critically evaluates the social implications of community-based natural resource management (CBNRM), a policy trend which has become nearly ubiquitous in the Global South. CBNRM advocates for the decentralization of natural resource management from states to municipalities and communities based on the assumption that it is in a community's best interest to sustain local natural resources, harvest them efficiently, and distribute the benefits of local management equitably among community members (Blaikie 2006). The model is thought to be a win-win for states and communities. States' environmental management agencies can reduce the cost of sustaining environments by displacing the work of monitoring and managing common pool resources to communities. Communities, too, are meant to benefit because they gain permission to harvest and use that common pool resource for household use and profit. When enacted though, CBNRM often falls short of these aspirations (Blaikie 2006; Chomba et al. 2015; Heffernan 2022; Nelson and Agrawal 2008).

Driving Questions and Approach

When introducing this dissertation, my goal was to investigate how and why stakeholders are implementing CBNRM programs and what implications this has for local power relations. I have done so by investigating how CBNRM programs affect environmental knowledge, political interests, and empowerment – three concepts that are central to CBNRM. I asked three questions:

1. How do shifting discourses about what constitutes environmental knowledge affect strategies and outcomes for environmental protection?
2. How does CBNRM display and obscure political interests?
3. How are CBNRM programs used to empower and control women and marginalized communities?

Many evaluations approach CBNRM with the goal of objectively measuring the policy's effect on communities' through quantifiable social variables like household income and women's decision-making power (Adams, Juran, and Ajibade 2018; Mutune and Lund 2016) or ecological changes in land use or wildlife density (Lee 2018; Meyer et al. 2021). Several compare aspects of states' CBNRM policies like a community's ability to own the natural resource that they are managing (Dale et al. 2020; Nelson and Agrawal 2008). These studies have helped scholars develop a picture of many key outcomes of CBNRM.

Yet, the idea of CBNRM itself is amorphous. As an amalgamation of policies that decentralize environmental governance, it bends to fit the needs and preconceptions of the state, NGO, or community that is implementing it (Blaikie 2006; White 1996). This is possible chiefly because the concepts that build our imagination of CBNRM – communities, natural resources, management, environmental knowledge, interests, empowerment – are themselves socially constructed (Escobar 1999). Thus, in this dissertation, I have endeavored to understand how the ideas central to CBNRM are shared with communities, received, resisted, and reconstructed in individuals' imaginations, and transformed into culturally relevant practice. I add to a body of literature on CBNRM from geographers, economists, ecologists, political scientists, and others, all of whom have contributed to our understanding of the material impact of CBNRM, with a unique sociological approach that elucidates the flow of those invisible ideas – norms, taboos, social meaning, and culture – that make up CBNRM. My primary data source is forty-six interviews, four focus groups, and fieldnotes from observation, all of which capture how stakeholders make sense of the ideas that constitute CBNRM.

This study specifically investigates CBNRM in four communities in West Pokot County, Kenya. Kenya itself presents many opportunities to study CBNRM since the country not only

decentralized its central government in 2002, but it also decentralized water and forest management in 2016. As a poor, rural county that was marginalized both during colonization and after independence, West Pokot County should be benefitting from the decentralization of funding and decision-making power over natural resources. I conducted interviews with those involved in administering these new, decentralized programs in the national, county, and municipal governments and NGOs, as well as with community members to understand whether and how decentralized natural resource management is perceived and enacted.

Major Findings and Contributions

Each question in this dissertation explores how participants understand CBNRM in relation to a different domain of materiality: the local environment (chapter three), local stakeholders (chapter four), and the self (chapter five). Likewise, each chapter challenges one of the assumptions that frame CBNRM policy and fuel its popularity. Chapter three questions whether CBNRM can really benefit local economies given the local social-environmental history of West Pokot. Chapter four investigates whether CBNRM programs equitably serve the interests of all local stakeholders. Finally, Chapter five questions whether CBNRM programs empower the individuals – particularly marginalized community members and women – who participate in them.

