Unlikely Allies? The Intersections of Conservation and Extraction in Tanzania

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Abstract

Tanzania is largely considered the epicenter of the Second Poaching Crisis, having experienced dramatic declines in wildlife populations, in particular elephants. In response, the country has established a new (para)military wildlife authority, enhanced international partnerships and projects aimed at curbing illegal elephant killings, and embarked on widespread anti-poaching operations as part of the country's so-called "war on poaching." Attuned to these characteristics of green militarization and the conditions of biodiversity crisis in Tanzania, this dissertation examines the emergence of anti-poaching partnerships between conservation and extractive industry actors. Based on 11 months of research in Tanzania, focusing specifically on the Selous Game Reserve, I illustrate that mainstream state and non-state conservation efforts, under the conditions of biodiversity crisis, enable the expansion of the mining, oil and gas industries. Building on this argument, the dissertation offers three contributions to political ecological and broader critical geographical scholarship. First, I show how Tanzania's categorization of the poacher as an "economic saboteur" who threatens the national economy forms one aspect of a broader economic rationale directing the country's increasingly militarized approach to conservation. Such an economic rationale, utilized by both state and non-state conservation actors, authorizes controversial partnerships with the extractive industries. Second, I show how Tanzania's militarization of conservation is enabled in part by extractive industry actors who, in addition to securing access to its desired mineral deposits, temporarily "fix" the broader social and political crises facing the industry. Finally, I show that the Tanzanian state and its conservation authority mobilize conservation territory as a means to secure a range of resources for the developmental trajectory of the state, blurring the lines between territories of conservation and mineral extraction. Taken together, this research sheds light on the growing roster of actors involved in biodiversity conservation, the novel ways they enable and benefit from the intensification of green militarization, and the varying impacts of conservation-extraction articulations on conservation policy, practice, and territory.

Dedication

For Henri – Je dédie ce travail, à mon fils, Henri, source de ma motivation

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APU	Anti-poaching Unit
ASM	Artisanal and Small-scale Mining
CBCTC	Community Based Conservation Training Centre
CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resource Management
CI	Conservation International
CITES	Convention on International Trade in Endangered Species
COSTECH	Commission of Science and Technology
CSBI	Cross-Sector Biodiversity Initiative
CSR	Corporate Social Responsibility
EOCCA	Economic and Organized Crimes Control Act
ESG	Environmental, Social and Corporate Governance
FZS	Frankfurt Zoological Society
GRI	Global Reporting Initiative
IBAT	Integrated Biodiversity Assessment Tool
IMF	International Monetary Fund
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IUCN	International Union for the Conservation of Nature
IWT	Illegal Wildlife Trade
KGCA	Kilombero Game Controlled Area
KILORWEMP	Kilombero and Lower Rufiji Wetlands Ecosystem and Management Project
MOU	Memorandum of Understanding
MRP	Mkuju River Project
NEPSUS	New Partnerships for Sustainability
NGO	Non-governmental Organization
NNP	Nyerere National Park
PADDD	Protected Area Downgrading, Downsizing, Degazettement
PSAPI	Private Sector Anti-poaching Initiative
ROSATOM	Russian State Atomic Energy Corporation
TANAPA	Tanzania National Parks Authority
TAWA	Tanzania Wildlife Management Authority
TFCA	Transfrontier Conservation Area
TPSF	Tanzania Private Sector Foundation
TZ	Tanzania
UAV	Unmanned Aerial Vehicle
UN	United Nations

UNEP	United Nations Environment Program
UNESCO	United Nations Education, Scientific and Cultural Organization
URT	United Republic of Tanzania
USD	United States Dollar
VGS	Village Game Scout
WCA	Wildlife Conservation Act 2009
WCMC	World Conservation Monitoring Centre
WCS	Wildlife Conservation Society
WHC	World Heritage Committee
WWF	World Wildlife Fund

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Introduction: Unlikely Allies

Between 1992 and 1993 the Convention on Biological Diversity (CBD) was signed by 196 countries. With near universal participation, the CBD is a leading international treaty focused on "the conservation of biodiversity, the sustainable use of components of biodiversity and the equitable sharing of the benefits derived from the use of genetic resources" (UNEP, 2018). The CBD is one component of the United Nations family and has become synonymous with the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets. Together these, along with a vast network of environmental organizations and "all other partners engaged in biodiversity management and policy development" (Convention on Biological Diversity, 2020), make up the core components of the CBD, a leading institution of global environmental governance. Far from a monolithic institution, the CBD represents a dynamic and power-laden network of relationships and actors, whose component parts (and the constitution of the CBD itself) have long faced criticism. Yet, as "mainstream conservation" actors continue to adopt its agenda, goals, and promoted practices as their own, the CBD's hegemony is continually (re)affirmed (Corson & MacDonald, 2012).[1]

[1] By "mainstream conservation" I am referring to the large networks of actors and organizations formed under western ideals of conservation that dominate contemporary ideas of what conservation is, its values, policies, practices, and its funding cycle (Brockington, Duffy, & Igoe, 2008; Büscher & Fletcher, 2020).

Today, Aichi Target Number 11 is perhaps the most celebrated aspect of the CBD. Designed to protect 17 percent of the globe's terrestrial landmass and 10 percent of its coastal and marine areas, it is largely credited with significantly expanding global protected area coverage. Decades of research and resistance by social scientists, Indigenous peoples, civil society, and their accomplices illustrates the political nature of the various processes involved in the expansion of global protected areas. Establishing and maintaining these spaces are often dictated by state-led violence, evictions and processes and practices that exclude marginalized peoples from the benefits of lands and resources (Bluwstein et al., 2018; Brockington, 2002; Brockington et al., 2008; Corson & MacDonald, 2012; Kelly, 2011; Lunstrum, 2015; Neumann, 1998; Noe, 2010; Ybarra, 2012). On the flip-side of this exclusion are those actors that historically enjoy the benefits of protected areas including states (Lunstrum, 2018; Neumann, 2004b), non-governmental organizations (Bluwstein & Lund, 2018), and capital, often in the form of elite members of society (Benjaminsen, Goldman, Minwary, & Maganga, 2013), the global tourism industry and its visitors (Duffy, 2002; Gardner, 2012), and in the case presented here, the mining, oil and gas industries. It is this exclusion-inclusion dichotomy that forms the foundation to my doctoral research.

Biodiversity conservation is far from a homogenous field. In addition to mainstream conservation, Büscher and Fletcher (2020) describe two dominant threads of radical conservation discourse in the Anthropocene that expound the tenets of mainstream approaches, mainly the territorial logics of protected areas and conservation's capitalist character. *New Conservationists* are interested in forging deeper connections to capitalist enterprise and *Neoprotectionists* focus on fortifying and expanding the boundaries of the globe's protected areas in unprecedented ways. The latter group includes those calling for protecting 50 percent of the earth's landmass, an

approach that is fueled by the relative success of Aichi Target 11 and its potential expansion in the CBD's post-2020 framework for biodiversity (Nature Needs Half, n.a.; Wilson, 2016).[2]

For the mining, oil and gas industries such an expansion of protected area lands would, to use an industry term that describes when land has been rendered industrially unproductive, represent a "sterilization" of land available for development. Yet these industries, and private sector more broadly, have been intimately involved with the CBD since the outset, co-opting the global conservation agenda, and aligning its politics towards the win-win-win solutions so elaborately traced in the neoliberal conservation literature (Brockington et al., 2008; Büscher, Sullivan, Neves, Igoe, & Brockington, 2012; MacDonald, 2010). Through financial contributions and corporate social responsibility (CSR) programs, contributions to the conservation agenda have become normalized and have led to a proliferation of partnerships between conservation actors and the mining, oil and gas industries (Büscher & Davidov, 2013; Chapin, 2004; Corson, 2011; Enns, Bersaglio, & Sneyd, 2019; Hackett, 2015; Norris, 2016; Seagle, 2012). A deeper integration of biodiversity into corporate operations is the type of fusion called for by *New Conservationists*, a strategy gaining momentum within the CBD's post-2020 framework, evidenced by efforts to "mainstream biodiversity in crucial economic sectors such as energy and mining, infrastructure, manufacturing and processing as well as health" (UNEP, 2018). Proponents claim that the CBD will only meet its primary objectives if significant action is taken to mainstream biodiversity into these sectors of the economy because, in the case of the mineral sector, demand for primary commodities is increasing globally. As such: "Catalyzing action at the necessary scale requires integrating biodiversity in relevant economic sectors, as well as in cross-cutting national policies, development plans and processes, budgets, and economic

[2] Although the merits and morals of such an approach are criticized (Büscher et al., 2017), it seems all but certain that the territorial goal will increase to somewhere between 25-50 percent (See: Sandbrook, 2018).

projects" (UNEP-WCMC, 2017).[3] In order to conserve what is left behind, the conservation sector and its activities, is increasingly organized as a standardized package that fits nicely into "sustainable" and/or "climate smart" development projects (Kirsch, 2009; The World Bank, n.a.). This approach is useful for the mining, oil and gas industries as biodiversity standards are increasingly embedded within financing tools and reporting mechanisms on a global scale, presenting potential impacts on biodiversity as more than just reputational risk, but financial and operational risk as well. These moves are illustrative of how accelerating threats to global biodiversity have not halted mining, oil and gas development within and nearby protected areas and/or global biodiversity hotspots, where conservation-extraction interests increasingly intersect (WWF-UK, 2015). As my research shows, quite the opposite is taking place, as mainstream conservation efforts are, in fact, *enabling* the expansion of the mining, oil and gas industries.

Provided this context and the likelihood that conservation-extraction partnerships will continue to emerge, the need to study relevant cases of the convergence of these sectors is necessary. Tanzania's Selous Game Reserve, and its surrounding landscape, provides such a case. The Selous' global ecological significance, its central location in the Second Poaching Crisis, and the conservation-extraction partnerships that emerge across its vast geography require further inquiry into the contemporary nature of Africa's so-called "last remaining wilderness" (IUCN, 2017b). This study offers insights into what mainstreaming biodiversity in the mining, oil and gas industries may look like as the agenda advances and offers an analysis of the types of partnerships it forges, the rationales driving such efforts, and the impacts and limitations to the

[3] The CBD (2000) lists the following as its three primary goals:
a) The conservation of biodiversity
b) Sustainable use of the components of biodiversity
c) Sharing the benefits arising from the commercial and other utilization of genetic resources in a fair and equitable way

convergence of these two seemingly divergent sectors.

Research Objectives and Questions

The objective of this study is to better understand how mainstream conservation and mineral extraction intersect, with what impact, and to examine how the emerging conservation-extraction alliance plays out in Tanzania. In doing so, *Unlikely Allies* is guided by three overarching questions:

> *Who are the actors involved in conservation-extraction alliances and what rationales, practices and partnerships do they deploy?*
>
> *What are the impacts of these growing intersections on the policy and practice of conservation?*
>
> *How do conservation-extraction alliances remake territory under the context of commercial elephant poaching?*

My analysis is primarily concerned with the growing roster of actors found at the intersections of biodiversity conservation, security, and development that emerge under conditions of the global biodiversity crisis. As seen in other parts of East and Southern Africa, conservation actors have increasing turned to the private military and security industries as a rational ally to curb the illegal killings of wildlife (Lunstrum, 2018; Massé & Lunstrum, 2016). An overarching contribution of this dissertation is that mining, oil and gas actors have also emerged as a beneficiary of the biodiversity crisis, increasingly welcomed to the scene by both state and non-state conservation actors with open arms. I call this convergence of seemingly disparate actors the conservation-extraction alliance.

To answer the above questions, I deployed a mix of qualitative research methods across a vastly dispersed "field" in an effort to trace the veins of Tanzania's conservation-extraction alliance. The various arguments of this dissertation intersect at one primary point: that

mainstream state and non-state conservation efforts, under the conditions of biodiversity crisis, *enable* the expansion of the mining, oil and gas industries. This enabling is spurred by governmental and non-governmental discourses of poaching's threats to the wildlife economy, whereby the poacher is (re)imagined as an "economic saboteur" (Chapter 4). Such discourses inform a rationality for the militarization of conservation based on the premise that the value of the wildlife economy must be protected. A deepening reliance on economic logics, I argue, authorizes controversial partnerships with non-conventional conservation actors, including the mining, oil and gas industries, who, under these conditions, become rational actors of the wildlife economy. In elaborating on these controversial partnerships, I show how Tanzania's intensifying militarization of conservation is made possible by its alliance with mining industry actors (Chapter 5). In return, Mantra Tanzania, a uranium mining company, secures access to its mineral deposits inside the Selous Game Reserve, a vast space previously off-limits to mining, and simultaneously fends off social and political crises through its support of militarized anti-poaching. Finally, the analysis returns to the question of the impacts of the conservation-extraction alliance on territory (Chapter 6). With empirical insights from multiple ongoing development projects within the Selous, I argue that the Tanzanian state, and its conservation authority, mobilize conservation territory to secure a range of resources, including minerals, ultimately blurring the lines between conservation and mineral extraction in southern Tanzania.

Although a study of a particular historical-geographical place, the case of the Selous offers insights into the changing natures of protected areas today. As stated in this introduction, and throughout the dissertation, this is important given the context of the CBD and the intentions of so-called *new conservationists* to forge even deeper ties with capitalist enterprise in response to the various ecological crises afflicting this–our only–planet. Conceptually this work sheds light

on the seemingly ever-growing roster of actors involved in biodiversity conservation and the novel ways they benefit from the intensification of green militarization. In laying bare the constitution of Tanzania's conservation-extraction alliance, and the political ecological conditions that have brought it into being, this dissertation adds further urgency to the search for abundant, radical and revolutionary alternatives to those proffered by mainstream conservation and its rather *Unlikely Allies*.

As hinted at above, my research is grounded in scholarly debates of political ecology, political geography, and a diverse range of research that assesses the power and impacts of the mining, oil and gas industries. Here, I summarize the guiding concepts that inform this research, while threads of these fields of inquiry are rooted in each of the following chapters.

Conceptual Framework

The Politics of Ecology:

Political ecology examines how power shapes the complex set of social relationships that maintain access and control over natural resources (Büscher & Davidov, 2013; Peet & Watts, 2004; Peluso & Watts, 2001; Robbins, 2012). Simply put, the theoretical underpinnings of this scholarly tradition are guided by the premise that ecology, or the relation of organisms to one another and their broader surroundings (and the science of such), is political. Central to a critique informed by political ecology is, as Büscher and Fletcher (2020) argue, that "the most foundational and powerful contextual feature to take into account when making sense of ecological issues, including conservation, is (the capitalist) political economy" (50). As such, the vast literature on neoliberal conservation provides crucial framing for beginning to make sense of the political economy, power, and natures of the increasing intersections between conservation

and the mining, oil and gas industries.

As McCarthy (2012) and others point out, there are a dizzying array of theoretical threads examining neoliberalism and its varied processes.[4] I understand neoliberalism as an ongoing political project that seeks to "transform human relations to nature so that the latter becomes a commodity to be bought and sold by those with sufficient monetary assets" (Brockington et al., 2008; Castree, 2010, p. 1731; McCarthy & Prudham, 2004). Scholars who attend to the particularities of conservation's neoliberalization, or how biodiversity conservation is transformed by market-based characteristics such as privatization and processes of commodification, among others, have intricately detailed the significant expansion of non-traditional conservation actors operating across the burgeoning sector (Brockington & Duffy, 2010; Brockington et al., 2008; Büscher et al., 2012; Corson, 2016; Igoe & Brockington, 2007; MacDonald, 2010; Smith, 2007; Sullivan, 2012b). However, this does not mean that the state is in retreat. Instead, the state assists non-state actors by (re)regulating access to land and resources that facilitates non-state control and authority over large swaths of land and resources (Igoe & Brockington, 2007). Such processes, often violent in nature, include a series of interactions and negotiations between a network of state and non-state actors, which also articulate and expand state power (Kelly, 2011; Lunstrum, 2013, 2018).[5] Scholars identify these developments as

[4] In recognizing the various intellectual projects theorizing neoliberalism, I approach this vast literature looking for synergies and connecting fabrics that help me understand neoliberalism as a political project that centers economic growth as a primary tenet of governance and aims to reconfigure broad swaths of social and political life to fit these economic logics (Fletcher, 2010; Fletcher, Dressler, Anderson, & Büscher, 2019; McCarthy, 2012).

[5] In the Tanzanian context, non-state environmental actors are linked to the formation of the Arusha Manifesto, an oft-cited proclamation of Tanzania's first President Julius Nyerere who famously stated the newly independent state's interest in conserving wildlife at the behest of mainstream conservation actors (Neumann, 1998). Although this dissertation focuses extensively on the parastatal conservation efforts of Tanzania's wildlife authority, I maintain the moniker of "mainstream conservation" due to these colonial legacies of conservation actors and idea(l)s throughout the country and their long-standing influence in shaping conservation policy and practice. The state's presence is, of course, prominent and, perhaps increasingly so, despite the omnipresent reality that, as Noe et al. (2017) argue, today's conservation partnerships "have their genesis from the country's colonial history of external influence in matters relating to wildlife" and the roots of these relationships illustrate how new and old conservation partners establish and maintain power and authority over Tanzania's conservation policy and practice.

trends in green and blue "grabbing" and/or processes that have elements of both accumulation and dispossession at their core (Benjaminsen & Bryceson, 2012; Büscher & Fletcher, 2015; Harvey, 2003; Kelly, 2011; Massé & Lunstrum, 2016). The convergence of conservation-extraction, being studied in this dissertation, takes shape within these broader political economic conditions.

The Emergence of Conservation-Extraction Alliances:

Writing for *World Watch Magazine*, Mac Chapin (2004) traces the rise of big-conservation, its worsening relationship with Indigenous peoples, and the sector's neoliberalization, evidenced by intense sectoral competition and the proliferation of financial arrangements with private corporations including the mining, oil and gas industries. Chapin's (2004) article is an urgent call for big-conservation–WWF, Conservation International, and The Nature Conservancy–to challenge the contradictions inherent to this transformation, mainly the actuality that:

> NGOs entrusted with the enormous responsibility of defending the planet's natural ecosystems against the encroachment of the modern world in its most destructive manifestations have increasingly partnered with–and become dependent on–many of the corporations and governments that are most aggressively making this encroachment. (Chapin, 2004)

The concern here is both the emergence of these partnerships and their intensification or, as Chapin (2004) puts it, the relation of dependency. Importantly, this dependence is *not* the result of big-conservation carving out space within the confines of a social/economic order that it had no role in creating. As Brockington et al. (2008) state of the relationship between conservation and capitalist expansion: "mainstream conservation has never stood outside of these processes" (198). Said differently, mainstream conservation has long contributed to the expansion of capitalist social relations and the forms of resource *extraction* that it relies on. The eras of wise-use and community-based conservation and the expansion of nature-based tourism, especially the trophy hunting sector, are all evidence of this historic commensurability between mainstream

conservation and a range of extractive activities (See among others: Bella, 1987; Büscher & Davidov, 2013; Fletcher, 2012; Neumann, 2017).[6] The Selous is an excellent example of this historic relationship between conservation and extraction given its establishment and management as a hunting reserve that for decades facilitated the extraction of wildlife parts, such as ivory, and additional commodities including beeswax and rubber (Neumann, 2017). Today, given the reserve's history of extraction, and the broader political economic conditions highlighted by Chapin (2004), it comes as no surprise that mainstream conservation and the mining, oil and gas industries are increasingly converging in southern Tanzania.

More recent research shows how the ongoing expansion of neoliberalism only exacerbates the tendency of conservation interests and actions to converge with that of the mining, oil and gas sectors–what I refer to throughout this dissertation as the extractive industries (See: Corson, 2011; Seagle, 2012). For example, Paige West (2006) argues the *logics* and promises of conservation and the mining industry is equally centered on notions of development and modernity, turning rather strange bedfellows into like-minded harbingers of broken promises and exploitation. In other cases, driven by logics of eternal growth and principles of private property, both conservation and mining actors engage in "shared practices" of securing the social license for each sector's seemingly distinct operations even within the same communities (Norris, 2016). Again, given the historic intersections between conservation and extraction, it is unsurprising that new forms of these alliances continue to emerge alongside accelerating planetary crises, including the dramatic decline in biodiversity (See: IPBES, 2019; WWF, 2020).