Contemporary Ecological Knowledge. In chapter three, I investigate discourse about environmental knowledge. I find that while traditional Pokot environmental knowledge once provided a practical blueprint for how humans can harvest local resources sustainably, most Pokot people now know of that traditional discourse, but do not believe in or practice it. Rather, it is shared not as a modern way of living, but in the context of oral histories. Some CBNRM groups now use this discourse to explain why their community ought to join the group and make sacrifices

to sustain the environment, but communities and group members alike acknowledge that this traditional discourse is disconnected from contemporary experiences and needs. Participants, however, described how modern cash markets have created an immense and unsustainable demand to harvest natural resources. Likewise, they explained how Christianity and western education have deconstructed traditional beliefs and norms to the point that few people feel any cultural pressure to sustain the environment. Thus, these Pokot communities lacked the contemporary environmental knowledge to sustain local natural resources amid strong market pressure to harvest.

The CBNRM groups, including both the community forest association and the borehole committees, teach group members how to harvest the forest and maintain boreholes using contemporary, western science, yet the lessons are limited. Likewise, they explain how communities can efficiently use their resources to participate in new models of agribusiness, but the groups provide little practical support to those who wish to start such businesses. Thus, contrary to the assumption that CBNRM programs improve local economies by creating new livelihood opportunities and efficient means of sustaining resources (2030 Water Resource Group 2016; Ifejika Speranza et al. 2016; Kenya Forest Service 2015; Republic of Kenya 2016), I find that CBNRM programs in this region of West Pokot ask participants to sustain resources but provide inadequate knowledge and resources to do so. Moreover, participants shared that CBNRM groups must offer enough relevant knowledge and improved livelihood opportunities that it can be practical for them to participate and still meet their basic needs.

What, then, does this mean for Pokot traditional environmental knowledge? Like modern CBNRM groups, the Pokot see traditional norms and beliefs as unrealistic, impracticable, and even unbelievable. Traditional environmental knowledge is still shared today, but almost only in the context of oral histories. Likewise, it is valued today, but not for its instrumental benefit, but

because it reflects their ancestors' wisdom and a bygone way of life that was uniquely Pokot. These findings reinforce the idea that traditional ecological knowledge is not just a set of environmental facts, but a way of living and learning. The traditional ecological knowledge that participants described was not powerful because of its inherent truth, but because each fact was a part of a system of beliefs, normative practices, and taboos that constituted its own worldview. This finding agrees with the arguments put forth by many Indigenous scholars of traditional ecological knowledge who criticize the academic approach that cherry-picks and extracts environmental knowledge from Indigenous communities to serve the purposes of western science (Battiste and Henderson 2000; McGregor 2004; Simpson 2004).

Although I agree that traditional ecological knowledge loses its power when it is no longer practiced, the findings of this research nuance this argument. Despite the harm that contemporary social institutions have caused the local environment, participants shared that they value the new norms, ways of living, and the access to resources brought by Christianity and churches, western education and schools, and cash markets. Indeed, aside from the few male elders who benefitted from this way of life, none of the participants expressed a desire to reinstate traditional knowledge systems. Rather, when I conducted follow-up focus groups and shared the ecological knowledge system that participants had described to me in the initial interviews, the focus group participants were more interested in recording the knowledge for posterity than in recreating it today.

Given the decolonial intent of this project and the fact that my own positionality is tied to these western institutions, I report these findings hesitantly and only after taking care to ensure that I am not imposing a skewed interpretation of participants' ideas. I conducted focus groups to share my interpretation of the findings and ensure that it aligned with participants' own perspectives; participants' agreement with this finding was common within and between focus

groups; and these thoughts were shared in the context of a discussion that actually began with me presenting an Indigenous critique of these institutions, but ended in participants asking me to nuance the critique in my final report. Indeed, after two hours of lively debate, each focus group concluded that, despite the flaws in these contemporary institutions, they do not want to get rid of church, school, or markets. What they *do* want, however, are viable livelihood opportunities that would allow them to have a real, practical choice to engage in CBNRM groups and in practices that sustain the environment. Thus, I add to the Indigenous critique of traditional ecological knowledge studies that scholars should be careful to maintain the distinction between Indigenous peoples and their traditional knowledge. Otherwise, they risk perpetuating the idea that Indigenous people are tethered to the past.

Defining Interests. In chapter three, I made clear that CBNRM groups do not offer enough access to new knowledge or livelihood opportunities to make joining a CBNRM group seem worthwhile for most community members. Yet, there are still several community members in each of the four communities who decided to join and worked to preserve their CBNRM group. Thus, in chapter four, I investigate not just the material benefits of joining a group, but community members' material, value-based, and political interests in participating or opting out of local CBNRM programs. I question the assumption that CBNRM can equitably serve the interests of all local stakeholders. I analyzed interviews with elected officials, chiefs, employees of government agencies and NGOs, community members, and CBNRM group leaders, to understand how this diverse web of stakeholders sees the benefits and challenges of CBNRM programs in West Pokot.

Consistent with my findings in chapter three, I find in chapter four that participants who join community forest associations and borehole committees know that the groups provide members with very few material benefits. Yet, group members did not join for material benefits,

but because of a strong, personal sense of responsibility to care for the borehole or community forest; an interest in maintaining their reputation by cooperating with other members; and often because of their trust in the local chief who had asked them to join. Thus, my findings affirm those of other studies in common pool resource management, which show that CBNRM stakeholders are motivated by material and value-based interests, or their desire to maintain a good reputation by cooperating and reciprocating trust (Berge and van Laerhoven 2011; Ostrom 1990).

Furthermore, I find that the assumption that CBNRM serves communities' best interests is supported and perpetuated not by the community members, but by administrators of CBNRM programs as well as by local and regional elites. In interviews with these individuals, they shared the dominant perspective that CBNRM programs *should* work and the belief that group members do, somehow, materially benefit from the groups. Moreover, administrators most often described those communities that had let their CBNRM group become inactive as lazy. This perspective, however, oversimplifies the multiple contrary opinions that community members had shared. Likewise, their claims that communities who opt out of CBNRM are lazy make dissent appear irrational. Thus, these leaders obscure communities' perceptions of CBNRM and, subsequently, the opportunity for evaluators to understand the reasons why CBNRM fails. My findings therefore bolster evidence from a handful of studies that insist on the importance of considering how elites' political interests can interrupt and override the goals of CBNRM (Adams et al. 2018; Adeyanju et al. 2021).

I also find that one interest group – elected officials – has the unique ability to override or limit the impact of CBNRM groups' work. For example, community forest associations in the highlands lamented that, "Even though we have good intentions, we have no power." Group members sacrifice to participate in CBNRM groups because of their personal values in

conservation, but they find their work is stymied by elected officials who are able to override the group's authority to patrol and enforce forest laws. Likewise, I find that boreholes in the plains are often used as a tool to gain votes, but even when the borehole breaks and the community lacks the funds to repair it, the borehole committees receive no further support from elected officials. This can have deleterious effects on the groups' willingness to continue sacrificing their personal interests for the group's goals. These findings contribute to the concept of 'patronage interests,' or governing elites' incentive to retain control over valuable natural resources so that they can profit from renting the resource and retain the loyalty of those who rely on them to access it (Nelson and Agrawal 2008). The chapter offers specific examples of how elected officials' patronage interests not only disrupt CBNRM groups' work, but also disincentivize and discourage participation so much that they can lead to a group becoming inactive. These findings suggest the need for further research on how CBNRM group members' perspectives of their elected officials' political discourse and activities in environmental law affect their willingness to sacrifice to participate in a group and to sustain local natural resources.

Finally, this chapter's grounded theory analysis allowed for the use of in vivo coding that captures one of the subtle, yet important ways that administrators construct the ideal of "community's interests." Administrators often spoke about CBNRM and communities' actions in the subjunctive mood, which is used to describe, insist, advise, and demand, far more than community members. This implied not only opinion (the indicative mood), but that the person speaking occupied a position of authority to suggest that they knew best how communities should act and thus would freely suggest that communities adjust their behavior to align with policy. It is through this subtle linguistic choice that one can observe how the state's logic of CBNRM – the idea that it should be in a community's best interests to sustain local common pool resources

through a CBNRM group – is imposed on communities and obscures our understanding of what communities actually want.