[6] I understand extraction as a social and political mode of organization whereby a series of physical and social processes facilitate the transformation and removal of nature into marketable resources and commodities (See: Arboleda, 2020; Johnson et al., 2020; Killoran-McKibbin & Zalik, 2016; Willow, 2018). Although I recognize these extractive processes are embodied in a variety of economic activities, including, for example, industrial agriculture, forestry, and photographic and hunting tourism, in discussing the mining, oil and gas industries throughout this dissertation, I retain the analytical category of the extractive industries in order to speak directly to the broader literature on these sectors and their increasing convergence with mainstream conservation actors.

Yet, although a long history between conservation and extraction exists, it is the emergence of alliances between mainstream conservation and mining, oil and gas industries in Tanzania that highlights a different articulation of this historical relationship emerging under neoliberal capitalism. As the case of the Selous illustrates, today's alliances have surpassed a simple donor-beneficiary relation, derided in Chapin's (2004) article, and implied by those who argue that big-conservation has had no alternative but to engage with those that encroach on the planet's ecosystems in the most destructive manner.

Over time capitalism has shown itself to be both crisis-ridden and crisis-dependent (O'Connor, 1988). If the last four-decades have taught us anything, it is that the neoliberal project, rife with crisis, makes this point even more clear. Two aspects of capitalist crises, or rather contradictions, inherent to capitalism are of particular interest here. The first is capitalism's need to (re)locate accumulated capital because of its tendency for overproduction. In response, capitalists look to reorganize space and nature to attain a "spatial fix," which *temporarily* fends of crisis by restoring capitalist profit margins (Harvey, 1981, 1982 [2018], 2003). As Enns et al. (2019) rightly point out, little scholarly work theorizes the dynamics of the spatial fix as it relates to the extractive industries. Those that do, including Zalik (2015), Barry (2013), Scott (2013), and I would add Gordon and Webber (2008), show how the violent creation of new spaces for accumulation alleviate crises as cheap labor and commodities are readily accessed, new production comes online, and commodities reach geographically distant markets.

The second contradiction of note is capitalism's imperative for eternal expansion based on finite resources. The impacts of this contradiction, it can be said, is increasingly recognized by popular audiences, especially given the indisputable evidence of climate change, and triggers and guides social/political movements today (See: O'Connor, 1988). When combined with a history

of extractive disasters, expanding inequality, increasing knowledge of the slow violence of industrial development, and a strengthening environmental justice movement, the extractive industries face a continual legitimacy crisis (See: Enns et al., 2019; Keeling & Sandlos, 2009; Nixon, 2011; Temper, del Bene, & Martinez-Alier, 2015). In the late 1980s, O'Connor (1988) suggested that the crises of capitalism, and thus a fledgling social license to operate, would generate "powerful social movements demanding an end to ecological exploitation" (32). Yet, neoliberal capitalism has, so far, proved rather impervious to crisis (Brockington et al., 2008), finding new means to (re)produce vast profits during disaster (Klein, 2008), intensifying commodification of fictitious commodities (Büscher, Dressler, & Fletcher, 2014; Polanyi, 1957), and leaning into processes of financialization, thought to signal a last-ditch effort to realize profits as "concrete commodity markets have exhausted their potential" (Büscher & Fletcher, 2015, p. 291; J. W. Moore, 2011).

This "late capitalism" has been rather kind to conservation-extraction alliances as both sectors work to "secure the foundation upon which their production and accumulation is based" (Enns et al., 2019, p. 17). Here, conservation-extraction partnerships act as a spatial and socioecological fix for both sectors involved. Such fixes include a myriad of ways whereby the production of space and nature are transformed, however temporarily, to address the social and ecological crises of capitalism (Ekers & Prudham, 2015). For conservation this means that, in seeking new resources, and with its response to critiques of its exclusionary model of "fortress conservation" wrapped in the promise of economic benefits and sustainable community-based livelihoods, the sector has increasingly looked to the market to expand its variegated global interventions (Corson, 2016; Fletcher, 2012; Levine, 2002). As detailed by Chapin (2004), and the vast neoliberal conservation literature mentioned above, this has led to the significant

expansion of non-traditional conservation actors across the sector, whose access to land and resources is facilitated by state parties and its allies, and who increasingly engage in varied market-based mechanisms designed to conserve nature while turning a profit (Roth & Dressler, 2012; Smith, 2007; Sullivan, 2012a). The extractive industries have enjoyed the benefits of these shifts and are increasingly involved in market-based conservation mechanisms that "masquerade as the pinnacle of logic, rationality and common sense" (Büscher & Davidov, 2013, p. 9), while being focused on contributing to sustained extractive growth (Corson, 2011; Fletcher, 2013; Hackett, 2015; Seagle, 2012). Such collaborative alliances allow the conservation sector to access new opportunities for the accumulation of capital through, for example, the expansion of protected areas, ecotourism ventures, and/or the commodification of scientific expertise extracted from Indigenous lands and knowledge keepers (See: Büscher & Davidov, 2013; Enns et al., 2019).

For the extractive industries, the depletion of commercially viable resource deposits and/or access to them is also an increasing crisis under late capitalism in need of a spatial fix. Partnering with conservation, both within and beyond resource concessions, makes extraction more productive as it provides access to "sterilized," or industrially unproductive, lands previously off-limits. This is evidenced by the degazettement of protected areas in the name of securing "strategic resources," and/or to advance state-led development plans such as with the Selous in Tanzania (Bebbington et al., 2018; Enns et al., 2019; Mackenzie, Fuda, Ryan, & Hartter, 2017; Mascia et al., 2014; Meskell, 2014; Qin et al., 2019). To put it bluntly, protected area downgrading, downsizing, degazettement (PADDD), and/or a general malaise towards boundaries and conservation legislation, allows for an infusion of investment capital into previously off-limit spaces and results in a temporary spatial fix for extractive industry capital.

Investment in conservation, despite its links to violence, dispossession, and exploitation, is more than merely an effort to greenwash extractive operations as these "performances of sustainability" (Seagle, 2012) are increasingly designed to mitigate the reputational, economic and social/environmental risks of the extractive industries today. Over the last thirty-plus years, extractive industry actors have recognized that social and political contestation can lead to significant operational disruptions and lost profits (Conde & Le Billon, 2017). In responding to its evolving legitimacy crisis, regulatory processes, voluntary practices of CSR, and formal legal processes "shaped by interests of extractive capital/state alliances" (Bridge, 2004; Zalik, 2015) continue to proliferate, framed as pragmatic ways to address social and political crises. Having little evidence of enacting effective socioeconomic development (Hilson, 2012), voluntary CSR initiatives are commonly criticized as being designed to improve corporate reputations (Seagle, 2012), legitimize techno-scientific knowledges and delegitimize alternative ways of knowing (Bridge & McManus, 2000), and critically, avoid further state-led regulation (Coumans, 2010). Furthermore, this politics of "sustainable development" works to (re)legitimize the extractive mode of operation and delegitimize social contestation as "anti-development," with those resisting seen as the enemy of progress and economic growth (Arsel, Akbulut, & Adaman, 2015; Bridge, 2004). Such a dichotomy is reflected in the acceptance of articulations of contemporary mining as "climate-smart" and the criminalization of Indigenous and anti-extraction dissent (Arsel, Hogenboom, & Pellegrini, 2016; Billo, 2017; The World Bank, n.a.). The increasingly standardized forms of so-called sustainable development mechanisms such as environmental impact assessments (Szablowski, 2007), human rights-based approaches (Coumans, 2010), and conservation initiatives mentioned here, indicate the politics of contemporary neoliberal capitalism whereby the governmental tendency is to incentivize behavioral change, at the level of

the individual and the corporation, to stave-off structural political economic transformations that may threaten growth (Fletcher, 2010; Fletcher et al., 2019; Foucault, 2008). This is also reflected in the tendency for state regulators and financial institutions to develop biodiversity standards, aimed at addressing their own institutional concerns about biodiversity loss and climate change. Accordingly, CSR continues to evolve within the firm, now forming a critical component of risk management (Frederiksen, 2018), whereby corporate actors engage with and report their Environment, Social and Governance (ESG) activities to meet these newly formed biodiversity standards and retain access to capital and territory. This leads to more opportunities for conservation-extraction partnerships and the creation of new tools and activities that help extractive industry actors address these standards and reduce corporate risk. The array of initiatives depicted in corporate reporting as mitigating, offsetting, and/or providing for "no net loss" and/or "net gains" of biodiversity are evidence of this, read seemingly devoid of the context of the rabid expansion of extraction and processing of minerals, metals, and fossil fuels and the subsequent destruction of planetary life-sustaining systems (Carrington, 2020).

Green Militarization of Conservation:

For some extractive industry actors, such as those in Tanzania discussed in this dissertation, addressing the crises of capitalism is done through its support for anti-poaching and wildlife law enforcement efforts. As I detail in Chapter 5, corporate-led support for anti-poaching efforts in the Selous mirror global trends of the militarization of conservation, whereby "green militarization" or the increasing "use of military and paramilitary (military-like) actors, techniques, technologies, and partnerships in the pursuit of conservation" (Lunstrum, 2014, 817), acts as a socioecological fix for the extractive industries by opening the Selous to investment and in quelling (inter)national social/political opposition.

This green militarization comprises an intensification of historic processes of violence associated with conservation (Büscher & Ramutsindela, 2015; Cavanagh, Vedeld, & Trædal, 2015; Lunstrum, 2015; Neumann, 2001b, 2004a; Peluso, 1993). A burgeoning field of inquiry, critical scholars establish the links between (inter)national security discourses and wildlife crime/poaching as one of the central driving forces behind green militarization and "war, by conservation" (Duffy, 2016; Lunstrum, 2014, 2015; Massé & Lunstrum, 2016; Ybarra, 2016). Now largely debunked as a systematic driver (Haenlein & Maguire, 2015; Haenlein, Maguire, & Somerville, 2016), security discourses and the unconventional and problematic relationships, practices and policies they generate have severe impacts on marginalized communities, wildlife, and law enforcement officials involved (See: Duffy et al., 2019).

It is without a doubt that global biodiversity is in a state of severe crisis (IPBES, 2019; WWF, 2020) and that the illegal killing of elephants–a critical keystone species–plays a significant role in how this crisis manifests in Tanzania (Chase et al., 2016; Wasser et al., 2015). Analyses critical of the militarization of conservation do not distract from the severity of this crisis, but instead highlight the dangers of focusing on the symptoms (poaching and wildlife crime) instead of the root causes of the wildlife crisis, such as the history of criminalization of hunting practices, economic impoverishment and inequality, and demand for wildlife products, among others (Challender & MacMillan, 2014; Duffy et al., 2016; Hauenstein et al., 2019; Lunstrum & Givá, 2020). Widely accepted by conservationists and policy-makers, a militarized approach to conservation risks monopolizing resources and marginalizing alternative approaches that center communities in conservation efforts (Duffy et al., 2019; Roe & Booker, 2019). On the latter point, recent studies argue engaging communities as conservation partners and/or coupling demand reduction efforts with community-based livelihood campaigns are more effective at

reducing poaching than enhanced enforcement measures alone, especially in the case of ivory (Biggs, et al., 2017; Holden, et al., 2019). What these, and other studies suggest, is that a singular and heavy-handed approach to militarized conservation risks alienating communities that live closest to conservation spaces and jeopardizes the creation of more just and sustainable long-term solutions to biodiversity decline (Duffy et al., 2019; Lunstrum, 2014; Masse et al., 2018).

Furthermore, instead of addressing the root causes of biodiversity decline, mentioned above, critical research shows how the intensification of conservation's militarization increasingly links with conservation actors seeking new opportunities to expand markets and accumulate wealth and power in the name of protecting biodiversity. This includes the expansion of "counterinsurgency ecotourism," (Devine, 2014), the commodification of green militarization itself (Marijnen & Verweijen, 2016) and how security discourses "provoke the dispossession of vulnerable communities" and rationalize private "accumulation by securitization" (Massé & Lunstrum, 2016). Here, the securitization of wildlife and biodiversity is incentivized by the potential profits to be made by military and security contractors, the tourism sector, and conservation organizations (Devine, 2014; Marijnen & Verweijen, 2016; Massé & Lunstrum, 2016; Ojeda, 2012), which often vitalize militarized state power through collaborative partnerships and arrangements (Lunstrum, 2018).

In Tanzania it is the political economic foundations of the wildlife economy, a critically important component of the country's economy, that rationalizes the increasing militarization of conservation seen across the country. Like the security discourses discussed above, that which drives Tanzania's militarized conservation is intimately connected to the colonial trope of the poacher and its contemporary manifestation: not the "poacher-as-terrorist" detailed by Duffy (2016) but the poacher as *economic saboteur*. The results of these discursive frames amount to

the justification of violence against those deemed to be degrading nature and threatening the value of natural capital (Dunlap & Fairhead, 2014; Fairhead, Leach, & Scoones, 2012; Fletcher et al., 2019). Besides its violent impacts for marginalized communities, this economic rationale "reaffirms narrowed antipolitical explanations for biodiversity loss, instills neoliberal political rationalities among conservationists, and forecloses alternative and progressive possibilities capable of resisting status quo logics of accumulation" (Dempsey & Suarez, 2016, p. 653), allowing for controversial actors, such as the extractive industries, to emerge as the rational actors of the conservation economy (See: Fletcher et al., 2019).

Conservation-Extraction Territory:

An inherently spatial project, conservation's primary strategy is the establishment and maintenance of protected areas.[7] Commonly known as the "national park ideal," this strategy is largely seen as a resounding success, used across the globe in various forms (Adams, 2019). The Selous is a strong example of "fortress conservation" (Brockington, 2002), with a history of wilderness' *production* leading to the dispossession of tens of thousands of people and varying political ecological conditions that contributed to the ultimate establishment/expansion of the Selous as a protected area (Neumann, 2001a, 2017). Examples abound of these processes being critical to the establishment and expansion of state power through the production of conservation territory (Neumann, 2004b; Peluso & Vandergeest, 2011). Territory is, however, not merely a container of the state and is produced through a range of social relations that calculate and

[7] A vast and ever-growing field of scientific inquiry, the promoted policies and practices that are often collated into a seemingly unified "conservation" are actually the source of great tension within the conservation community. In an attempt to cut through these tensions, Sandbrook (2015b) identifies that there are many *conservations*–a forest instead of a tree–which at times, can have more that separate them then bring them together. The bulk of the analysis of this dissertation is concerned with the efforts of mainstream conservation, primarily the advancement of an agenda that promotes protected area expansion and the militarization of conservation policy and practice. Although I am predominantly interested in conservation territory in the form of designated protected areas, I try, at various times to see the conservation forest from the trees.

(re)order space anew (Elden, 2009; Neumann, 2004b; Scott, 1998). The (re)ordering of space is dictated and advanced by the overlapping priorities of powerful actors, processes that disrupt existing social orders through the implementation of strategies designed to demarcate boundaries, allocate access/control over lands and resources and designate particular activities across space (Corson, 2011; Vandergeest & Peluso, 1995). Here again, conservation and the extractive industries intersect in southern Tanzania. Framed as an impenetrable wilderness, the last of its kind, the Selous becomes a space whereby commodity booms, conservation interventions, and energy futures intersect, illustrating how the production of territory is contested and loaded with overlapping processes that (re)territorialize space in relation to the priority values of dominant resource regimes (Agnew & Oslender, 2013; Campbell, 2010).

In taking this overlap seriously, this dissertation attempts to shift the critical gaze of conservation territory from the relations of the surface (area) to *all that spaces contains*, attending to the materiality of territory, including that of the subterranean, and the strategies of security and containment that target it (Bridge, 2013, 2015; Elden, 2013b, 2017). A refocused point of analysis is useful as extractive industries and conservation interests continue to overlap at hotspots of both biodiversity and extractive investment (Harfoot et al., 2018; WWF-UK, 2015). In expanding a territorial gaze to include the subterranean, which, under capitalism is "always a space of potential (Rogers, 2019)" that is "integral to nation-state building and geopolitical strategies of control, enclosure, and exclusion" (Squire & Dodds, 2019, p. 1), we see how the politics of conservation territory encompasses far more than the conventional commodities of the conservation economy. Instead, understood historically "as the production of nature and space within the capitalist mode of production" (Neumann, 2017, p. 121) and as a strategy of territorial control (Bluwstein & Lund, 2018), conservation is enrolled in the enclosure

and securitization of subterranean wealth and, under particular historical-geographical circumstances, its subsequent extraction. This expanded and renewed territorial gaze unearths protected areas, showing how the territories of conservation and the extractive industries are increasingly blurred under contemporary capitalism.

Research Context

The Global Biodiversity Crisis in Tanzania:

Although the causes and solutions are fervently disputed, it is widely accepted that global biodiversity is experiencing a decline never before seen in human history (Büscher & Fletcher, 2020). A report by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services recently highlighted the severity of this decline, perhaps most startingly captured by the plight of an estimated one million species that are facing extinction (IPBES, 2019). Although these crisis narratives are often framed in dangerous anti-political ways that support problematic and violent forms of conservation, this is not to say that biodiversity is not in crisis (See: Weldemichel, 2020).

In Tanzania this biodiversity crisis has been most felt through a resurgence in the poaching of wildlife.[8] The so-called "Second Poaching Crisis," has, most notably, resulted in staggering declines in the populations of the savannah elephant *(Loxodonta africana)*, a keystone species.[9] Although various authorities in the country today suggest this crisis is stabilizing, between 2009-2014, Tanzania, as one of the hardest hit countries, lost 60 percent of its elephant populations (Chase et al., 2016). During that same timeframe sub-Saharan Africa's elephant populations have

[8] Importantly, "poaching" is a colonial term designed to criminalize African hunters of wildlife and reserve the right to kill wildlife for white "conservationist" big game hunters (See: Neumann, 2004a)
[9] The First Poaching Crisis took place in the 1970s-1980s and culminated with the 1989 CITES ban on elephant ivory (Barbier, Burgess, Swanson, & Pearce, 1990; L. Moore, 2011; Somerville, 2016).

declined at an annual rate of 8 percent (ibid, 2016). For sub-populations such as the Selous-Mikumi ecosystem, one of Tanzania's most critical elephant ranges, the declines are staggering, from 70,406 elephants in 2006 to just 13,084 in 2013 (Tanzania Wildlife Research Institute, 2013). The extent of the crisis led some conservationists to suggest a regional extinction of elephants could be realized as early as 2022 (BBC, 2016).

Rising prices for ivory are generally attributed to growing demand in places like China and Hong Kong, a demand that is met through the illegal wildlife trade (See: Vigne & Martin, 2014; Wittemyer et al., 2014). Supplying this illegal trade is shown to be fueled by high-levels of corruption, which is, considering the sensitivity of such information, rather well-documented in Tanzania (See: Environmental Investigation Agency, 2014; Packer, 2015). Tanzania, and its southern neighbor Mozambique, are central to the illegal trade in ivory. Labeled as elephant poaching "hotspots," since 2006, these two countries account for 86-93 percent of globally examined large seizures of illegally obtained ivory (Wasser et al., 2015). Although the poaching crisis has led to increased interest and analysis of the global illegal wildlife trade (IWT), for which critical researchers have traced the growing tendency towards the militarization of conservation (Duffy, 2016; Lunstrum, 2014; Marijnen & Verweijen, 2016; Massé & Lunstrum, 2016), critical assessment of Tanzania's poaching crisis, its response, and impacts remain limited (See: Bluwstein, 2016; Mabele, 2016; Noe, 2018; Weldemichel, 2020).

Given the importance of wildlife to Tanzania's tourism economy, the leading foreign exchange earner in the country, various actors have scrambled to halt the Second Poaching Crisis. In response, the country has re-shuffled its wildlife agencies, increased inter-governmental collaboration, expanded international partnerships, and implemented a (para)military regime of enforcement throughout the country (Kimati, 2015; Lowry & Tremblay,

2016; Mabele, 2016). Tanzanian officials and their mainstream conservation partners claim these actions are necessary if the country is to win the "war against poaching," a common discursive frame that links the Second Poaching Crisis to concerns about (inter)national security, a framing that is utilized across the region and beyond (Duffy, 2016; Lunstrum, 2014; Mabele, 2016; Ramutsindela, 2016; Ybarra, 2012). At first glance, this response to the wildlife crisis is not new. State military and police actors, along with their non-state allies, have long been involved in enforcing wildlife laws during both times of crisis and normalcy (Cavanagh et al., 2015; Lunstrum, 2015; Neumann, 2001b; Peluso, 1993). Yet, the Second Poaching Crisis differs in the extent and intensity of conservation's militarization, its discussed rationales, and the vast array of

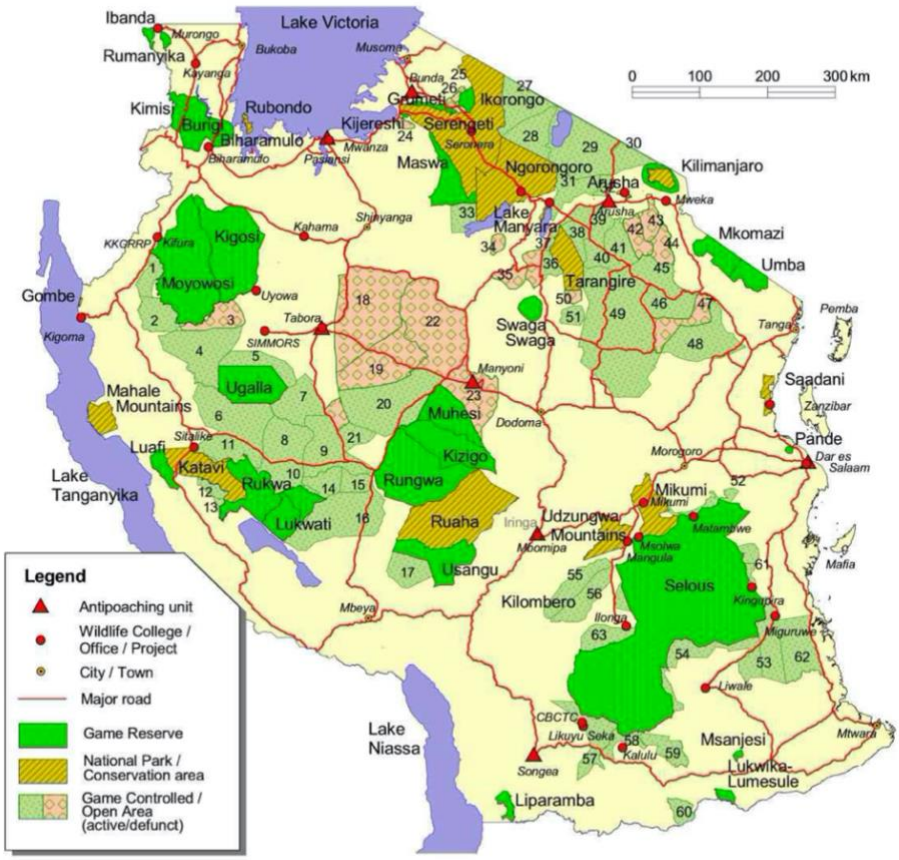

Figure I: Tanzania's Protected Areas – *Pictured here are Tanzania's protected areas and its wildlife management infrastructure including TAWA-led anti-poaching units and wildlife colleges. Of interest for this dissertation is the Selous ecosystem in the southeast corner of the map (TAWA, 2018).*

actors involved this time around, including most notably, the mining industry.

Tanzania's Mining Sector:

After experiencing a significant economic crisis at the end of the 1970s, Tanzania slowly liberalized its economy, gradually backing away from state control and opening the mineral sector to foreign investment and operators (Pedersen, Jacob, Maganga, & Kweka, 2016). This accelerated in the early 1990s as Tanzania followed the World Bank's recommendations to "adapt to modern conditions of mining" and attract private investment through friendly fiscal policies and regulatory frameworks (Campbell, 2010; The World Bank, 1992). The reform of the mineral sector in Tanzania mirrors that which took place across much of the developing world in the mid 1980s-1990s. The combination of these economic reforms and high commodity prices led to significant growth in Tanzania's mineral sector, especially in the gold sub-sector as the state moved from active participant to "providing concessions and asking for a small royalty" (Emel, Huber, & Makene, 2011, p. 76). However, it also led to increasing conflicts between industrial scale miners, artisanal miners, and local communities (Curtis & Lissu, 2008; Holterman, 2014b; Moloo, 2011). With a series of policy and legislative changes throughout the 2010s, the Tanzanian state appears to be making a comeback in the mineral sector, seeking higher royalty rates and levels of state-ownership (Jacob & Pedersen, 2018; Jacob, Pedersen, Maganga, & Kweka, 2016; URT, 2017b). Yet, despite these political-legal changes, little has been done to address the long legacy of human and environmental rights abuses at and nearby Tanzanian mines.

Uranium One/Mantra Tanzania and the Origins of this Research Project: [10]

Throughout the 2000s, as uranium hit staggering highs of $140 USD per pound in 2007,

[10] For the sake of clarity, I hereby use Mantra Tanzania or Mantra in reference to this corporate group of companies. I discuss the corporate structure further in Chapter 5.

interest in Tanzanian uranium deposits skyrocketed.[11] A renewed interest in uranium was a boon for the mining sector's exploration wing. In Tanzania, where uranium exploration dates back to the colonial period, this manifested with a dramatic increase in uranium exploration licenses. From 2005, the country issued 70 uranium exploration licenses as the rush to locate the next great uranium find touched many locales across the country. Major exploration work took place in central Tanzania near the Bahi Swamp, while southern Tanzania was a hotspot of exploration activity, a veritable frontier of uranium potential. Within this flurry of activity, the efforts of one company stand out.

In 2012, while conducting research and working for a human rights organization in Uganda, I learned of Uranium One Plc.'s exploration activities in southern Tanzania. A Canadian company, Uranium One was seeking international approval, in coordination with the Government of Tanzania, to build a mine in the Selous Game Reserve, Africa's largest protected area and a UNESCO World Heritage Site. The company had already been active for several years prior to seeking UNESCO's approval (IUCN, 2014). Canadian miners are common in Tanzania and receive significant diplomatic support from the in-country mission, despite the sector's well-documented and longstanding involvement in extreme levels of violence and environmental destruction (Butler, 2004, 2015; Sharp, 2019). Human rights defenders spoke of threats, restricted access to the area, and limited consultation and information sharing from the company, serious concerns that are partially documented (Ngowi & Longopa, 2017).[12] In short, the prospective development of Uranium One's mine, the Mkuju River Project (MRP), appeared to be following the development trajectory of other mining projects in the country. The difference

[11] As of April 1, 2020, this price had fallen 79 percent to $27: https://markets.businessinsider.com/commodities/uranium-price (Accessed - 1-Apr-2020)
[12] These were discussed with interviewees during previous research, which informed (Holterman, 2014b).

with this case was its proximity to Tanzania's other major international industry: tourism and its conservation counterpart.[13]

The case of the Selous and Mantra speaks to my interests in how the seemingly combative sectors of conservation and extraction are increasingly fraternizing on issues of "protection" and "development" and how these intersections work to obfuscate and amplify the controversial activities of both (Büscher & Davidov, 2013; Chapin, 2004; Corson, 2011; Seagle, 2012). Touching various governmental scales, the relevance of this case to emerging trends in global environmental governance, including the mainstreaming efforts accompanying the CBD, is unequivocal. The MRP is Tanzania's claim to becoming a global leader in uranium production while also maintaining the integrity and economic value of the Selous, a protected area described to me by a former head game warden as "an inexhaustible gold mine of sustainable development" (the irony of the statement was unintended, I believe).[14]

As a political ecologist interested in advancing more socially just and equitable forms of environmental governance, I pursued a research agenda that analyzed the conditions of conservation-extraction relationships and its impacts on conservation policy, practice and territory. The project takes a case study approach (although I trouble this below) to the Selous and uses various social science methods (also discussed below) that describe and interrogate the emergence of the extractive industries in mainstream conservation efforts in Tanzania. The project aims to improve conservation practice through an extended critique of the assumed benefits of these new partnerships and the policy and practice of strengthening the boundaries of

[13] Although not a hotspot for photographic tourism, the Selous Game Reserve was, at the time, a significant site of big game hunting, generating millions of dollars for state coffers, The hunting tourism sub-sector has since come on hard times, driven by its alleged involvement in the Second Poaching Crisis and an increasingly powerful global animal rights movement.

[14] Interviews, December 2017

protected areas through the implementation of militarized conservation. Additionally, *Unlikely Allies* shows how the mining sector becomes the latest beneficiaries of the Second Poaching Crisis while local communities continue to be excluded from the benefits of conservation.

Before I officially began the research, Uranium One Inc., the owners of the MRP, were involved in a series of acquisitions that transferred ownership of the company to Rosatom, the state-owned Russian Atomic Energy Agency. The intrigue of the sale, and its geopolitical implications, hit a dramatic high during the 2016 United States presidential campaign (Kwong, 2017). The story of the Uranium One sale played off the tongues of political pundits like a Hollywood movie and was loaded with hyperbole and falsehoods. However, the story described here is not one of international Hollywood-esque intrigue, but rather a nuanced examination of how one company, and its various subsidiaries, is an ideal example of how the practices of the

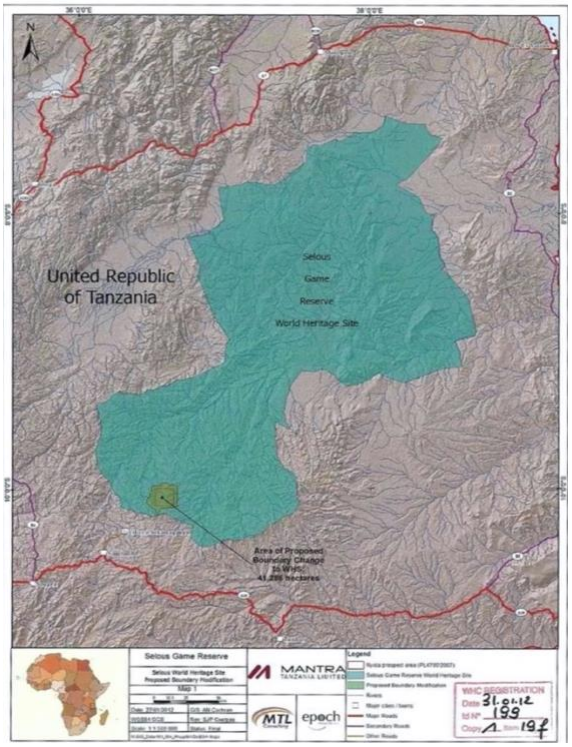

Figure II: The Selous' Boundary Modification – *The approved boundary modification to the Selous Game Reserve as a World Heritage Site. Importantly, this boundary is not altered at the national level as exploration and extraction of uranium inside game reserves is legal under Tanzanian law. Source: UNESCO: https://whc.unesco.org/en/list/199/documents/ (Accessed 21-April-2020).*

global mining, oil and gas industries increasingly intersect with that of the mainstream biodiversity conservation sector. It is a story of how "crisis" is turned into opportunity, how securitization is the new normal, and how conservation territory includes much more than wildlife and ecosystem services. Before elaborating on each of these points in the following chapters, which are written as stand-alone articles, I discuss the process undertaken to answer the research questions discussed above.

Research Design

Timeline:

The research for this study transpired over multiple visits to Tanzania and includes years of desk-based research. I conducted one month of preliminary research in Tanzania in July–August 2016, where I reconnected with contacts and informants from my previous work and research in the country. After completing comprehensive exams and drafting a research proposal, I visited Tanzania again for five months between July–December 2017. Upon receiving official research approval on my final scheduled day in-country in 2017, I returned for five months between February–July 2018, and traveled to the south of Tanzania, visiting the Selous Game Reserve at multiple locations.

The primary focus of this research is on the network of actors that constitute the conservation-extraction alliance and that shape the green militarization of conservation policy and practice in Tanzania. The bulk of the participants included those from state and parastatal authorities, private sector actors in tourism, conservation, and the mining, oil and gas industries, (inter)national non-governmental organizations, and the donor community. In Chapter 2, I provide more context about the places and spaces of the research, who occupies them, and how

they participated in the research process. All participants were informed of my research topic, approach, and intentions before engaging in the research process. I received oral consent from all participants cited in this dissertation, however, for ethical reasons, and because of the political sensitivity of the topics discussed, I have withheld all names of research participants in my writing. In addition, this research is informed by the perspectives of community members and leaders who provided critical insights into the operations, logics, and impacts of the network of actors shaping green militarization in Tanzania, including the emerging conservation-extraction alliances. I situate these perspectives throughout the dissertation, highlighting the stakes of these overlapping issues of conservation and extraction. Within the broader subject group of community actors, I engage with those who hold positions of leadership, community members who patrol village lands (Village Game Scouts), farmers dealing with human-wildlife conflict, former mining company employees, and community members directly impacted by infrastructural development related to mining projects. It is also worth noting that although I often discuss the dynamics of poaching and its responses, this is not a project that examines the "poaching economy." Due to both safety issues and project scope, I decided against actively pursuing this topic.

Positionality:

Being a white, male researcher from the imperialist state of so-called Canada has shaped my personal/professional relationship to this project and therefore the research environment and data generation that is a part of it. I come to this project as a researcher with "multiple identities" (Cloke, Cooke, Cursons, Milbourne, & Widdowfield, 2000), derived from a history of anti-mining activism, human/environmental rights advocacy, and a background in journalism. My position as a student/researcher at a major Canadian university has enabled me to conduct this

research and I discuss the ethical and moral dilemmas that arose during research in Chapter 3.

Designed to better understand the politics of conservation partnerships, especially those with the extractive industries, conducting this research project required engaging with the mining, oil and gas sectors and, in the context of the Second Poaching Crisis, the wildlife authorities tasked with enforcing the country's wildlife related laws. I think of this as conservation-based "studying up" (Nader, 1969), an approach that helps to lay bare the uneven relations of power found across structures and institutions of global governance (Corson, 2016). Yet, as a political ecologist, committed to social justice research, the design and implementation of this project did not come without ethical and moral dilemma, mainly, what I found to be the necessary engagement with "oppositional actors," who often "hold views that are deeply problematic, conflicting, and/or outright oppositional to the researcher's own perspectives, and are often responsible for exploitative or oppressive relations" (Johnson et al., 2020, p. 19; See also: Thiem & Robertson, 2010). This privileged form of research is allowed as researchers in my position are seen as "neutral" and/or "non-threatening" to those they are studying (Johnson, 2020). In many cases, my access to oppositional actors was granted based on the perception that, since I was engaged in conservation-based research in Tanzania, I must abide by a conservation/wilderness ethic and therefore be *sympathetic* to mainstream conservation interventions. For many this perception meant I was an ally in conservation and led to uncomfortable discussions about the potential use of my research findings, including one donor who hoped to find new ways to spur corporate-led engagement in militarized anti-poaching because using public funds for such purposes was frowned upon by the development institution. This was a distressing interaction, but it also indicates how my perceived allyship–my positionality–opens and closes doors for research. It at once allows for the generation of data about the logics, rationales and partnerships of militarized

conservation and/or controversial mining projects, two topics whereby publicly available information is rather limited in Tanzania. At the same time, my positionality limits the generation of data on other related topics, such as the wildlife poaching economy as my perceived identity and conservation ethic is associated with the activities of conservation organizations and law enforcement.

Conducting research with oppositional actors requires being attuned to, and reflecting upon, my "research proximity" (Massé, 2017), to ensure that I did not take part or perpetuate the oppressive relations of those actors. The ongoing process of negotiating proximity, or whether I was too close or not close enough, is a rather uncomfortable process that requires reflection and self-criticism. Encounters with law enforcement officials had me, for example, second-guessing my training while in the field:

> I realized during the interview (and slightly before over lunch) that I am not overly prepared to interview law enforcement officers and that the dynamics and intimidation of individuals in these positions of power are something that I haven't experienced before. I have struggled to push too far, as I fear at any moment the interview may end. I have struggled to mention things like [paramilitarization] and/or the controversial issues because I'm uncertain to how they will respond, even more so than with [those in] other subject positions. It is something I am new at and need to work on. Of course it is a struggle, how do you sit in a room of people who claim their entire position is informed by and acting out the law of the land (or in this case the wildlife) when the very thoughts going through your head is "but that law is stacked against those you're enforcing it over," how do you do that? I wasn't anticipating this when I signed up for the research. Miners - yes, conservationists - sure, but law enforcement officers? That is new to me (Field Notes, April 20th, 2018).

Despite the discomfort, reflecting on these moments of emotional distress and professional uneasiness, and recognizing them as one part of the research process (Mannay & Morgan, 2015), can lead to more effective research strategies and balancing of research proximity. Instead of jumping at the opportunity to make clear my differing perspectives, the above field notes are also an example of "tactical withholding," a calculated refrain from intervening in the discussion to improve relations without jeopardizing access (Bobrow-Strain, 2007; Johnson et al., 2020). Like

Johnson (2020), I found this process of negotiation led to the development of stronger rapport and more open dialogue at later stages of research, which also allowed more space for my own objections and opinions to be heard by those oppositional actors. For example, during an interview, one mining company employee's response to my question about community engagement was obviously a company talking point. As we had now had multiple interviews and encounters, I pushed back, perhaps harder than usual. The conversation continued, and the employee divulged further information, agreeing that community engagement in the past few years had, in fact, been minimal. My field notes above and the example here illustrates the challenges of oppositional research: when to tactically withhold and when to push for more. More than merely a challenge of negotiating research as a relational encounter, these moments of negotiation are often the very points that reveal the rationalities and logics of those that we are critical of, which is one of the stated objectives of this research.

Oppositional research is a privilege. My whiteness and northernness shields me from the same types of violence experienced by the subject groups taking part in my research, allowing me to negotiate these spaces as "field sites," a dramatically different experience than that of *everyday* lived reality (Zalik, 2020). Although this research risks reinforcing the colonial and imperial foundations of the very spaces and sites of research (Johnson et al., 2020) and legitimizes the authority of the actors operating across them, it is also where we come to understand, confront, and politicize the motivations and logics of oppositional actors. I have tried to ensure that my research findings inform my own political organizing, while offering a nuanced critique of the formation and expansion of conservation-extraction alliances in Tanzania and beyond. Research is never a purely objective endeavor, but through a critical reflexivity before, during, and after the research process, scholars can confront the complexities of research,

address its imbalances, and correct its mistakes when they undoubtedly appear.

An Ethno-case Study:

Recognizing that a much larger debate exists concerning what constitutes ethnography and what is or is not ethnographic (Hammersley, 2018; Ingold, 2014; Parker-Jenkins, 2018), my methodological approach is informed by scholars such as Parker-Jenkins (2018) who distinguishes between ethnographic *techniques*, such as participant observation, and *conducting* an ethnography. Parker-Jenkins' (2018) notion of the "ethno-case study" is useful in grappling with the messiness of methodological pursuits. *Unlikely Allies* is not an ethnography of conservation-extraction alliances, nor merely a case study of the Selous Game Reserve due to my broad conceptualization of the field and a recognition of the global nature of protected area governance today (Corson, 2016; Corson & MacDonald, 2012; Katz, 1994). Thus, I consider the Selous not as a "bounded system to study" (Creswell, 2007, p. 75) but as a central site of research that grounds global forms of environmental governance across a particular historical-geographical space. Deploying the term ethno-case study helps describe how ethnographic techniques permeate what may be considered a relatively confined project when compared to longer-term ethnographic studies. Thinking of this research as an ethno-case study is productive in considering how my approach, and much conservation social science, does not fit neatly into the bounded terminology of conventional research methodologies, but oscillates between both a case study and an ethnography, utilizing the strengths of both but being defined by neither (Parker-Jenkins, 2018).