Empowerment or Control? Having investigated CBNRM's relationship with environmental discourse in chapter three, then with community groups' interests in chapter four, I investigate how CBNRM shapes participants' sense of self in chapter five. More specifically, I investigate whether and how CBNRM administrators work to empower group members, as well as how they control participants by reshaping their ideas of self in relation to the environment, or their environmental subjectivities. Although the idea of empowerment is contested (Cornwall 2007), I draw on one widely-accepted definition to conceptualize empowerment as the expansion of one's power to make strategic life choices from among viable alternatives (Kabeer 1999). I critically engage with theories of empowerment before beginning my analysis so that, when discussing the findings, I can identify why some might describe CBNRM as empowering while others do not. This is, to my knowledge, the first evaluation of CBNRM that both empirically evaluates empowerment in CBNRM programs while also critically engaging with and contributes to the theory of empowerment. I evaluate how group members and administrators practice power through CBNRM programs, then analyze these practices according to varied definitions of 'empowerment' to understand whether women and marginalized are being empowered or controlled.

First, I find that CBNRM groups seem empowering when framed by a development-centered definition of the term (Narayan 2005; USAID 2012). This is because CBNRM groups build group members' power by enabling them to make decisions about how to manage their local natural resources and by bestowing a position of authority from which members can share new ideas with the community. These new capabilities, however, might as easily be described as

responsibilities. Likewise, I find that NGOs and government agencies bestow access to limited and tailored sets of knowledge and decisions that work to construct the façade of free, informed choice around CBNRM, but in reality, group members are not actually given viable alternatives to accepting CBNRM on administrators' terms. Thus, I argue that CBNRM groups in West Pokot County fall short of the ideals of 'empowerment.'

These findings agree with those of Agrawal (2006), who argues that CBNRM is a form of governmentality that enables the state to better control and govern the environment through the formation of environmental subjectivity. Indeed, I also find that the logic that group members are taught through CFA and borehole committee training programs are strategically scripted to imbue group members with the belief that they are responsible for managing the borehole. This belief is reinforced since, as they care for the well and use its water, they come to value not just the health that results from consuming fewer waterborne contaminants, but also the sense of confidence and self-respect that they gain by embodying the ideal of "cleanness."

Yet, I also add to Agrawal's findings by interrogating the claim that CBNRM empowers women. I find that women who are invited to join borehole committees are not invited just to meet requirements for equal gender representation, but because of the hegemonic belief that women are solely responsible for finding water and bringing it to the home. Indeed, Pokot women seem to have an environmental subjectivity that preexists that instilled through CBNRM, as they see their identities as inseparably bound to their responsibility to fetch water. When a borehole pipe is lacking, a woman must dig for water. When piping from the source to the home is lacking, women must do the physical labor of bringing the water home, carrying liters of water on their heads and backs. Women's bodies bear the worry, stress, and physical pain of repeatedly becoming the pipe. Thus, it seems natural for Pokot women to also do the work of maintaining a water well. Indeed,

both program administrators and women themselves share the belief that women should lead borehole committees because women alone will bear the physical and emotional burden of fetching water from a river when a borehole breaks. Because of this, NGO workers recruit women not so that they can benefit from the leadership role, but to subtly coerce women to protect the NGO's investment in the local borehole. In this way, both the government and NGO use CBNRM groups as a means to control local populations.

It becomes blatantly clear that borehole committees fall short of their goal of empowerment when the borehole fails. When I returned to conduct follow-up focus groups four years later, both boreholes had broken. The very day that the borehole broke, women on the borehole committees accepted the expectation that they set aside their role on the committee and take up the responsibility of traveling hours on foot to find water and bring it home. None of the women I interviewed dared ask whether the men on the borehole committee might help them. I argue, therefore, that borehole committees that rely on this logic not only fail to empower women but rely on and exploit women's marginalized status.