The ethnographic components of this research are multifaceted and perhaps best exemplified by the participant observation I conducted with employees of the Selous Game Reserve. Equaling days not months, a reduced timeframe of what might constitute ethnography, these

intermittent moments of participant observation, allowed me to analyze the daily activities of members of the newly formed wildlife authority. In participating in, for example, transect walks/drives, participant observation produced insights into how the authority engages with their mining sector partner and allowed for an experience of conservation territory that would have otherwise been dramatically different. Traversing sections of the Selous alongside game wardens and engaging with these actors in nearby villages and towns proved useful in understanding the complex organizational structure and operational activities of the authority. In short, participant observation allowed for an analysis of how the wildlife authority manages the Selous, how it controls its territory. Insights into these strategies of conservation territorialization that are literally "power relations written on the land" (Peluso & Lund, 2011, p. 673) form a critical foundation to this research project, especially the arguments built into Chapter 6.

Data Generation and Analysis:

Over 90 people from the various subject groups mentioned above took part in the interview process for *Unlikely Allies*. This included both one-on-one and group interviews.[15] Other research methods include focus groups with former employees of various mining companies (10 participants) and with students undergoing training to become Village Game Scouts (56 participants), which I organized with the help of multiple gatekeepers and a research assistant. The aim was to generate insights into the shared experiences of people in similar subject positions (Newing, Eagle, Puri, & Watson, 2011). I tried to manage the focus groups so that conversation would take place amongst the participants, a key distinction with group interviews, interjecting only when a conversation thread seemed to have run its course and/or when participants were straying from the topic in question.

[15] In quantifying the total number of interviews, I include each present participant as to ensure their voice is accounted for.

Critical to my analysis of conservation-extraction alliances is how legal texts, documents, and international arrangements, such as the Wildlife Conservation Act, become integrated within broader networks of relations and how it may or may not influence the formation and action of these networks (Julien, 2008; Krippendorff, 2004). To aide this analysis, which includes news media, social media, and printed material, I used NVivo software to code overlapping themes and intertextual linkages relevant to my research questions, particularly those concerned with the rationales and practices mobilized by varying conservation and extractive actors. An iterative process (Julien, 2008), I continue to examine Tanzania's conservation policies amidst the constant evolution of the sector, including the ongoing transformation of the Selous Game Reserve through the establishment of Nyerere National Park (Xinhua, 2019c). Analyzing these texts provides insights into how conservation practices are discussed and received in public discourse and what shape they take in Tanzania's legal apparatus. Studying environmental impact assessments and mining and government MOUs and maps have also helped develop an understanding of the relationship between conservation and extraction and the legal and discursive frameworks for which it operates within.

In addition to note taking and transcription of recorded interviews, I also kept a research journal. The journal represents an effort to reflect on my research encounters and was invaluable in (re)tracing thoughts and experiences that proved productive as research encounters. Aiding my analysis of the breadth of data generated for this project, I often referred to a series of guiding questions (Saldaña, 2013) and focus prompts (Adu, 2015) to organize and analyze the data in relation to my research questions. I conducted multiple rounds of coding using Nvivo 12 software and supplemented this with a series of analytical memos that enhanced the credibility, trustworthiness and organization of the coding process.

Dissertation Structure

This dissertation comprises a series of standalone articles held together by this introduction. I have undertaken this approach to better prepare the chapters for publication. This is a growing trend across academic institutions and has led to the production of what I consider to be outstanding collections of work (Bluwstein, 2018; Marijnen & Verweijen, 2016; Massé, 2017). This model has its limitations. The articles/chapters have repetitive sections, particularly those discussing methods and the historical context of the topics discussed.

The timeline of this project's fieldwork (2016-2018) is particularly relevant given the recent establishment of Nyerere National Park, carved out of the Selous. A dramatic transformation in terms of both its spatial orientation and its governance, the impacts of the announcement across the Selous landscape and on those who call it home remains to be seen and falls far outside of the scope of this research. However, in a brief epilogue, I offer some reflections on what the announcement might mean for communities living nearest NNP and question what the inclusion of the Mkuju River Project within a National Park means for the future of the conservation-extraction alliance in Tanzania. Apart from this brief aside, this dissertation deals with a particular moment in the Selous' long and complex history. Although the official boundaries of the Selous have been altered since the project began, I hope that the issues discussed will remain informative for dealing with the history of this protected area and its surrounding locales and insightful for those looking to chart a more equitable path forward.

This introduction situates my research in the global context of biodiversity conservation management and, in particular, the increasing tendency for both militarization and a closer relationship with the extractive industries. The central aim of Chapter 2 is to provide historical-

geographical context to the research sites and participants, context that is important in grappling with the contemporary emergence of conservation-extraction alliances in Tanzania. The bulk of this chapter engages with the history of the Selous Game Reserve and the emergence of militarized conservation in Tanzania. The core chapters of the dissertation are followed by a conclusion where I reflect on the project's objectives and contributions and look toward possible future iterations of the conservation-extraction alliance.

2

The Spaces, Places, and Participants of the Unlikely Allies Project

Abstract: This chapter offers a condensed historical overview of the important spaces and places of this dissertation project. In providing more in-depth contextual information for the main sites of research, the chapter acts as both a historical-geographical overview and provides insights into the main subject groups that took part in the research. The chapter traces the establishment of the Selous as an exclusionary protected area, the emergence of increasingly militarized conservation practices across Tanzania, and southern Tanzania's enrolment into an extractive industry frontier. The chapter sets the stage for the rest of the dissertation and its more focused analysis of the intersections between conservation and the extractive industries in Tanzania.

Introduction

This chapter grounds the *Unlikely Allies* project in southern Tanzania and provides contextual information for the locations where the research took place. I discuss the key places of research from the coastal city of Dar es Salaam to the central location of interest the Selous Game Reserve. The chapter adds further contextual background to the dissertation and provides additional historical-geographic context to the research sites and participants that is important for grappling with the emergence of conservation-extraction alliances in Tanzania. The chapter's subheadings are organized into geographically specific locations, places where I spent most of my time during the research process. Historical insights into these places and key moments are accompanied by brief elaborations on the individuals and groups that took part in the research. The chapter traces the establishment of the Selous as an exclusionary protected area, the emergence of increasingly militarized conservation practices across Tanzania, and southern Tanzania's enrolment into an extractive industry frontier. In this way, the chapter is both a historical overview of the geography of the *Unlikely Allies* project and provides insights into the subject groups that are central to its findings, literally setting the stage for the remainder of the dissertation.

Dar es Salaam and Tanzania's Urban Spaces

Beautifully oriented along the Indian Ocean coast, the city of Dar es Salaam, established in 1862 as a plantation town, is now a metropolis home to over six million of Tanzania's 60 million people. Estimates suggest Dar will reach the megacity threshold before 2030, bringing its population over 10 million (Rosen, 2019). Although the central city of Dodoma is the legislative capital, it is far exceeded by Dar's international reputation, business environment, and financial

flows. Home to many international donors, organizations, and businesses operating within both the conservation and extractive industry sectors of the country, the city is a central location for my research.

For international business, the Dar stock exchange is an increasingly important location, with recent legislative changes making it mandatory for foreign-owned companies to list on the local exchange. Home to Tanzania's largest international airport, and located just next door to Zanzibar, Dar is also a central node in Tanzania's important tourism sector. When combined with the comforts and delights the city brings to its wealthy patrons, Dar is the country's primary destination for the flow of international capital. Many of the private sector actors of interest to my research, from tourism operators to extractive industry corporations, are found in Dar.

The northern tourist-hub city of Arusha takes a lot of Dar's audience when it comes to the tourism/wildlife economy, especially those concerned with the "northern circuit," home to world famous sites such as the Serengeti, Ngorongoro Crater, and Mount Kilimanjaro, among others. Yet, given its proximity to the open seas, Dar is fascinating for many other reasons related to wildlife crime and the efforts to stop it. The city's ports, along with that of nearby semi-autonomous island of Zanzibar, are infamous hubs for the illegal transportation of wildlife parts, mainly ivory. They have long been important in the historic ivory caravan route (Gissibl, 2016; Somerville, 2016) and today are the focus for many donors, NGO, and law enforcement-led anti-wildlife trafficking initiatives.[16]

As one director of a major international conservation organization told me, Tanzania is "one of the most important terrestrial landmasses for conservation in the world."[17] A plethora of

[16] Such as the African Wildlife Foundation's Canines for Conservation Program https://www.awf.org/country/tanzania
[17] Personal communications, August 12, 2016

conservation organizations, businesses, and consultancies operate in the country, and are mostly located in either Dar or Arusha. Many of these organizations have transformed land access, control, and notions of authority throughout Tanzania and remain intricately linked to writing the rules and managing large swaths of land and resources in the country. Similarly, these organizations are the link between the design and direction of global environmental governance and implementing its policies and norms on-the-ground. Importantly, the relations between organizations such as the WWF, FZS, WCS, their donor partners, among others, also remain integral to shaping and shifting the state-led conservation efforts in-country, which are often linked to strict funding and governance conditions. Working across various subject groups, the international conservation realm is also a repository of insights concerning historic, new, and emerging conservation partnerships in Tanzania. As I mentioned in the previous chapter, access to these actors was both straightforward given my interest in biodiversity conservation and challenged given my approach as a social scientist.

Although not a primary tourist destination in its own right, the wildlife economy has a significant presence in Dar. The Ministry of Natural Resources and Tourism's (MNRT) headquarters rests along the bustling streets of Julius K. Nyerere Road. Although its depreciating infrastructure suggests otherwise, great wealth is stored here. Mpingo House, the MNRT headquarters, is known as the Ivory Room amongst those working and familiar with the wildlife economy. Its name derives from the massive storage facilities housing Tanzania's ivory stockpile that has accumulated over the decades since the 1989 CITES ban on the international trade of ivory. The size of the country's stockpile is unconfirmed, but reports range between 100-120 tons of the valuable item is stored here (Mtulya, 2017). Ivory in the storehouse originates both from natural deaths and because of law enforcement efforts to curb the illegal killing of

elephants. Visits and viewings are rare and security is thought to be tight, although this has been questioned in the past (Packer, 2015). During a 2013 visit a journalist for National Geographic was allowed to walk amongst the trophies of the dead pachyderms. The video is one of the few glimpses into the storage facility and the scale of the Ivory Room (See: Hartley, 2012).

Just being within the compound of the Ivory Room brings a sense of eeriness to the passerby. The storage facilities seem ominous, as if they should not be there, or were perhaps hastily built. During my visits to Mpingo House there was always an armed guard or two nearby, brandishing the newly minted uniforms of TAWA. Inside, "it is like going into some sort of ancient tomb," Aidan Hartley states in the aforementioned video (Hartley, 2012). Even outside one can sense being in the presence of decades of rich genetic history of a species that scientists suggest is evolving in various, rather troubling ways, such as increasingly being born tuskless and/or feeling the effects of post-traumatic stress disorder as an effect of rampant illegal killings (Bradshaw, Schore, Brown, Poole, & Moss, 2005; Maron, 2018; Maudsley & Duggan, 2019). Perhaps more eerie though are the historic connections between this place and the highest levels of corruption as discussed by various authors and organizations (Environmental Investigation Agency, 2014; Packer, 2015; Somerville, 2016). I was drawn to the Ivory Room because it is the administrative headquarters of the Selous; a busy center whereby the offices of the Head Warden, Deputy, and various other branches of the management team, along with some of its non-governmental partners, are found. Although TAWA proper is headquartered on the outskirts of the city of Morogoro and is much closer to the Selous itself, the management team of the Selous remains in Dar. I have been told this has to do with its proximity to resources and other governmental offices such as the MNRT, with which it shares a compound, but any official reasoning for this geographic dispersal of wildlife management teams is unbeknown to me and

puzzles others in the sector.[18] Yet in perhaps an unintended way this dispersal and the lengthy journey between offices of relevant management authorities that it instills represents the extent of the Selous itself. This is not your regular protected area in terms of its size nor its infrastructure, especially not one that is relatively easily accessible, as the crow flies, that is.

The Selous Game Reserve

The Selous is a vast landscape. At the time of research, depending who you speak with, it covers between 50,000–55,000 km^2 an expanse that equals a space larger than Switzerland. Its dominant ecosystem is the critically important miombo woodland, which, besides forming the largest, relatively contiguous deciduous tropical woodland and dry forests in the world, is also home to millions of woodland dependent peoples spread out across various southern African countries (Abdallah & Monela, 2007). Heavy seasonal rains between March-June mark this landscape; making the region's many seasonal rivers and streams flow and its perennial riverbanks teem with wildlife. The woodlands are known for hosting diverse and large populations of wildlife, assisted by habitat islands of non-miombo species that create more favorable soils and grasses along these riverbeds (Frost, 1996). Miombo ecosystems are known for low nutrient soils and significant populations of tsetse fly, making agriculture and grazing difficult, but not impossible, throughout the ecosystem (Ryan, n.a.). However, the expansion of the miombo and the Selous' wildlife populations have historically been greatly aided by the (post)colonial state's production of this space as a people-less "wilderness" (Neumann, 1998, 2004b).

Colonial Violence in the Selous:

[18] Interviews, 2017-2018

The German colonial government first established a hunting reserve north of the Rufiji river as early as 1896, making what is now known as the Selous one of the earliest protected areas in Africa (Baldus, 2001; Gissibl, 2016). Conflict and the loss of life have a long history here. From the onset, the establishment of colonial reserves for both forests and game significantly curtailed local peoples' access to land and resources. The Germans saw these policies as effective in controlling the colony's environment *and* in directing local peoples to adhere to the authority of the colonial government (Gissibl, 2016; Koponen, 1995; Sunseri, 2003). Such restrictive policies did not go uncontested and were formative in the development of the Maji Maji Rebellion (Koponen, 1995; Sunseri, 2003). In 1905, the same year the Selous proper was established, a group of rebels attacked a caravan of porters carrying mostly hunting goods to the colonial station at Mahenge in southeastern Tanzania. This claims Gissbl (2016) was the first act of war of the Maji Maji Rebellion. Maji Maji, considered one of the first organized anti-colonial efforts on the African continent (Sunseri, 2003), is intricately linked to the colonial policies of environmental control, including the control over the hunting of game. This initial attack on the support system of the colonial hunting regime represents "the very symbol of the expropriated wealth of hunting" under early German colonialism (Gissbl, 2016, 126). Wildlife control and management policies brought an end to the ivory trade, and the power of regional elephant hunters, and made it nearly impossible for cultivators to protect their crops from marauding wildlife (Gissibl, 2016; Sunseri, 2003). Colonial wildlife policies, such as those that created the Selous, were also central in criminalizing black African hunters while "reserving" game for white, big game hunters and conservationists. Although realizing linkages between forest and game control policies and the onset of rebellion, the German colonial government did not relent on its expansion of forest and game reserves. Instead, areas that witnessed intense conflict during

Maji Maji were designated for expansion after the conflict (Neumann, 2001a; Sunseri, 2003). With the Selous this meant a near doubling of its landmass just two years after Maji Maji began, ushered in through the eviction of local peoples from their lands and the dramatic depopulation of the region because of the loss of life from Maji Maji and its following famine worsened by the Germans scorched earth tactics (Gissibl, 2016; Sunseri, 2003). With nearly 1/3 of the population lost to Maji Maji and its aftermath, many of the former settlements and cultivated areas were never resettled and thus the miombo landscape, along with its tsetse fly inhabitants, expanded into these areas, playing into the hands of the British colonial government's interest in wildlife management enhanced through wildlife control policies and the further evictions of residents (Iliffe, 1979; Nelson, 2003; Neumann, 2017).

As the previous section shows, the violence of today's alleged "war on poaching" is not the first instance of the Selous being subsumed within much broader warscapes. The game reserve's vast so-called wilderness landscape did not even escape the violence of World War I (Noe, 2018). Before the British colonial office would take over the colony from the Germans, the eventual namesake of the Selous, an avid big game hunter Courtenay Selous, was killed inside the reserve while serving for the British war office. His grave rests near Beho Beho inside today's reserve (Baldus, 2001). In rather typical (post)colonial fashion, Selous continues to be celebrated today for his role in shaping the reserve as we know it, despite being an avid big-game hunter at a time when African hunters were increasingly criminalized.

The British, after taking control of the colony after World War I, did not stray from the colonial framework of forest and game controls setup by the Germans (Sunseri, 2003). As mentioned above, Southern Tanzania experienced massive population loss due to the brutal acts of the Germans during and after Maji Maji. This depopulation wound up being the backbone to

British expansion of the Selous under the guise of wildlife protection and was enhanced by resettlement efforts that aimed at bringing rural populations under more strict governmental control (Neumann, 2004b). As residents were forcibly resettled through the British "concentration policy," and many more fled this policy, the fertile valleys of the Selous were cleared and the miombo advanced. From the 1930s onward, the Selous became a *destination* for the African elephant; planned by the Game Department and aided by the resettlement and eviction of rural populations. British colonial policies "were not designed merely to conserve wildlife from overhunting, but also to control it in terms of numbers, variety, and *location*" (Neumann, 2004, 189, emphasis added). By corralling elephants towards the Selous and enforcing policies that offered zero assistance to resident farmers, now in the way of the pachyderms, the British colony office created a vast new wilderness (Neumann, 2004b). Tens of thousands of Tanzanians, many of those who remained after the pain of Maji Maji, were ultimately evicted in the name of expanding the Selous, a colonial project *imposed* on southern Tanzanians (Kjekshus, 1977; Nelson, 2003; Neumann, 1998, 2017). The exclusionary practices of protected area establishment and maintenance, that originated in the German colonial project, were expanded under the British and by the (post)colonial state, producing conservation territory that continues to shape nature-society relations today (Neumann, 2004b; Noe, 2019).

Year	**Establishment & Expansion of Selous Game Reserve & Other Key Moments**
1896	Germans set aside parts of Selous
1905	Selous becomes a game reserve; Onset of Maji Maji Rebellion
1918	Onset of British Colonial Rule
1921	British enact Mining Law
1922	Kisaki and Muhoro reserves merged into Selous
1923	Geological Survey Created
1928	Westward expansion of Selous totaling 6,500km^2
1929	British enact second mining law
1931	Matandu and Mtestesi reserves established
1939	Diamonds discovered in Shinyanga, northern Tanzania
1943	Establishment of sleeping sickness zones, evictions, and inclusion of aspects of Madaba, Luwegu, and Mahenge into Selous
1947	Mbarang'andu river added to the reserve
1950s	De Beers prospects the Selous for Diamonds
1951	Additional miombo woodlands around Mbarang'andu and Luwegu river valleys added to Selous

1953	Western border expands into the "game country" of Chihi, Lukula, and Luhombero Rivers
1959	People across the country are prohibited from living inside National Parks
1960	Lugonya river added to Selous
1961	Tanganyika Independence & Nyerere's famous Arusha Manifesto speech
1964	Tanganyika becomes Tanzania with the inclusion of Zanzibar
1967	Arusha Declaration and the onset of Ujamaa
1970s	Selous expands in all directions after incorporating unoccupied lands created by villagization
1973	Government takes control of tourism hunting industry
1978-80	Tourism hunting reopened to private investment
1979	New mining law enacted
1980s	Shell explores and drills two oil wells in Selous
1982	Selous declared a UNESCO World Heritage Site due to its pristine wilderness, wildlife populations, and globally significant ecosystems
1986	Official IMF structural adjustment programs in Tanzania
1990s	Matambwe (northern sector of Selous) hunting blocks reassigned for photo tourism
1990s	Various buffer zones and wildlife corridors created through the Wildlife Management Areas program
1993	World Bank: African Mining Vision
1995	Privatization of mineral sector and state sale of shares in Williamson diamond mine
1998	Mining Act 1998
1999	Land and Village Land Acts passed
2002	13 prospecting licenses allocated to three companies inside the Selous
2006	Mbarang'andu WMA established in Namtumbo District
2007	Wildlife Policy centralizes control in hands of the state; World Heritage Committee is unhappy with management of Selous citing uranium exploration
2009	Wildlife Conservation Act 2009 (legally opens game reserves to oil, gas, and uranium exploration and extraction)
2010	Mining Act 2010
2012	UNESCO approves Selous boundary modification for a uranium mine
2014	UNESCO lists Selous as World Heritage Site "in danger"; Tanzania launches National Anti-poaching Strategy
2017	Selous Ecosystem Conservation and Development project officially launches (8 million euros); Government passes three new extractive industry laws
2018	Government seizes shipment of diamonds and halts exports of gold
2019	Nyerere National Park established

Figure III: Selous Game Reserve Establishment & Expansion & Other Key Moments – *I built this timeline as a personal guide through the history of Tanzania's intersecting conservation and extractive sectors. It may also prove useful for the reader to navigate the historical trajectory of the Selous and the particular moments where its spatial demarcation intersects with the development and governance of the extractive industries. Created by the author with data from: (Benjaminsen et al., 2013; Levine, 2002; Noe, 2019; Packer, 2016).*

Poaching and Its Responses:

As Gissibl (2016), Somerville (2016) and Sunseri (2003) detail, the hunting of wildlife and, in particular, the elephant has a long history in Tanzania far predating German colonialism. Our interest here is in the illegal killing of wildlife, most commonly known as poaching, a process of criminalization ushered in by colonial governments through the imposition of a legal regime aimed at regulating the wildlife trade. Keith Somerville (2016) shows how the illegal trade and smuggling of ivory and rhino horn expanded across Tanzania in the 1970s, spurred on by a

significant economic decline and extensive corruption from within government and police/military forces. Across the ensuing years, the Selous experienced massive declines in its elephant population falling from around 300,000 in 1979 to just 50,000 in 1988 (Somerville, 2016). Recognizing its value to a growing tourism industry, efforts to curb the decline began in earnest with conservationists, researchers, and governments across the region pushing for a hardline stance against poaching; culminating in the CITES ban of 1989 (Barbier et al., 1990; Somerville). In response to this increase in the illegal killings and trade of wildlife and its subsequent increase in conservation violence, the conservation authorities in Tanzania changed course and developed a (para)military approach to anti-poaching (Neumann, 2001b). Operation Uhai swept across the country's protected areas and nearby communities as members of the Wildlife Division, police, and Tanzania People's Defense Forces jointly arrested over 2,500 people (pegged as poachers) and confiscated vast amounts of ivory and weapons (Neumann, 2001b; Somerville, 2016). Many claim Operation Uhai as a major success that led to the rehabilitation of elephant populations in the Selous and beyond (Somerville, 2016). However, Operation Uhai is an example of the broader increase in conservation-related violence across the country and a preview of how Tanzania would approach anti-poaching in the future.

The 2000s saw a resurgence in the illegal killing of wildlife, especially elephants and rhinos, as the price of ivory and rhinoceros horn rose on illegal global markets. The increasing value of these animal parts is generally attributed to growing demand in places like China and Hong Kong; a demand that is largely met through the illegal trade in wildlife (Wittemyer et al., 2014). Recent aerial surveys of Tanzania's elephant populations revealed the extent of the most recent decline. Again, the Selous takes center stage. From just 2009-2013 estimates suggest Tanzania lost a staggering 60 percent of its elephant population during this, the Second Poaching Crisis.

The Selous-Niassa wildlife corridor was recognized as one of the African continents most severely hit "poaching hotspots" (Wasser et al., 2015). Although political will to end the killings was initially slow, perhaps due to the deeply seeded corruption of powerful political and business officials (See: Environmental Investigation Agency, 2014), efforts to halt the illegal killings of wildlife have ratcheted up in the past half-decade.[19] Many of these have taken a decidedly (para)military approach not dissimilar to Operation Uhai, but with more public scrutiny. One example is Operation Tokomeza. Again, factions of the police, Wildlife Division, and military were involved in the infamous anti-poaching operation that faced serious allegations of human rights abuses (Legal and Human Rights Centre, 2015). After discussion of these abuses in Parliament, the Minister for Natural Resources and Tourism Hamisi Kagasheki resigned and three others were fired. Despite the outcry from Tokomeza, its legacy is embedded within the shifting management structure of the country's conservation agencies, including the newly minted Tanzanian Wildlife Management Authority (TAWA), as they continue to undergo a transition to fully and legally inscribed (para)military forces; trained and supported by international donors and militaries to fight the so-called "war on poaching" across the country (Hopkins, 2015; Peter, 2015; Summers, 2016; U.S. Embassy Dar es Salaam, 2016). Today's results suggest elephant populations are stabilizing, but impacts of this intensifying (para)militarization are proving problematic in terms of the conservation partnerships formed, the tactics utilized, and the impacts of such on community-conservation relations (Mabele, 2016; Noe, 2018; Weldemichel, 2020).

Taken together, the contemporary (para)militarization of the Selous is not a departure, but an intensification of its violent past. Elaborating on this intensification, Noe (2018) discusses the

[19] Interviews, 2018

Selous as a “war zone,” rife with “new assemblages of local agents, international financial institutions and expatriates from all over the world” engaged in the conservation partnerships of contemporary green militarization in Tanzania’s largest protected area. Interested in these dynamics and how they continue to shape the Selous as a central node in conflicts over who has access to land and resources, the contemporary so-called “war on poaching” is central to my dissertation and is much discussed throughout.

Managing Africa’s Last Remaining Wilderness:

The Selous is a central landscape of contemporary conservation found across the miombo woodlands of Southern Africa. The vast landscape comprises various points of connectivity pegged as critical for conservation efforts. The northern reaches of the Selous connects with both Mikumi National Park and the Udzungwa Mountains National Park, the latter through two wildlife corridors whose functionality has recently been questioned because of the developmental pressures placed on the region (Jones et al., 2012). This broader ecosystem is identified as critical for elephant populations. Nearby also lies the Kilombero Valley, a landscape historically known to host sizeable populations of wildlife, home to various protected area designations, the largest being an internationally recognized Ramsar site. However, given increasing developmental pressures, the Kilombero is increasingly devoid of major wildlife populations yet remains an important space for conservation and law enforcement efforts in the country to secure the downstream flow of the Kilombero River (Chapter 6). The Selous is also a core component of the Selous-Niassa Transfrontier Conservation Area whereby the two reserves are connected by the Selous-Niassa Wildlife Corridor, together equaling an area of 150,000 km2, which is, apart from the Niassa Reserve across the border, entirely made up of Tanzanian land

across Namtumbo and Tunduru districts (Noe, 2015).

WMAs and forest reserves dot this landscape representing a dramatic girth of protected area designations, management authorities, and regulations governing such spaces. The various designations are attached to funding bodies and their corresponding non-governmental organizations, which represents a political fragmentation over these conservation spaces. As detailed above, the Germans have long been established within the Selous proper. Today, this

Figure IV: Selous-Niassa Wildlife Corridor – *This map illustrates the extent of the Selous-Niassa Wildlife Corridor stretching from the southern Selous Game Reserve across much village land and connecting to Niassa Reserve in neighboring Mozambique. Not pictured here is the Wildlife Management Areas that also make up part of the corridor (Noe, 2015) as the Selous-Niassa landscape is a mosaic of protected area designations. Map source: (Schuerholz & Baldus, 2012).*

presence manifests in the €8 million Selous Ecosystem Conservation and Development Project (SECAD) jointly delivered by the Frankfurt Zoological Society (FZS), World Wildlife Fund (WWF) and the Tanzanian government. FZS is primarily concerned with the happenings within the Selous while WWF is tasked with implementing the project components in the Greater Selous Landscape, relying on its "expertise" in community-based conservation represented by its historic connections to Tanzania's WMA program and donor ties to USAID. Another of USAID's partners, the World Conservation Society (WCS), is primarily located in the nearby Ruaha National Park and surrounding protected areas/wildlife corridor landscapes. WCS also manages Mozambique's Niassa Game Reserve, the international component of the aforementioned TFCA.

The Selous itself comprises eight administrative sectors; each equipped with a sectoral headquarters and management teams. TAWA officially manages these sectors, and most other non-National Park protected areas, and thus is a primary institution of interest for this research project. By following the designated procedures, effective networking, and patience, I was able to interview three directors of TAWA, introduce my project to the Selous Project Manager, and interview the Deputy Project Manager. In addition, I interviewed the Head Wardens of all three Selous sectors that I visited (Ilonga, Likuyu Seka, and Matambwe) along with various game wardens and officers stationed at their respective sectors and surrounding locales.

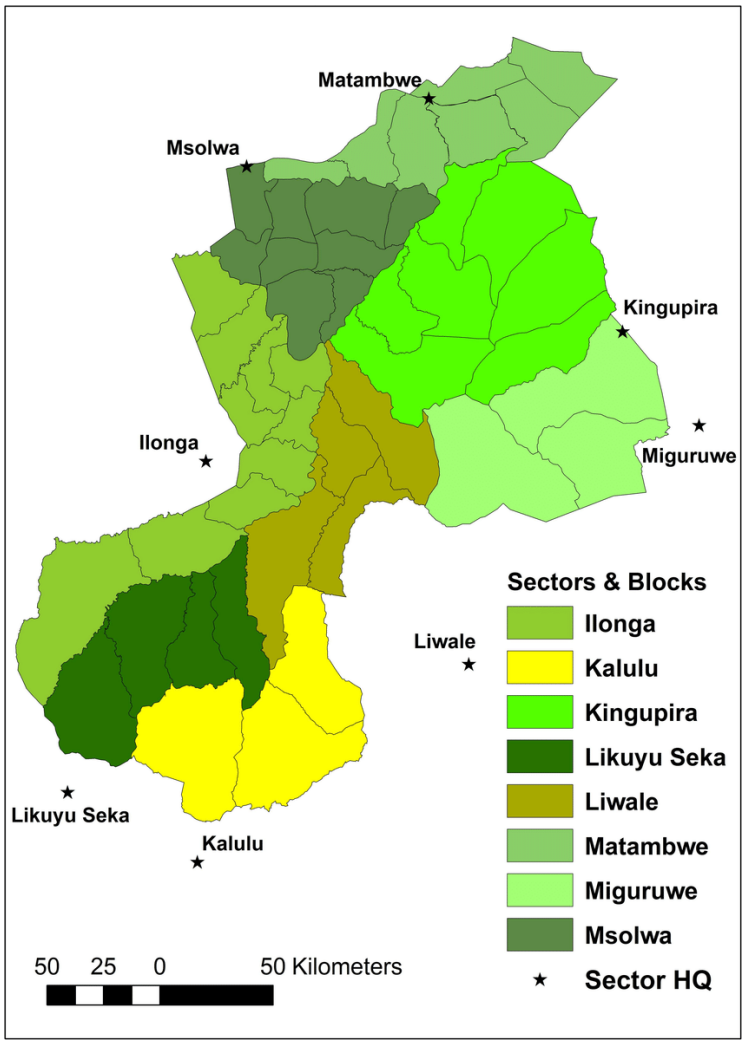

Figure V: Selous Game Reserve Sector Headquarters – *Historically, the Selous has been promoted as an idyllic hunting reserve, free of fences and "wild," big-game hunting has been the Selous' predominant activity for decades. Although other resource interests, including in extractive industries and hydroelectric development have lingered, it was not until the mid-2000s that these projects gained a foothold in the reserve. With the hunting industry now struggling to survive, other resource claims are filling its void. Source: (Brink, Smith, Skinner, & Leader-Williams, 2016).*

Today's positive strides in curbing the illegal killings of wildlife in the Selous are attributed to increased political will in fighting the illegal wildlife trade and a dramatic increase in resource allocation to the Selous and its management teams.[20] The primary concerns of these sectors are wildlife protection, anti-poaching and the administration of tourism within the reserve. Historically, the latter is dominated by the trophy hunting industry. At the time of research, the

[20] Interviews, 2017-2018

Selous remained divided into dozens of hunting blocks; most of which were lying empty because of a massive decline in the hunting tourism industry. Others have written about the conflicts associated with the hunting industry (Benjaminsen et al., 2013; Environmental Investigation Agency, 2014; Packer, 2015) and I won't rehearse these arguments here. Importantly, for my research, is the discussion and policy changes taking place in the wake of hunting's near collapse, which appear more centrally focused on utilizing the Selous' resources in ways outside of consumptive hunting tourism.

As a game reserve, the Selous is not a popular tourism destination and pales in comparison to Tanzania's world-renowned Northern Circuit. The Matambwe sector includes the only photographic tourism destinations within the Selous and is distinguished from the much larger southern section of the reserve by the Rufiji River. As far as tourism goes, the Selous welcomes just tens of thousands of visitors each year, mostly through fly-in safaris and a few visitors who take the multi-hour land cruiser journey from Dar es Salaam across challenging terrain.[21] Photographic tourism is relatively new to the Selous, with the Wildlife Division opening the area to tourist lodges in 1990. Eleven tourist lodges dot the sector, however reports of one lodge closing its doors because of the construction of Stiegler's Gorge dam illustrates a troubled future for Matambwe sector's photographic tourism (Azura, 2019).

Global Environmental Governance:

In 1982 the Selous became an UNESCO World Heritage Site, as the Government of Tanzania committed to manage the property according to the World Heritage Convention. Based on the premise that its wilderness holds "outstanding universal value" that must be protected, the listing brought the colonial landscape of the Selous' 50,000 km^2 under the auspices of the most

[21] Interviews, 2018

prominent international conservation convention of the day, and the watchful eyes of its member organizations. As Figure VI illustrates, the Selous is the central node in what has become an even larger landscape of conservation that, as mentioned above, stretches beyond Tanzania itself. The central tenets of mainstream conservation have long been mobilized within Tanzania, directing

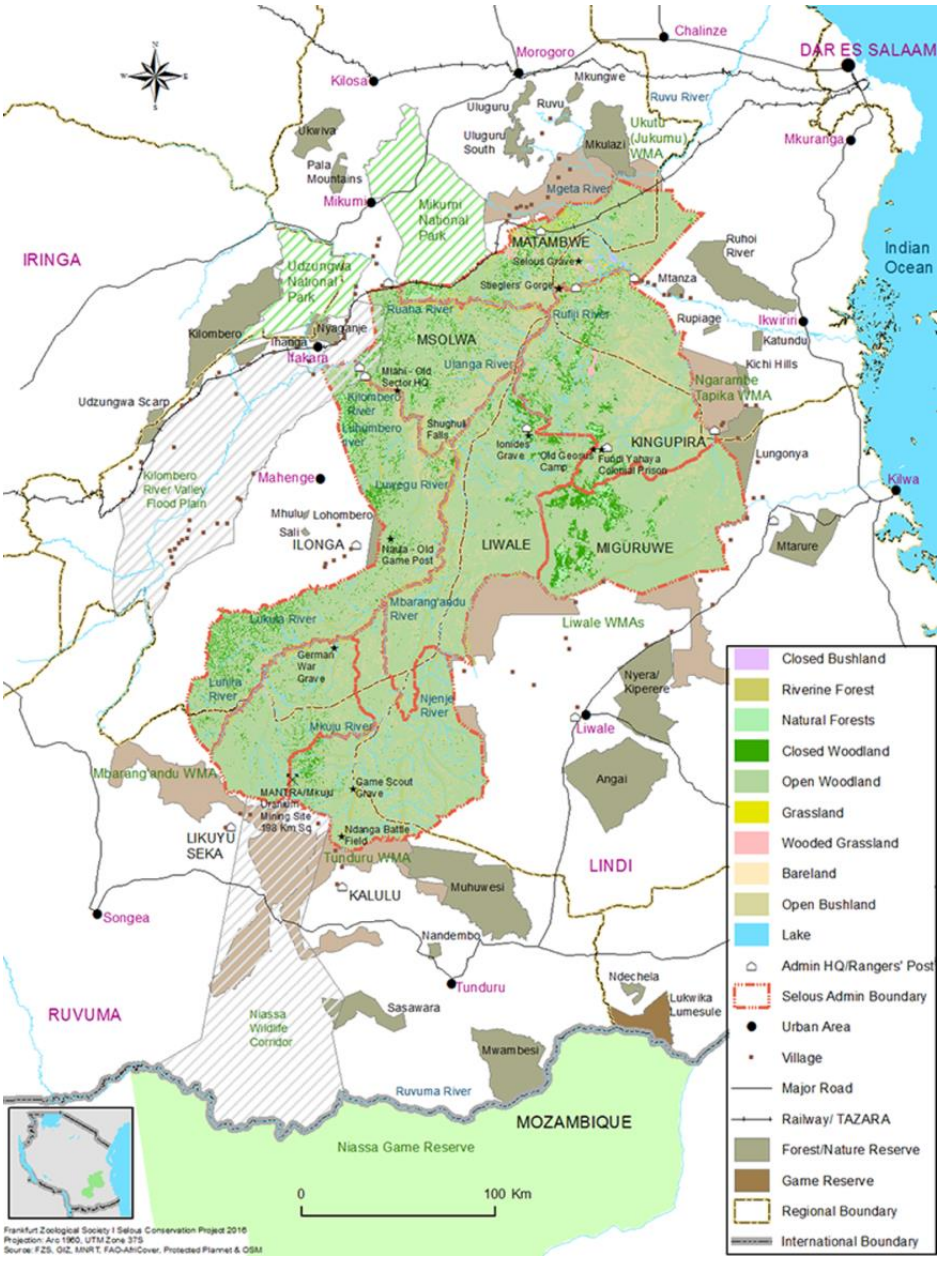

Figure VI: Greater Selous Ecosystem – *This map is perhaps the most comprehensive visualization of the varying claims over land/resources across the Greater Selous Ecosystem. At the northernmost edge of the Niassa Wildlife Corridor and just inside the boundaries of the Selous lies the Mkuju River Project. Source: (Frankfurt Zoological Society, n.a.).*

conservation governance towards maintaining the Selous' OUV and expanding its protective boundaries through increased buffer zones and wildlife corridors, the latter a result of global efforts to expand conservation spaces, particularly after the signing of the Convention on Biological Diversity. Yet, with 38.1% of its land protected by some form of conservation designation, many protected areas in Tanzania face great developmental pressures from industry, communities, and various branches of government. These pressures, which mirror global trends of developing nations (and industry partners) looking to World Heritage Sites, that were often imposed on them during colonial rule, as sites of potential industrial development (Meskell, 2012), are perhaps most pronounced in the Selous. Here, a reduction in hunting tourism investment and revenue, the intensification of (para)military approaches to the reserve's management (Chapters 4 and 5), and the history of the Selous as an extractive landscape (Chapter 5) is increasing the pressure on its land and resources and shedding light on the various claims over them.

As mentioned above, the history of the Selous is wrought with thousands of evictions (Neumann, 2001). Evictions and restrictions on land and resource use implemented by colonial governments are central to the claims of bordering villages who continue to struggle with Selous management over access to land and resources in and adjacent to the game reserve. In recent years a string of large-scale development projects, including the Mkuju River Project (MRP), a uranium mine in the south, and Stiegler's Gorge dam (now known as the Rufiji Hydroelectric Project), in the northern tourism sector, have been advanced within the boundaries of the reserve, exacerbating these local struggles and receiving the ire of some international onlookers.[22]

[22] Colonial engineers had initially envisioned a large hydroelectric project inside the boundaries of the Selous. The project at Stiegler's Gorge, despite its prior failures in being initiated, has never completely fallen outside of the vision for an industrialized Tanzania. Although rumblings of the project's revival emerged under the previous government of Jakaya Kikwete, it was the surprise 2015 election of John Magufuli that brought Stiegler's Gorge

In 2012 a deeply political exchange between the Government of Tanzania, UNESCO's World Heritage Commission, and reportedly, representatives of the Russian firm Rosatom came to a head, when the World Heritage Committee granted a "minor boundary modification" to the Selous in order for the MRP, a proposed 13-year uranium mine, to move forward with its construction (See also: Noe, 2019; WHC, 2012). The contents of this decision, the legal standing of the project within Tanzanian law, and the continued struggle over access and control of territory, all under the context of a significant increase in elephant poaching, forms the basis of inquiry for this dissertation. This is not the first time the extractive industries expressed interest in the Selous, as I detail in Chapter 5 (the future of extractive industry-led claims also looks bright). However, it appears to be the most advanced claims and the changes to the legal structures governing the Selous associated with this mining project has helped to create ideal conditions and the political-legal infrastructure to advance other extractive industry claims within and nearby the reserve.