Implications

Two Key Themes. The findings from these three investigations point to two underlying themes. First, all suggest that one's position of social power, both within the global system of neocolonialism as well as within the region and community, plays a key role in shaping their experience with CBNRM programs. Western institutions – modern education, Christianity, and capitalist cash markets, in particular – have erased environmental knowledge in the global south, and even now, the attempt to offer a substitution for that knowledge through CBNRM groups is inadequate, leaving communities without the adaptive capacity and resilience that it once had through traditional knowledge systems. Local elites and elected officials undermine CBNRM

groups' work and efficacy by ignoring environmental laws and overriding the groups' authority. And CBNRM program administrators describe groups as participatory not with the goal of empowering marginalized communities and women, but of subtly coercing them to serve the goals of states and global donors. Thus, CBNRM is less beneficial to local economies, less equitable, and certainly less empowering to communities than proponents claim it to be.

This begs the question of why CBNRM persists despite these issues. The answer, and second underlying theme, lies in the global economic trend towards neoliberal capitalism. Neoliberal capitalism promotes decentralizing state power, privatizing goods, and using market incentives to lower government expenditures (Martínez-Alier et al. 2010; Peck 2014). This brand of capitalism, which is so common across the global south, aligns well with CBNRM programs since they decentralize the responsibility for managing natural resources to communities thereby lowering the cost of managing the commons (Blaikie 2006; Dressler et al. 2010; Nelson and Agrawal 2008). Indeed, despite being ineffective at reaching their stated goals, CBNRM programs do succeed at offloading the responsibility, expense, and liability of environmental management to poorly prepared communities.

The Potential of CBNRM Programs. Despite these somewhat dismal findings, one finding from my research during the focus groups for chapter three provides a hopeful counterpoint. Despite just being two hours, the follow-up focus groups I conducted in 2022 functioned much like the consciousness-raising groups used by Freire to educate adults in Brazil (1973), by American feminists in the 1970s (Oakley 1998), and by feminist empowerment organizations globally (Batliwala 1994). Consciousness raising, or the process of developing one's ability to recognize and challenge unjust beliefs and norms of institutions like gender and neocolonialism, is thought to be a foundational step that leads into a process of empowerment

(Freire 1973; Rowlands 1995).

Indeed, many of the participants in the follow-up focus groups were surprised to hear me – a white, American, doctoral student and Christian – critique colonialism, western capitalism, western education, and Christianity as I presented my initial research findings from the interviews in 2018. In commenting and providing feedback on the findings, the group had a lively discussion as all considered the validity and applicability of these critiques to their own experiences with these now-commonplace institutions. The result, as I described in the last paragraph, was unexpected and entirely driven by the participants themselves: the participants decided that they still valued those neocolonial institutions.

Based on this experience, I hypothesize that CBNRM groups could become empowering spaces where marginalized people develop power with others to challenge neocolonial aspects of environmental governance and to piece together relevant ideas from the past and present to form a dynamic, Indigenous contemporary environmental knowledge. I argue that CBNRM groups have the potential to be sites where community members can gather to learn about new ways of interacting with the environment and challenge the systems of racism, sexism, and colonialism that marginalize them, developing their critical consciousness and power with others (Carter et al. 2014; Rowlands 1995). They also have the potential to be spaces where the community can learn about the many tools, rules, and policies that they can adopt to improve their local livelihoods and ecologies, developing their power to make decisions and create meaningful change in their communities.

Practical Suggestions. To achieve this goal, I make three suggestions that are specific to West Pokot County, but also widely applicable to other programs. First, CBNRM groups are often constructed with little regard for the foundational layers of environmental history that precede

them. Before groups are created, administrators must budget the time and resources necessary to gather a community and learn about its environmental history. From my experience sharing this history back with communities in focus groups, I unintentionally found that communities (1) recognized their need for environmental education on their own and (2) would articulate what knowledge and resources they need to pursue local environmental sustainability. In response, the government should develop relevant curriculum to meet communities' needs.