As I detail in Chapter 5, the boundary modification agreed upon by the WHC placed an emphasis on the broader conservation support offered by Mantra Tanzania Ltd., the prospective uranium mining company. This support was especially important given the growing understanding of the severity of elephant poaching throughout Tanzania at the time. The Selous was later listed as a World Heritage Site "in danger" in 2014, due largely to the decline in elephant populations. As such, procuring corporate support for anti-poaching efforts was seen as a worthwhile offset for having to excise some 200km^2 of the World Heritage Site, despite the dangers posed by uranium mining on the water table and landscape of the Selous and its

back from the dead (WWF, 2017). On December 12, 2018, Tanzanian media reported the official signing of a contract with the Egyptian construction firm Arab Contractors to build the controversial hydroelectric project (Namkwahe, 2018).

surrounding environs and communities. The geospatial location of the prospective mine site, effectively at the opening of the Selous-Niassa TFCA and in the middle of a significant elephant migration route, also seemed to play little in the final decision (Chapter 6).

It is worth noting here that mainstream conservation's interest in securing support for biodiversity conservation efforts from the extractive industries whose prospective projects are within or nearby protected areas, and industry's willingness to oblige, is not distinct to Tanzania. Evidenced by Figure VII, the claim that extractive industry actors can be a force for good when it comes to biodiversity conservation is already well-established through the increasing inclusion of biodiversity reporting and programs within voluntary frameworks of corporate social responsibility. In effect, the efforts to "mainstream biodiversity into the energy and mining sectors" at the CBD, mentioned at the outset of this dissertation, are a means to standardize biodiversity reporting and programming across various economic sectors, moves supported by many mainstream conservation actors and organizations. The case of the Selous and Mantra Tanzania's anti-poaching program is an example of these trends, whereby the need to appear as a socially responsible corporate actor that does all they can to protect nature is not merely an afterthought or an example of greenwashing. Instead, support for militarized conservation, or mechanisms listed in Figure VII, are illustrative of how mainstream conservation is increasingly enrolled within the everyday operations of the extractive industries, having entered the sequence of processes necessary for the sector to expand under contemporary capitalism. Unable to stop its expansion into the protected areas of outstanding universal value and beyond, mainstream conservation feeds the expansionary agenda of the extractive industries, which is *grounded* in place with varying impacts on resource users.

Firm	HQ	Value in Billions	Conservation
BHP Billiton	Australia	75.2	GRI; IUCN; Conservation International; 8,880,000–29,400
Rio Tinto	Australia	60.7	CSBI guide; IUCN; forest restoration; etc.; mitigation hierarchy
Shenhua Energy	China	40.8	"Conservation of local ecology and environment,"; eco-park
Glencore	Switzerland	31	"avoid net loss; " cons. areas on site; exotic species research; 117,724–27,412
Coal India	India	29.2	Various "ecological conservation" projects collaborating with other organizations
Vale	Brazil	23.6	8.2 thousand km2 of natural areas; 95.8% of this through partnerships; Fundo Vale organization
Barrick Gold	Canada	23.1	International Council on Mining and Metals (ICMM); mitigation hierarchy; biodiversity offsets
Southern Copper	United States	22.1	Species nurseries; 5-step environmental responsibility for zones with high biodiversity value
Mitsui	Japan	21.2	Collaborative reforestation programming;
Norilsk Nickel	Russia	20.5	World of New Opportunities programme funds tourism and biodiversity research in various projects

Figure VII: Top Mining Companies Biodiversity Reporting – *The chart includes the top 10 mining companies according to Mining.com in 2017. Of note in the conservation column are the references to different actors, practices, and approaches, including the Mitigation Hierarchy, taken by these entities. The territorial footprint is calculated in relation to the territory they have offset as biodiversity spaces. For example, BHP owned, leased or managed 8,800,000 hectares in 2016 and put aside 29,400 hectares for conservation. The inclusion of these approaches to managing biodiversity suggests that these practices are public, accepted by shareholders as "best practices," and, given the proliferation of these mechanisms across the sector and beyond, show how the extractive industries is central to how mainstream conservation mechanisms are deployed.*

Mbarang'andu Wildlife Management Area

Established in 2003, the Mbarang'andu WMA hosts land from seven villages in southern Tanzania's Namtumbo District. Encapsulating 2,471 km^2 the WMA borders the Selous and is one part of the greater Selous-Niassa Wildlife Corridor. WMAs were officially established as

community-based conservation in Tanzania in the 1998 Wildlife Policy and were promoted to village leadership by international conservation NGOs to devolve and decentralize the rights and management of land in rural Tanzania. As of writing, 38 WMAs are established or in the process of becoming so and account for roughly 13 percent of Tanzania's surface area (Bluwstein & Lund, 2018). The implementation of the WMA program in Tanzania accounts for a dramatic increase in the percentage of land under protection in the country. However, the program, much like CBC and/or CBNRM programs in general, has received a significant number of critiques and its overall effectiveness for devolving resource rights to local communities remains in doubt (See: Benjaminsen et al., 2013; Bluwstein, Moyo, & Kicheleri, 2016; Homewood et al., 2015).

Mbarang'andu WMA is a location of significance to my research because it hosts village lands that act as a buffer zone for the Selous. It is promoted as providing win-win benefits for Selous management (offering a larger grid of protection for Selous) and trickle-down benefits to local communities from private sector investors in the WMA, mainly through the steadily declining trophy hunting industry. Mbarang'andu is also an important landscape because it is a central geography in the boom/bust frontier of uranium mining in southern Tanzania. The WMA's central role in the formation of a uranium frontier is illustrated by the Community Wildlife Management Areas Consortium, a group setup to promote the various investment opportunities found in WMAs around the country, had until 2017, promoted Mbarang'andu as "the wildlife and uranium hotspot" of Tanzania.[23]

[23] The hunting investor in this WMA is a controversial figure in Tanzania who had engaged in re-leasing the hunting blocks to mineral prospectors. The broader point here is that the WMA program was designed to open village lands to private sector investment, which has included mineral prospecting and potential development. Source: Captured using the Internet Archive's: Way Back Machine (https://web.archive.org/web/20170331145540/http://www.twma.co.tz/wma/mbarangandu Accessed August 20, 2019),

Uranium mining exploration companies such as Western Metals and Uranex have all held exploration licenses throughout Mbarang'andu lands, some arranged in controversial and potentially illegal ways (Noe, 2013; Rex Attorneys, 2007). With the dramatic crash of the uranium U308 market in 2012, these camps are now largely abandoned and represent mere blemishes of a once promising frontier gone wrong, at least for those promised the benefits of such developments. Little is known about the current status of these exploration sites. Core

Figure VIII: Abandoned Exploration Camp – *This abandoned uranium exploration camp in the Mbarang'andu WMA is an example of the material remnants of the uranium frontier. Stacks of core sample boxes litter the site (bottom right). Some (left) are empty due to their likely transport to northern Tanzania for assessment or have been simply emptied on the ground. The WMA is a vast forested protected area with restricted livelihood activities, the density of the miombo woodlands noticeable just a few kilometers before arriving at the exploration site (top right). Photos by the author.*

samples, likely those of little value, are left behind, along with the remnants of the exploration camps themselves. Community leadership remains puzzled on how these companies received licenses to operate within the WMA, a legally defined protected area, and are perhaps even more uncertain about the future of the industry throughout the area, which they see as potentially threatening the community's conservation agenda.[24]

Ruvuma Region & Namtumbo District & Town

Namtumbo Town is situated in the Namtumbo District of the Ruvuma Region of southern Tanzania. The Ruvuma Region is named after the Ruvuma river, which forms the southernmost international boundary between Tanzania and Mozambique. Of the 22 regions on the Tanzanian mainland, Ruvuma lands in the middle when it comes to Regional Gross Domestic Product according to 2016 data from the National Bureau of Statistics (URT, 2017a). The region's economic activity is limited compared to the more prosperous regions of Dar es Salaam, Mwanza, Shinyanga, and Mbeya (URT, 2017a). An estimated total of two-thirds of Namtumbo District's landmass is covered by forests, which includes two forest reserves: The Eastern Matogoro and Undendeule Forest Reserve, the latter which borders the Selous. These large protected areas within the broader Selous ecosystem represent "locally important and globally outstanding" sites of biodiversity conservation (Kangalawe & Noe, 2012, p. 92). The dominant livelihood activity throughout the district, and in the lands surrounding Namtumbo Town, is small-holder agriculture, which employs around 95 percent of the population (ibid, 2012).

[24] Interviews, 2018

Figure IX: Tanzania's Administrative Regions – *Ruvuma, one of the country's largest regions at 63,498km² is located along the southern border with Mozambique and Malawi. Its five districts include: Mbinga, Songea Rural, Songea Urban, Namtumbo and Tunduru. Map: (Tanzania Tourist Board, n.a.).*

Despite this high number of prospective landholders, Kangalawe and Noe (2012) suggest that of the 2075km^2 of arable land within the district, just 600km^2 was under cultivation in 2012. Although this number is likely to have increased, agricultural lands continue to cover a small portion of the 20,375 km^2 under district management. The same study, along with many conversations with research participants, shows a significant community dependence on the use of natural resources to supplement livelihood activities that has grown increasingly challenging with tighter restrictions policing protected area lands (Kangalawe & Noe, 2012). Namtumbo Town is the largest population center within the Namtumbo District and is roughly 31 kilometers from the village of Likuyu Sekamaganga and 35 kilometers from Likuyu Mandela. It is about 33

kilometers from the Likuyu sector of the Selous. Namtumbo Town is the nearest site to these villages that hosts a few small guesthouses and restaurants/markets. For this reason, and its proximity to the district government offices and Mbarang'andu WMA head office, it acted as the base of operations during my research period.

I relied on past networks and their assistance in helping forge new contacts and informants in southern Tanzania. Past networks led me to important gatekeepers across the Ruvuma Region, which assisted in keeping to the research protocols at the local government and village levels and helped identify relevant research participants. As my research interests and presence in the community was accepted by village leaders, I was directed towards community leaders knowledgeable about the research topic. Together, these ongoing processes allowed me to identify a range of participants with "experiential relevance" to the study (Rudestam & Newton, 2015), which included former mining employees, individuals impacted by the mining project, village game scouts and former game wardens, and farmers facing human-wildlife conflicts.

Likuyu Sekamaganga Village & Likuyu Mandela Hamlet

Likuyu Sekamaganga (Likuyu Seka) forms one of the seven villages that make up the Mbarang'andu WMA. In addition to holding an important legal and administrative standing in the management of the WMA, Likuyu Seka is also the nearest village to both the Likuyu sector headquarters of the Selous and the Mkuju River Project's mining camp. As the uranium industry retracted and exploration sites across the region were abandoned, many of those employed by extractive industry companies lost their jobs. This group of former employees were an important subject group for my research. I conducted both individual and group interviews with the all-male participants, not unusual given the labor norms associated with extractive exploration and

early state mine development, of various ages and who were mainly employed, rather precariously, as manual laborers. These participants provided valuable insights into the operations of the various companies and their opinions on the broader community's concerns, their own personal views of mining and its relation to conservation/environment, working conditions, and thoughts about the futures they would like to see for their communities. Given the retreat and disbanding of the mining companies in the region, except for Mantra Tanzania/Uranium One, this was an important opportunity to hear accounts of those who were closest to the other companies active in years past.

A single dirt road connects Likuyu Seka with Namtumbo Town with a deviation offered in the road at Mtonya village, about halfway between the two, for those interested in travelling further to the west. The road is often difficult to pass during the rainy season. During this time of year, I experienced difficulty travelling to Likuyu Seka, an experience that provided a first-hand account of the challenges faced by local peoples, government officials, game wardens, and private sector investors, during the drastic seasonal changes in the region. The challenges presented by the road infrastructure were a reoccurring theme during my research as the politics of investment in such infrastructure came to be associated with the potential development of the MRP inside the Selous. The peoples of Likuyu Seka and surrounding villages have lengthy histories of accessing and managing the resources throughout the region. Not until the colonial imposition of the Selous were these rights challenged. Since, many residents of Likuyu Seka have been relocated, under the state's villagization schemes, to their current place of residence today. As of writing, these histories have also been met with the contemporary likelihood of relocation for many residents, mainly those who live closest to the roadway due to infrastructural development related to the construction of the uranium mine project. Many shared their stories,

Figure X: X Marks the Spot *– Due to the need to expand the access road to the Mkuju River Project, many homes, businesses and structures built along the road have been marked for destruction by TANROADS, the government authority for road infrastructure. As one informant told me, villagers were encouraged to build along the roads under villagization, but now those, and many others who have built over the decades, face the likelihood of their home being demolished so that the mining project can proceed. There is much uncertainty around compensation for the homes, mainly who will pay it and who will receive it, and many of these structures have been marked for multiple years, some since 2012. Because of this uncertainty many fear the eventual removal of their properties and the limited (if any at all) compensation that they anticipate will be attached to it (Photo: author).*

thoughts, and uncertainties with me during research.

Many people who live in Likuyu Seka are farmers who regularly experience human-wildlife conflicts and interact with game managers accordingly. Here, roughly equal numbers of men and women expressed to me their frustrations with the frequency of human-wildlife conflicts in the region and the state of response from the local government and wildlife authorities. This provided important insights into daily life in southern Tanzania, as the vast majority of villagers are small-scale farmers, many of whom face human-wildlife conflicts annually. These insights provide nuance and a counterbalance to how wildlife is humanized in conservation and tourism circles, a central component to the economic rationale that authorizes Tanzania's militarized response to declining wildlife populations (Chapter 4). These experiences also provided insights

into the geographic features of the villages within the region and some sense of the areas more negatively impacted by migrating wildlife populations.

Likuyu Seka is also of interest because it hosts the national Community Based Conservation Training Centre (CBCTC), an institution that has been vitally important in the country's efforts to implement its vast WMA program. Here, the college has trained hundreds of village game scouts (VGS) to patrol the expanding network of WMAs across the country. VGS are volunteer scouts who live in the villages that makeup the respective WMAs. Based on their training at the center, they conduct patrols within the WMA lands searching for evidence of poaching and monitoring the broader landscape. VGS are also engaged in conservation education within their respective communities, aimed at instilling behavioral changes that promote a western model of conservation for which the institute was established under. The VGS who took part in this research spoke of their experiences in the conservation program and of the training they receive. Many discussed how they interact with private sector investors, including hunting companies and their experiences and opinions of the mining sector, particularly during the uranium rush of recent memory. Under the context of the most recent poaching crisis the CBCTC, alongside with the various other wildlife and natural resource related educational institutions in the country, has a renewed purpose within the region and country as providing more (para)military trainings to its students. During the research period, two trainings for incoming VGS students were conducted at the center that were both funded by the WWF. These scouts were the first to undergo training at the facility under the new curriculum. I conducted a focus group with 56 students at the CBCTC, of which about 12 percent were female, training to become the latest batch of VGS in Tanzania. Apart from this group, all the VGS' I interviewed had been trained prior to recent curriculum changes at the CBCTC. These encounters provided insight into the changing nature of the

training program and the challenges the VGS face once they return to their respective communities. The CBCTC is also responsible for training villagers who take leading positions within the administrative councils of the WMA program. Most villages maintain several committee's responsible for various aspects of WMA management. For example, the Natural Resources Committee in Likuyu Seka, made up of 18 members from the community, was an important group for my research. I sought both their approval for my presence in the community and their participation in the research process as a group and on an individual level.

Besides historic social and familial relations within what is now two separate internationally recognized states, Southern Tanzania has historically played an important role in hosting Mozambican refugees. The policies of the Portuguese colonial government, the fight for independence, and the civil war that followed all involved significant refugee mobility between Mozambique and Tanzania (Panzer, 2013; Wembah-Rashid, 1992). The independence struggle in Mozambique did not immediately result in peace as a brutal civil war raged across the country until a peace agreement was signed in 1993. Thousands of refugees were hosted throughout the south of Tanzania, with some military and refugee camps maintained by the Front for the Liberation of Mozambique or FRELIMO (Thompson, 2013), and during the civil war the Tanzanian government closed its southernmost border in fear of a full-scale invasion by the Mozambican National Resistance or RENAMO (Baldus & Hahn, 2009). Tanzania's support for the Mozambican independence struggle lasted decades and had significant socio-economic developmental impacts on the south of the country (Baldus & Hahn, 2009). Until Mozambican independence in 1974, the Tanzanian state categorized the southern parts of the country as "an emergency area," which readily allowed for the swift implementation of its villagization scheme across the region under the pretext of emergency response (Swantz, 1996).

The CBCTC itself, along with much of the infrastructure at the headquarters of the Selous management offices and the Selous Secondary School, was initially constructed to host refugees fleeing Mozambique's longstanding civil war. As the refugee populations were repatriated, the various infrastructures were reimagined throughout the region. The CBCTC conducted its first training courses in 1996 (Baldus & Hahn, 2009). Besides the infrastructure discussed, some sites that hosted refugees during the 1980s and early 1990s also transitioned into naturalized settlements. The subdivided hamlet of Likuyu Mandela is one such location. Just a few kilometers from the village offices of Likuyu Seka, the hamlet of Likuyu Mandela was an established center for the distribution of resources and provision of basic services to Mozambican refugees. Today, many of the hamlet's residents are of Mozambican descent. To my understanding, the leadership of Likuyu Mandela has requested to attain full village status, although at the time of research the hamlet had not received this status change. This is important for several reasons. First, because of this arrangement, the hamlet falls under the broader village of Likuyu Seka as it relates to the management of the Mbarang'andu WMA, which according to interviews with Mandela's leadership has created some tensions between the two groups. Second, although not solely linked to its status as a hamlet, the community of Likuyu Mandela has not been granted access to any training spots at the CBCTC and therefore have no formally trained VGS. This was also a particular point of tension amongst many community members, as most of the community relies on small-scale agriculture and is often mired in human-wildlife conflicts that threaten the community's food security. Located right on the doorstep of the Selous, Likuyu Mandela faces near constant conflicts with wildlife, which has included the recent killing of a villager by raiding elephants. Human-wildlife conflicts are of serious concern in this region of Tanzania and was the leading topic of discussion of many participants in my research. With the

removal of hunting quotas from WMA lands combined with increased security within/nearby the Selous, many people expressed views that the government of Tanzania, through the conservation authority and District government, value the of life of elephants and wildlife more than that of local communities.[25] Here communities experience wildlife in very different ways than those who visit Tanzania to have a wildlife viewing experience or those living in urban centers. These experiences complicate the relationship between villagers in Likuyu Seka and Likuyu Mandela and the Selous management team stationed at Likuyu sector.

Conclusion

This chapter provides historical-geographical context for the *Unlikely Allies* project. In briefly retracing the steps of the research through its central sites, the chapter grounds the research in southern Tanzania, providing key historical moments and geographical details to set the stage for the following chapters. In presenting this condensed historical analysis, and brief reflections on the subject groups that participated in the research, the chapter provides important context necessary for grappling with the emergence of Tanzania's contemporary conservation-extraction alliances, the central relationship of analysis of this dissertation.

[25] Interviews, 2018

3

The "Waiting Field" and the Conservation Social Sciences: Reflections on Ethnographic Methods in Conservation Research

Abstract: This chapter brings the "waiting field" framework, which calls our attention to analyzing the moments on the fringes of research, into conversation with ongoing debates across the conservation sciences. I argue that the moments "previous to" and "in-between" the techniques of research, as well as the moments of interruption/disruption are important research encounters that enhance the rigor of qualitative research and complement more conventional research methods. With an ethnographic foundation, I suggest the "waiting field" framework has much to contribute to the conservation science community in our efforts to better understand the social, political, and ecological dynamics of contemporary conservation interventions and the impacts of such. By focusing on the productive components of encounters familiar to all researchers, the "waiting field" framework also offers inroads to bridging the divide between the conservation science community today.

Introduction: The Death of a Hippo

In a rare occasion I am traveling to the sector headquarters of Tanzania's Selous Game Reserve in a car. Normally, I would make the roughly 30-40-minute journey in either the local bus (*dalla dalla)* or on the back of a motorcycle taxi (*boda boda)*. I am tired after a day of research activities but when the senior game warden returned my phone call agreeing to an interview I jumped at the chance, even if it was rather last minute. Despite my fatigue it did not take long for me to snap out of a relaxed gaze examining the miombo woodlands in the distance, as the car slowed due to a small mass of people gathering next to a Land Rover on the side of the single-lane dirt road. Clearly someone involved with the wildlife economy was causing this raucous because Land Rovers, in this part of the country, are more-or-less reserved for those in wildlife management and the hunting tourism industry. We rolled down the window to discover Village Game Scouts (VGS), deployed by the Wildlife Management Areas (WMAs) to conduct patrols and manage the WMA territory, selling hippopotamus meat to people from nearby villages. Little did I realize then, but the circumstances of this hippo's death would alter the course of my encounter with the game warden and the broader team at the sector headquarters of the Selous that night.