Second, it is not enough to come to communities and ask what they need. In West Pokot, community members, NGO leaders, and government officials call this "doing a public participation." Yet, community members repeatedly highlighted their frustration that such meetings still require them to go through their elected officials to acquire resources such as basic water services. Communities ought to be given full, transparent knowledge about their environmental rights so that they can hold their elected officials accountable to meeting their needs. If counties are serious about meeting long-term water needs, members of county assembly should make their decisions about where to fund water projects with guidance from the county's Ministry of Water, which should ideally develop a long-term water service and sustainability plan. Community borehole committees and community forest associations must be able to rely on their elected officials to support the voluntary work they are doing to sustain the environment.

Third, the West Pokot government should begin sharing new ideology about men and women's division of labor. CBNRM groups are an excellent space to introduce such ideas and allow women to question and challenge their position in society with the support of other female members. The environmental education and skills learned from this first policy suggestion will mean little if the practical work of sustaining the environment falls to women who have no bandwidth to expand their responsibilities.

Limitations

Each analysis in this research faced its own unique limitations. The most significant limitation was the pandemic, which prevented me from returning to Kenya to collect data that was intended to answer these research questions. My analyses largely relied on the forty-three interviews that I originally collected as pre-dissertation data. While I wrote the questions knowing that these interviews would provide sufficient responses, there were certainly points during data analysis when I wish I could have returned to that interview to probe what people meant by certain terms and why they made certain claims.

For chapter three, I was able to return to Kenya to perform four focus groups in the same four communities where I presented the preliminary findings and ask communities to critique the findings and provide important nuance. This significantly bolstered both my understanding of the Pokot concept of *wuw*, which participants rarely discussed in the initial interviews, and allowed me to develop a more thorough grounded theory. I did not, however, have enough time to review the findings from all three analyses though, so focused on the findings from chapter three, which was originally most lacking.

For chapter four, I attempted to discuss the perceived benefits and costs of CFAs and borehole committees, but the groups had not been active in several years, so these discussions suffered from poor recall. I could not discuss the other component of these findings – the political interests of elites – in focus groups because this would be extremely difficult to navigate as an outsider in a charged political landscape. It would have been better to review these findings in a series of interviews instead, but my trip in 2022 was too short for this. My initial interviews also did not intentionally sample elected officials, but the analysis could be strengthened by including their perspectives on elites' political interests in CBNRM.

Finally, my findings from chapter five show clear parallels between CFAs and borehole committees but provide far greater detail on how borehole groups are trained. While I interviewed people involved in overseeing the CFAs, the NGO that had originally worked with the group had ended its program two years before and no longer worked in the region. Although I was able to garner this information from other sources, the analysis would likely have benefitted from interviews with individuals who formed and trained the CFA. I also believe that the data would have been strengthened by holding focus groups with the women who served on borehole committees. Because the follow-up focus groups had men and women mixed together, it would have been impossible to discuss this topic in a way that I could ensure women would feel free to share their opinions.

Future Directions

I first decided to pursue a PhD in sociology because I knew that it would provide a pathway for me to partner with Pokot communities to better understand the issues of climate change, water contamination and insecurity, and women's empowerment. When I returned to West Pokot to share my preliminary findings in 2022, the village leaders and participants asked that this environmental history be documented and shared with them so that they can use it to educate future generations about traditional Pokot beliefs, especially as many of the elders who shared this information age. Thus, after I publish this dissertation, my next step will be to develop an accessible resource with and for the diverse members of these four villages.

In future research, I hope to maintain my relationships in West Pokot, both with the county government, local NGOs, and these communities, so that as these stakeholders adapt their water policies to meet communities' needs and innovate new policy, I might continue to assist by evaluating these programs and providing information that helps communities and the government

make informed decisions about those policies.

This work has depended on the contributions not only of communities, but of my research colleagues, Festus Ting'aa, Caroline Rumaita, and Theresa Chemtai. In the next stage of this project, I look forward to inviting them to continue collaborating with me in the capacity of co-authors if they would like. I intend to return to West Pokot County in the following year to share the full research findings with the four communities where I conducted this research, as well as with key NGOs and government agencies. While my intention has and continues to be to provide information to the stakeholders so that they can make informed decisions about CBNRM, I hope that this information will provide opportunities for dialogue within communities and create pathways for investigating ways to improve local environmental governance.

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