All those who have been "in the field" are familiar with the encounters that take place on the fringes of research techniques, such as official and/or semi-structured interview settings, the delivery of questionnaires, and focus groups, or moments initially thought of as disruption. As conservation researchers, how do we make sense of these moments and ensure their productive and insightful components are not missed?

In this chapter, I deploy the "waiting field" framework to grapple with the analytical value of the moments that arise during fieldwork that are in-between or that disrupt research encounters, such as this experience of the hippo's death. The "waiting field" is a framework that "seeks to centralise [sic] the value of ethnographic approaches" in qualitative research by paying special attention to the moments on the fringes of research techniques, where we wait or find our research plans momentarily disrupted (Mannay & Morgan, 2015). In applying this framework and bringing it into conversation with the conservation social sciences, I argue that the ethnographic foundations of the "waiting field" enhance the rigor of qualitative research and complements conventional research methods. Revisiting the hippo's death, and other experiences from the field, shows how analysis of encounters outside of the techniques of research add critical context, insights, and opportunities for data generation, its analysis, and reflection. In these ways, being attuned to the moments within the "waiting field," I argue, can go a long way in helping to understand the social, political and ecological dynamics of contemporary conservation phenomena. Finally, as the conservation science community increasingly recognizes that conservation is both social and political, the "waiting field," and its familiar encounters, offers an opportunity to bridge the existing divide between qualitative and quantitative researchers in the conservation sciences today.

The chapter is motivated by the multiple encounters with conservation scientists and practitioners who were struck, and perhaps even confused, by a social scientist working in the sector, despite decades of critical research of this sort in the country and beyond (Brockington, 2002; Cronon, 2008; Garland, 2008; Mabele, 2016; Neumann, 1998; Peluso, 1993; Ramutsindela & Noe, 2012). These encounters represent ongoing debates within the conservation sciences community that assess what constitutes legitimate scientific knowledge that, at a time of

increasing biodiversity crisis, should inform the global environmental agenda and conservation policy and practice (Adams & Sandbrook, 2013; Bennett et al., 2017; Moon et al., 2019). I ground these debates in Tanzania and rely on more than 11 months of field research to show how the "waiting field" framework and its foundations in ethnographic inquiry can elucidate critical insights into conservation partnerships and interventions, thereby adding to critical conservation scholarship discussing the benefits of ethnographic inquiry for conservation research (Corson & MacDonald, 2012; Massé, 2017; P. West, 2006). This is also relevant for research challenged by access to actors and places, including much research on the natural resource extraction industries. I discuss instances of where this is helpful below.

The "waiting field" framework builds on a scholarly tradition of engaging with an expanded notion of the field and looks to engage the techniques of ethnography within a broader approach to multi-method research (See also: Parker-Jenkins, 2018). The framework identifies three overlapping spaces that constitute the "waiting field," including the spaces previous to, spaces of interruption/disruption, and spaces of reflection, that help reveal new things about ourselves and our research participants while we wait to engage in more conventional research techniques such as interviews or questionnaires. Undoubtedly varied depending on the specifics of the research, moments in these spaces may consist of time spent travelling to and from an interview or data collection site or the conversations and observations of research participants before and after the audio recorder is turned on or the pen is removed from the notepad. Endless other examples exist. For many researchers it is unnecessary to assign categories here because the moments on the fringes of research techniques are "journeys that already characterize rigorous qualitative inquiry" (Mannay & Morgan, 2015, 175). In addition to being generative of data, these journeys strengthen the research process, complement additional methods, and offer opportunities for

reflexivity. For Mannay and Morgan (2015), the necessity to draw attention to the framework, and the benefits of ethnography, comes amidst a shift away from ethnographic inquiry towards alternative approaches and techniques of social science research.[26] The value of analyzing the spaces of the "waiting field" is best described by the authors themselves:

> We realise [sic] that in introducing the 'waiting field' this is 'old hat' to many ethnographers, and those engaged in other forms of rigourous qualitative practice, who set out on their research with this appreciation as implicit in their craft. However, our own experience in the field, the recent shifts in higher education, and our own work with new generations of student researchers, necessitates a consideration of how to retain the salience of the in-between in contemporary inquiry. The 'waiting field' is a space in need of attention and appreciation (Mannay & Morgan, 2015, p. 172).

In applying the framework here, I argue that the conservation science community, itself mired in an ongoing debate over the most effective research techniques and most scientific types of knowledge, has much to gain from retaining "the salience of the in-between." Drawing attention to the framework's ethnographic foundations, and its importance to conservation science, is not to say that ethnographies of conservation phenomena do not exist, nor that anthropology, a discipline intimately linked with ethnography, has not been interested by conservation interventions (See: Masse, 2017; West, 2006). Instead, in highlighting the productive components of the time in the "waiting field," moments recognizable to all researchers, this chapter calls for a deeper engagement by conservation scientists with ethnographic inquiry writ large. Without rehearsing the above discussions circling what constitutes ethnography and what does not, what I find productive about merging the ongoing debates in ethnographic circles and the conservation social sciences is that they remind researchers across disciplines that

[26] For example, Hammersley (2018) argues this shift away from ethnography is due to the long timelines of ethnographic research, a general turn towards "big data" across the research community and the changing conditions of work across universities. More broadly, institutional and structural threats to ethnographic methods emerge from within the university as research becomes more professionalized and efficient, adhering to the structures of the neoliberal university and the knowledge forms privileged by funders, governments, and the private sector (Hammersley, 2018; Palmer, Pocock, & Burton, 2018).

ethnographic *techniques* can, and should, accompany a variety of research designs, producing effective research encounters along the way (See: Parker-Jenkins, 2018). In bringing the "waiting field" into conversation with the conservation sciences, I expand on the claims of other critical researchers that argue qualitative research, such as ethnography, can inform and deepen our understanding of nature-society relations and present avenues towards more just conservation interventions (Adams & Sandbrook, 2013; Bennett et al., 2017; Massé, 2017; P. West, 2006).

I begin by highlighting some features of the ongoing debate in the conservation science community about the different approaches to conservation research and what constitutes legitimate scientific knowledge. From here, I provide contextual information on the research project in Tanzania that informs this chapter. The section entitled "Relationships and Networks Amidst the Techniques of Research" illustrates how some research methods such as key informant interviews and participant observation are complemented and made possible by the moments that exist in-between these methods. I conclude the chapter by returning to the story of the hippo's death. I discuss how the ensuing encounter with the Selous management team amidst the hippo's death was generative for grappling with the complexities of Tanzania's wildlife management institutions and proved to be an example of how authority is enacted within these institutions and across the conservation landscapes of southern Tanzania.

In bringing the "waiting field" framework into the conservation social sciences I show how the encounters on the fringes of research techniques inform our understandings of the research environment, the actors across it, and the policies, practices, and implications of, in my case, conservation partnerships in southern Tanzania. I make these claims as a counter to critiques of the social sciences as "journalistic in nature" and therefore "lacking" in scientific rigor (Lee & Bond, 2018b) and show that important data is missed when research agendas are too rigid,

lacking spontaneity, flexibility, and an observational quality that generates more nuanced research findings. In this way, the chapter is a broader call to conservation scientists to engage with ethnography in our pursuits of more just conservation interventions and research practices. I show one way this is possible, by being attuned to the moments of the "waiting field."

The "Field" and the Conservation Social Sciences

Historically, conservation biology has been primarily concerned with protected areas, landscapes, and habitats that represent biological features classified as "in crisis" (Noss, 1996; Soulé, 1985). More recently, these boundaries have expanded into the lands surrounding protected areas as the conservation science community increasingly recognizes that biodiversity is fundamentally social and that human impacted lands are important sites for conservation (Kareiva & Marvier, 2012; Mascia et al., 2003; Meine, Soulé, & Noss, 2006). Yet, despite these realizations, for many in the conservation science community: "Establishing protected areas is the most effective method for safeguarding biodiversity," especially across the developing world (Wilson & Primack, 2019, p. 503). For example, this defining feature of conservation biology is very much alive in the Convention on Biological Diversity and neoprotectionist agendas of Half Earth (Büscher & Fletcher, 2020). These so-called "wilderness" landscapes and protected areas continue to be seen as the primary field sites for disciplines such as conservation biology (Noss, 1996) and subsequently become targets of much research and "evidence-based conservation" interventions that are dominated by quantitative information (Adams & Sandbrook, 2013). On the other hand, critical conservation scholars, and political ecologists in particular, have long troubled this bounded nature of the field, instead seeing the "site" of research "as constituted by relations across space and time – as a set of locales linked by actors drawn together and brought

into association through transnational environmental governance, as well as the projects that it generates" (Corson & MacDonald, 2012, p. 265). Just as ecosystems and wildlife do not stop at the boundaries of protected areas, the nature of conservation fieldwork fails to be defined by characteristics such as landscapes and borders (Corson & MacDonald, 2012; Katz, 1994). This has proven especially insightful for analyzing the neoliberal turn in conservation, which has resulted in the expansion of the roster of actors involved in conservation policy, practice, and territory (Büscher et al., 2012). As mentioned in Chapter 1, my research does not consider Tanzania's Selous Game Reserve as a "bounded system to study" (Creswell, 2007, p. 75), but as a central site of research that grounds (inter)national forms of environmental governance in a particular historical-geographical space. As power relations that govern the access and control over resources articulate across various scales of environmental governance, what constitutes the field must mirror the networks of these relations if the intent is to understand how they manifest and with what impact. In this way, my research is multi-sited and located both across various sites in Tanzania and beyond, including the Paris-based offices of UNESCO, the train stations of Germany, and the various transit points in-between. Expanding the field in this way allows the researcher to "pry apart some of the differences, not just between one site and elsewhere, but within it as well" (Katz, 1994, 68) to understand how power relations under neoliberal capitalism and contemporary environmental governance are decentralized and permeate multiple geographies with varying impacts. In practically mobilizing ethnographic techniques of research to analyze the moments on the fringes of research, the "waiting field" invites a similarly broad conceptualization of the field. More than this, in calling our attention to the moments on the fringes of research that all researchers recognize, regardless of disciplinary or philosophical allegiances, the "waiting field" is an invitation to the conservation science community to

(re)embrace and/or add ethnographic techniques to our research toolkits.

Figure XI: Communicating Crisis *– This series of images indicate the global articulation of biodiversity projects promoted by today's leading conservation actors. Communicated to various global audiences, in multiple languages, these communication efforts highlight the plight of Africa's elephant populations to the colonial Metropole (Berlin–above right) and the urban centers of Dar es Salaam (left and below right). They also connect these audiences to specific historical-geographical spaces (Photos: author).*

What Knowledge Counts?

Although the conservation community is increasingly recognizing the interconnectedness of human societies and nature (Sandbrook, Fisher, Holmes, & Luque-Lora, 2019), a debate about what kinds of scientific data should inform decision-making across the sector persists (Adams & Sandbrook, 2013). Within this debate the social sciences are considered far from equal to their natural science counterparts, resulting in multiple efforts to describe the value of the social

sciences to the field of conservation (Bennett et al., 2017; Crandall et al., 2018; Newing et al., 2011). Here, social scientists argue that qualitative data and social science methodologies, methods, and philosophies used to co-produce it can help the conservation community better understand the social context of conservation and guide decision-making processes (Moon et al., 2019). Others point out that in certain research settings such as that engaging with the illegal wildlife trade, social science methods may prove to be all that is possible given the dangers and security considerations of the research topic (Lunstrum & Givá, 2020). Given these, and other benefits, many have called for the "mainstreaming" of the social sciences across the broader conservation field as they "can provide unique and important contributions to society's understanding of the relationships between humans and nature and to improving conservation practice and outcomes" (Bennett et al., 2017, p. 56). Despite these calls, and decades of critical research on conservation, and the co-production, circulation, and communication of environmental knowledges, and the politics of science itself, the social sciences remain on the fringes of the conservation science community (Goldman, Nadasdy, & Turner, 2011; Jasanoff, 2004; Leach & Fairhead, 2000, to name a few).

These debates take center-stage in Tanzania, reflecting this internal conflict within the conservation sciences evidenced, for example, by a recent debate within the *Journal of Mammalogy* (Brehony, Bluwstein, Lund, & Tyrrell, 2018; Lee & Bond, 2018a, 2018b). Grounded in Tanzania, Lee and Bond (2018b) criticize decades of rigorous social science research as "qualitative and journalistic in nature, lacking random or systematic sampling designs for their interviews and questionnaires, or without quantitative statistical analyses" (Lee & Bond, 2018b, p. 2). This critique gets at the core epistemological distinctions that permeates much of the conservation science community. For natural scientists, as Lee and Bond (2018b)

suggest, valid knowledge is generated from empirical observation carried out according to the scientific method; the validity of scientific knowledge is derived from its statistical significance (Moon & Blackman, 2014; Newing et al., 2011). For social scientists, a sole reliance on quantitative data risks reducing complex phenomena to measurable numbers and statistics, which is devoid of important cultural, historical, and social perspectives and therefore produces knowledge that is itself invalid and even counterproductive (Newing et al., 2011). For social scientists, the field is vast and fieldwork is an ongoing process of knowledge sharing and co-production. Knowledge is necessarily partial and situated within the various histories and geographies of those involved in the research process (Haraway, 1988). Data does not merely exist, waiting to be extracted whenever the researcher is ready. Instead, data is *generated* in a relation of co-production between the research participants, the research environment, and the researcher. In other words, knowledge is informed by much more than findings from a questionnaire and, although quantitative analysis has its strength, sometimes, as conservation social scientists argue, "other forms of knowledge may be more appropriate" (Adams & Sandbrook, 2013; Newing et al., 2011, p. 8).

As knowledge is co-produced, conservation social scientists avoid rigidity in the research design and across the research process. As Moon et al. (2019) rightly claims: "Being too focused on seeking an "instrumental outcome" can mean that we lose the capacity to recognize and understand the unexpected" (298). This is exactly the point of calls, such as Mannay and Morgan's (2015), for a deeper engagement with ethnographic foundations of qualitative research as failing to do so can lead to research that lacks rigor as data is devoid of the place-based context that it is generated within. In countering this potential void, ethnographic inquiry includes a thorough engagement with the contextual dynamics of the research environment and

allows for a reflexive approach to how the presence of the researcher shapes the research itself. These are just two of the ways ethnographic inquiry is a rigorous pursuit that can generate qualitative data that "enables, and thus leads to, unexpected discovery" (Moon et al., 2019, p. 298).

Lee and Bond's (2018b) assessment of ecological success as "significantly greater densities of wildlife and significantly lower densities of livestock" in Wildlife Management Areas in northern Tanzania is unfair, deeply privileges the natural sciences, and argues a positivist epistemology is the only way "to know" and interpret conservation interventions. In divorcing the role of the researcher in the research design and implementation and how this impacts data generation, this approach also discounts notions of researcher positionality and subjectivity. Furthermore, such an approach to scientific knowledge is dangerous as it engenders problematic undertones about "expertise" and marginalizes local, Indigenous, and non-expert knowledges that are critical to conservation science (See: Adams & Sandbrook, 2013). With Tanzania's WMAs, this approach to research and line of argumentation, as Brehony et al. (2018) counter, misidentifies conservation successes by avoiding the "complex and dynamic socio-ecologies" of the environment being studied, a community-based conservation program in Tanzania that many have identified as coercive and spurring resource conflicts (Benjaminsen et al., 2013; Bluwstein, 2017). As seen here, the privileging of the natural sciences in conservation research, decision-making, and policy may miss important, nuanced, and original insights into the broader relationships between nature and society critical for producing effective and just conservation practices and policies (Adams & Sandbrook, 2013; Bennett et al., 2017; Moon et al., 2019). In the worst-case scenarios, missing these complex socioecological dynamics may produce exploitative, violent, and counter-factual conservation "successes," leading to the establishment

of conflictual conservation programming. Taken together, this chapter acts as a counter to claims that social science methods are merely "journalistic in nature" (Lee & Bond, 2018b, p. 2). Instead, these are methods that generate important, nuanced and rigorous qualitative data that can help inform more effective, just, and robust conservation interventions (Bennett et al., 2017; Moon et al., 2019). In contributing to this debate, the chapter shows how qualitative data that emerges within the "waiting field," helps to document, describe, and reflexively analyze the assumptions and complexities emergent within conservation partnerships in Tanzania (See: Bennett et al., 2017). In doing so, I argue that the "waiting field" and its ethnographic foundations, enhances the rigor of the research process and can help move conservation sciences towards a pluralistic view of conservation evidence that accounts for knowledges and qualitative data that may not be "legible to the technology of systematic review" (Adams & Sandbrook, 2013, p. 331).

Research Context

In Tanzania the global biodiversity crisis manifests most publicly in the dramatic decline of the country's population of savannah elephants. Having witnessed the collapse of its elephant population to the tune of 60 percent between 2009-2015, great (inter)national attention has been paid to the (in)action of the Government of Tanzania, in partnership with a variety of non-state actors, on getting the crisis under control. Regional responses to the precipitous declines in wildlife populations have resulted in the intensification of militarized conservation, whereby (para)military logics, tactics, personnel, and technologies are used to combat the illegal killings of wildlife (Duffy, 2016; Lunstrum, 2014). As I detail elsewhere (Chapter 5), Tanzania is not immune to these trends (See: Mabele, 2016). In fact, its Selous Game Reserve and its contiguous

ecosystem with Mozambique's Niassa National Reserve form what some call one of the most significant "elephant poaching hotspots" in the world (Wasser et al., 2015).

In its most general sense, this research is concerned with wildlife management and the intersecting relationships between mainstream biodiversity conservation and the extractive industries. As research over the last thirty years has detailed, these two seemingly combative sectors have grown increasingly comfortable with the other's activities and modes of operation (Büscher & Davidov, 2013; Chapin, 2004; Enns et al., 2019; Hackett, 2015; Norris, 2016; Seagle, 2012; P West, 2006), unsurprising given both sector's inherent logics of territorial access and control. As these trends become increasingly interconnected with the Second Poaching Crisis, the research is focused on how the emergent relationships between conservation and the extractive industries materializes in Tanzania and with what impact.

Mirroring global trends, the relationship between the conservation sector and the extractive industries is increasingly cordial in Tanzania. The most significant manifestation of this relationship is found in the southern Selous Game Reserve, where Mantra Tanzania Ltd., a subsidiary of the Russian state owned nuclear conglomerate Rosatom, in partnership with the management authority of the Selous, conducts "one of the most sophisticated anti-poaching programs in Africa," both contributing to and shaping the constitution of Tanzania's militarized conservation, which I detail elsewhere (Chapter 5). My research also shows how this increasing approach to militarized conservation is underpinned by an economic rationale to Tanzania's anti-poaching policies and practices, opening spaces for an array of non-traditional conservation actors, such as the mining and oil/gas sector, to become the rational actors of the new wildlife economy (Chapter 4). Finally, I show how the intersections between conservation-extraction in the Selous works to enclose subterranean resources and (re)produce protected areas as

landscapes of extraction across multidimensional space (Chapter 6).

The research that informs this chapter transpired over multiple visits to Tanzania equaling more than 11 months in-country and years of desk-based work. In total, over 90 people took part in interviews including those from government, non-governmental, private sector, and community subject groups. I conducted multiple focus groups, participant observation with the parastatal wildlife authority (discussed below) and observational activities at various locations, document analysis, and archival research for this project. I coded and analyzed the research using Nvivo software.

Research Clearance in Tanzania

Waiting for official research clearance/access in Tanzania amounted to roughly a six-month long process. The chart in Appendix A details the institutions, actors, and process of gaining the various research clearances in Tanzania and may be of interest for future researchers. As critical research shows, waiting is a relation of power (For example: Jeffrey, 2008; Olson, 2015) and I consider my engagement with the "waiting field" a privilege afforded by my position as a white and funded graduate student at a North American university. Reflecting on waiting for permits is not intended to criticize the scientific review and permitting process in Tanzania. Periods of waiting in research are both very common (Mannay & Morgan, 2015; Palmer et al., 2018; Schritt, 2015) and is an important process that should not only take time, but is also an important step towards the decolonization of the research process. For me, waiting was not mired with conflictual encounters but was a rather mundane experience and it is the very privilege of waiting that has enabled my ability to reflect on these moments and generate insights from them. In time, I came to think of this six-month period as the time-space "previous to" when I could

utilize the techniques of research (Mannay & Morgan, 2015).

Finding Legitimacy and Expanding the Field on the Fringes of Research:

The spaces "previous to" the deployment of research techniques and the moments within them, inform the knowledge production process and prove productive in various ways, and are distinct from the spaces in-between research techniques, which I discuss below (Mannay & Morgan, 2015; Palmer et al., 2018; Schritt, 2015). I show how waiting for research permits increased the legitimacy of my research amongst particular subject groups, how these moments provide important context to the research environment, are critical in documenting changes across time and space, and prove pivotal as reflexive encounters throughout the research process.

During my time in Tanzania, most visitors I spoke to were experiencing frustration with their respective immigration experiences. Sharing my experience to those in the international community offered legitimacy to my research and presence in Tanzania. In a sense, these immigration delays helped break down the insider-outsider binary within the international community in Tanzania. This is important as many conservation organizations, donors, and private sector actors hail from places such as the United States and Europe. Given the contemporary and historic presence of these actors across Tanzania, and their power and authority in directing the conservation agenda in the country, access to this community is critical for understanding conservation governance today. Seeking a one-year residency permit showed my intentions of conducting research over that time period and seemed to build trust amongst actors who had experienced waiting for permits themselves. There was a commonality amongst us, and my willingness to engage in long-term research was obvious through waiting for research approval.

In other ways, the "waiting field" offered extended opportunities for networking with the

broader research community in Tanzania. For me, this included time on the campus of the University of Dar es Salaam and opportunities for vital feedback on my research approach, methodology, and relevancy from leading scholars and students at UDSM. Building trust amongst the international community and nurturing research networks across Tanzania are two simple examples of how moments across the "waiting field" shape the research process.

Waiting for permits also meant spending more time in Tanzania's urban spaces, revealing how conservation narratives and discourses are intimately linked to the urban experience. Sitting next to anti-poaching advertisements at major transportation junctions, witnessing bustling tourism markets peddling beautiful representations of peaceful wildlife, catching glimpses of the artistic impressions of nature-society relations built into the urban landscape, and meeting the creators of wildlife documentaries and advertisements are opportune moments of data generation that more often than not exist on the fringes of the techniques of research. Extended time in urban spaces meant more exposure to how narratives of ecological collapse and the crises of wildlife poaching distance themselves from the rural struggles to live *with* wildlife and the conservation interventions tasked with protecting species. Social scientists have engaged with these narratives and discourses and how contemporary neoliberal conservation intensifies the commodification of wildlife both in the flesh and its digital counterparts (Büscher et al., 2012; Igoe & Brockington, 2007; Marijnen & Verweijen, 2016). Such insights have proven critical to grappling with the expansion of mainstream conservation and its relation to capitalism (Brockington et al., 2008; Büscher et al., 2012; Igoe, Neves, & Brockington, 2010), and yet these instances and their geographically specific manifestations can easily go unnoticed if research objectives and the methods to reach them are too directly focused on data *collection* or constrained by a bounded notion of the field. If research is too centrally focused within, for

example, Tanzania's national parks, the social components *driving* socioecological change within these environments may be misinterpreted or missed altogether. In my case, extended periods of time in Tanzania's urban centers, facilitated by waiting, allowed me to witness how deeply engrained the colonial myth of wilderness is within the urban Tanzanian experience today (Adams & McShane, 1996). Furthermore, I could witness how charismatic megafauna such as elephants are brought closer to the urban human community while poachers and rural populations facing the brunt of human-wildlife conflicts, are often forcibly banned from that same human community, a critical process for the rationalization of militarized conservation (Lunstrum, 2016).

The time-spaces that emerged while waiting also allowed the opportunity to gain insights into the increasing political instability in Tanzania. By varying accounts, politically charged violence was on the increase, seemingly targeting critical voices amongst Tanzanian society (Degenstein, 2018). The official opposition was targeted and silenced (African Arguments, 2018). Prominent officials made open threats against those who oppose government development plans, such as the Stiegler's Gorge hydroelectric project inside the Selous, illustrating the government's disinterest in opposing views to its populist agenda (Masare, 2018). Such widely broadcast threats added to comments from conservation actors who claimed government officials told them to remain quiet on Stiegler's Gorge and other development projects or face the likelihood of reprisals.[27] Being attuned to the spaces outside of the techniques of research provided additional insights and context into how, in this example, dissent and criticism are silenced, those who may engage in such, threatened.

Additionally, the police and military were increasingly mobilized by the new administration

[27] Personal Communications, 2016

to curb public protest (Ng'wanakilala, 2018), to invest in agricultural products and processing, and to carry out major construction projects (Collord, 2019; Kidanka, 2018). These moves, taking shape outside of my direct sites of research, inform a re-emergence of the Tanzanian state through state-owned enterprises and actors such as the military. When combined with the regional discourse of the "war on poaching," and an increasingly (para)militarized approach to conservation promoted by donors, conservation organizations, and the private sector, it comes as no surprise that militarization is prominent across the conservation sector in Tanzania. Time in the "waiting field" revealed how the military's presence and power is growing across many sectors throughout the country (Collord, 2019) and how the intensification of (para)military tactics, policies, and actors within conservation, that I recognized later in my research, reflected the broader trends taking shape across Tanzanian society.

These are all examples of how the time-spaces presented by waiting for research clearance allowed for a deeper understanding of the research environment across Tanzania, turning what might be considered "down time" into productive moments of data generation and reflexive analysis. I argue that these encounters in the time-spaces of the "waiting field" provide important context to the research environment but also assist in documenting and describing how, in this case, conservation is changing in Tanzania, for example, with the intensification of militarization in the sector and across the country more broadly. In this way, the moments in the "waiting field," generative of data, relationships, and contextually informative, both complement and make possible more conventional techniques of research. Further, these insights offer reflexive opportunities that engage with the history of conservation and its tourism counterpart, adding clarity to how the wilderness myth is sustained in both sectors to enhance new iterations of fortress conservation and with new partners onboard. As Bennett et al., (2017) argue,

documenting and describing the diversity of conservation interventions while remaining reflexive towards the histories and assumptions that underlie them are some of the many valuable contributions that the social sciences can provide to the hopeful facilitation of more socially just conservation.

Importantly, receiving permits and/or project approval does not mean that moments of waiting cease. Research is loaded with time-spaces that emerge across the field because of waiting, the importance of which may be missed without the utilization of ethnographic techniques. Besides what may be missed in the moments previous to the techniques of research discussed above, following research guidelines and/or questionnaires too closely, for example, risks losing the opportunity to engage in serendipitous encounters and/or to notice the intricacies of everyday life that may provide unique and important insights into the phenomena in question. These are the benefits of thinking, engaging with, and reflecting on, the "in-between spaces" and the "spaces of interruption and disruption" within the research process and the insights they can provide (Mannay & Morgan, 2015; Palmer et al., 2018).

Relationships and Networks Amidst Research Techniques:

Interviews are a dominant research method in the social sciences. They are both formal and informal and can provide a look into particular opinions, emotions, and opportunities for gathering insights into a range of experiences of people in various subject positions (Longhurst, 2010). Interviews also provide opportunities for observation of the interviewee, building rapport, and insights into the daily lives and activities of research participants. However, if designed and conducted too rigidly, interviews also run the risk of being reduced to the time *in* the interview, often an extractive relation. Ethnography invites us to move beyond this type of interview, focused merely on its content, and instead go 'wandering together with,' the interviewee in

creative and spontaneous ways (Heyl, 2007, 371 as cited in Mannay & Morgan, 2015). As such, the interview, much like the field, exists far beyond a conference room or community bench where the actual discussion takes place. Much can be generated from the before and after observations and the everyday encounters that present themselves during interviews. These moments are important in gaining a broader understanding of what is stated in the interview itself, complementing the interview process and the utilization of other research techniques. Thus, the semi-structured interview is useful when opportunities for more direct observations (i.e.: participant observation) are not available (Creswell, 2008).

Such observational opportunities are important in much research on natural resource extraction as access to corporations and/or field sites are often restricted. I encountered this dynamic regularly during research and therefore found the moments in-between the research techniques particularly generative. For example, access to the mining companies operating the Mkuju River Project was directed towards the individuals hired as anti-poaching specialists both past and present. Accessing the mining camp itself was not an option for a researcher in my position at this point in time. However, I could conduct multiple interviews with anti-poaching specialists hired by the company, which included observational moments in the "before and after encounters" of the interview where I could, for example, observe how TAWA/Selous officials interacted with mining employees. I witnessed their everyday interactions at the Selous sector headquarters whereby mining employees move freely, discussing their work with others, and share access to the infrastructure and equipment at the sector. In other examples, informal encounters in these spaces provided insights into the makeup of conservation networks. The moments in-between interviews revealed how wildlife specialists in the public and private sectors are familiar actors, long-time colleagues and classmates, and even connected through

shared mentors in the field. These moments revealed how the work of conservation professionals and their influences are not necessarily distant and disparate, but are localized and centered on distinct individuals and/or centers of influence. These encounters allowed me to observe the deeply interconnected state of the environmental, conservation and law enforcement profession in Tanzania and beyond.

Building on the strength of the "in between encounters" of interviews is another reason to avoid over-controlling the interview setting and schedule and be open to interviews that emerge as spontaneous encounters. For example, interviews often drew crowds in the villages I visited. This allowed for more engaging community interaction with knowledgeable individuals interjecting and/or making themselves available for discussion later. It also provided insights into the daily lives of participants who often share experiences, stories, and information in more public settings and where community meetings often take place in similar spaces. However, this community openness also presented challenges. Recording, an important tool for me in the village setting due to the need for translation, was not always possible. At the same time, I remained cautious in these settings because of the sensitivity of my research topic to ensure the protection of the individuals and/or groups I was with. At times this meant some questions were delayed for a more private encounter or, in some instances, were not asked altogether. As much as the moments in the "waiting field" present opportunities for generative research encounters, they also provide insights into the sensitivity of research, our safety, and that of our research participants. Being attuned to these moments can help researchers identify the questions *not* to ask and the spaces *not* to visit, just as much as they can show the opposite.

As I became more familiar with the research environment and the key actors within it, interviews shifted from more structured encounters to more semi-structured encounters as trust

and rapport was built with participants. This opens more opportunities for the in-between spaces of research techniques to emerge. For example, as I built trust with the Selous game wardens my time with them shifted from a more rigid interview process that took place inside an office to a more open-ended discussion that took place within the head office, but also in other areas of the headquarters, the nearby villages, and beyond. I came to encounter wardens in the village, in town, and in the nearest city, even engaging with friends, family, and other relations outside of the immediate Selous team.

As this discussion suggests, I consider these moments as the in between encounters of research techniques, which, in addition to being generative of data, are moments that also complement and make possible other research techniques. Paying attention to the moments in between interviews were critical for building relationships and trust with research participants and, in this case, made possible the opportunity for participant observation with members of the Tanzania Wildlife Management Authority (TAWA).

In conducting participant observation with various members of TAWA I encountered the daily activities of the newly formed wildlife authority, was provided access to the Selous Game Reserve (the main *site* of my research), and gained further insights into how TAWA representatives interact with one another and actors from other subject groups, including the mining sector. As a political ecologist interested in conservation territory, I knew from the outset of the research process that experiencing territory is critical to being able to comment on it. Understanding how territory is produced as a "resource control strategy" (Vandergeest & Peluso,

Figure XII: Seeing the Selous' Territory *– These images show a variety of ways that conservation territory is produced and communicated in, and around, the Selous Game Reserve. Top left dictates the actions required if one is to proceed in the direction of the Mantra mining camp, this sign signifies the relationship between the company and the wildlife authority and illustrates Mantra's authority over access to this space. Top right are two cement boundary beacons that are used by the wildlife authority to indicate the border of the Selous as a protected area. These beacons are weathered, others are newly minted. Bottom left is the Matambwe Gate inside the Selous. It is managed by the wildlife authority and is one of the two principal access points for the northern sector's wildlife tourism destinations as detailed on the sign. Bottom right is an image of the TAZARA railway line that traverses the Selous. The railroad cuts across the protected area, yet another example of the state's authority over this space, dictating what activities are allowed within what has become the Selous. Photos: Patrick Schukalla (top right), author (all others).*

1995, p. 387) meant engaging with how power relations of resource and land access and control are quite literally "written on the land" (Peluso & Lund, 2011, p. 673), some examples of this are included in Figure XII.

Participant observation allowed for a more direct engagement with the Selous team, opening avenues for discussions about conservation partnerships while engaged in transect drives of the

Selous itself, thus experiencing the territory of the reserve. This offered an inside look into one-side of conservation partnerships and helped cross-analyze data generated through different methods such as interviews and/or document analysis.[28] Ethnographers will recognize this as one strength of participant observation: that it acts both as a method that generates data and an effective preamble to other methods (Crandall et al., 2018). For those social scientists that engage primarily with other critical methods, it is worth reiterating that this is also a foundational premise of the "waiting field" framework, as the moments previous to, in-between, and the interruptions/disruptions that emerge during research act as both generative research encounters *and* complement additional research techniques.

Disrupted by the Death of a Hippo

In conclusion, I want to return to the encounter that opens this chapter and show how my disrupted interview came to be a formative encounter with the politics and complexities of wildlife management in Tanzania, offering insights into how conservation partnerships operate during moments of urgency such as that of the Second Poaching Crisis.

As mentioned above, encounters that interrupt and/or disrupt the techniques of research can provide serendipitous openings into additional research avenues and/or provide insights into the broader research questions and environment. The following is one example of how my expected semi-structured interview with a senior game warden was disrupted by the death of a

[28] Practically speaking, my experience of territory during the in between the spaces of conducting research methods are also informative here. For example, these include long, winding, and slow drives over vast landscapes of the Selous Game Reserve and its surrounding terrain. At times this led to experiencing the challenges discussed by my research participants including, but not limited to, having access to particular locations cut off due to roads and weather and/or effectively stumbling across protected area boundary beacons. These moments, brief as they may be, show how strategies of territorialization (beacons, signs, barriers) are communicated and necessitate a reading of territory. While on the other hand, the mobility challenges shed light on the materiality of territory and how this terrain is, at times, unforgiving to those traversing it, be it for law enforcement purposes or in an attempt to reach a marketplace.

hippopotamus. Although I was unable to ask the senior official all the questions I had set out to ask during the time allotted for our interview, the encounter provided important insights into the institutional structure of wildlife management and the constitution of conservation partnerships in Tanzania.

When I arrived at the Selous sector headquarters that evening I was kindly greeted, in the usual fashion, by a game warden that directed me towards the head office. However, it was not long before I realized that this moment was not like the others I had experienced at the headquarters to date. Due to the activity on site my interview would be interrupted, evidenced most clearly by the official I came to meet rather frantically switching between mobile phones and discussing the conditions of a situation with several colleagues. The death of the hippo had turned into a rather controversial incident, the conditions of the hippo's death unclear to game wardens in that moment. Amidst the activity, I was kindly offered a seat in the main office and kept well informed of the situation throughout the evening. Those I had intended to interview made themselves available in-between phone calls and official duties, and we mostly discussed the intricacies of the situation at hand in bursts before they were taken away to perform other tasks. My grasp of the situation was limited by the information I was receiving in English and the bits I could overhear and translate from Kiswahili, but the situation revealed some challenges facing the various wildlife-related actors in southern Tanzania.

From what I could gather, the hippo was reported as a problem animal and effectively sentenced to death. It appears the conditions of the death included the meat winding up in the hands of the VGS who sold it to nearby communities. In the past this was common practice for the WMA, who maintained an annual hunting quota and would receive some revenue from the sale of the meat while community members could supplement their diets with animal protein.

Given the severity of the Second Poaching Crisis, these hunting practices were suspended by the central wildlife authorities.[29]

In the moment, the warden of the Selous sector was convinced that there was an error in the process and that the Wildlife Conservation Act 2009 (WCA) was misinterpreted by his counterparts at the district office. His concern was less with the dead hippo and more with the procedural tact that led to its death and the subsequent distribution of its meat. Citing the geographical range that the hippo meat was seen by those he was speaking to, the game warden's concerns centered on the possibility that another hippo may have been killed, and its meat was now being laundered as the problem animal. "How are we [wildlife managers] supposed to distinguish between the problem animal meat and poached meat?" he asked aloud. As I offered no response, he continued to stress his knowledge of the WCA stating he has not only studied the Act and been tested on its contents but that he "is now currently living out its laws and procedures" in his current role, a role of significant authority in the region. Field notes from that moment provide further context to the situation:

> After this clearly frustrated call with, what I believe to be, the District Game Officer where he is constantly flipping through the pages of the Wildlife Act by the light of his smart phone torch, he hangs up, looks at me with his torch still on and says: "Mr. Devin, do you now see some of the challenges we are facing?" All I can do is nod. Indeed, I do, I think to myself. After hanging up on another call, I am not sure who is on the other end, he looks up and says to me with clear disdain in his voice: "Sometimes it is hard doing government work." [Field notes (21-April-18)]

An evening where I had expected to ask the game warden a series of questions about the relationship with the mining company instead proved insightful for understanding the operational structures and organizational duties of Tanzania's wildlife sector (Figure XIII). Tanzania's conservation sector is multi-layered and complex, and the experience discussed above illustrates the inter-agency challenges that can arise when these complexities converge over the governance

[29] Interviews, 2018

of wildlife. The hippo's death reveals how different actors interpret Tanzania's wildlife laws and policies and enact their authority, which at times clash in the field. In addition to witnessing how power relations are "written on the land," as discussed above, moments in the "waiting field" also revealed how authority–as it relates to wildlife in Tanzania–is enacted by those in positions of power.

Recognizably absent from this encounter with the hippo is the private sector. This region of the country is largely considered unfit for photographic tourism to date and has a long history with the tourism hunting subsector, however the bulk of the region's hunting concessions were, at the time of research, recently vacated, leaving a significant gap of investment in the region. Yet the emergence of Mantra Tanzania Ltd., a uranium mining company, has brought some investment into this part of the country, especially in terms of bolstering its wildlife management capabilities. My research shows that the company's efforts are mainly tailored towards supporting the management capabilities of the Selous sector, and those set to be directly impacted by the development of the Mkuju River Project have enjoyed few benefits from the company's presence.[30] Particularly revealing is Mantra's stated commitment in supporting wildlife management in the area, but also, what community members suggest as the company's indifference to the community-based wildlife management practices put in place under the WMA process, such as community-led anti-poaching patrols.[31] Mantra's stated commitment is supporting a state-led approach to wildlife management, which is just one approach to conservation in this place.

In highlighting the institutional complexity of the sector, the encounter with the hippo's death is evidence of how the latest conservation partnerships, such as those between conservation-

[30] Interviews, 2018
[31] Interviews, March 30, 2018

extraction actors, “have their genesis from the country’s colonial history of external influence in matters relating to wildlife” (Noe, Sulle, & Brockington, 2017, p. 7) and the same can be said of the mining sector’s historical trajectory (Pedersen et al., 2016). It is not a coincidence, nor is it necessarily nefarious in nature, that Mantra Tanzania has partnered most closely with the wildlife authority over the community organizations and members also engaged in wildlife management activities. Frankly put, access and control over the resource deposits of interest to the mining company is legally determined by the wildlife authority and Ministry of Mines, the former largely revered as the dominant administrative actor in the region. Although not directly engaged in this encounter, the hippo’s death, in illustrating the hierarchy of power in the wildlife sector, reveals the conditions of the emerging conservation-extraction partnerships under the circumstances of urgency presented by the Second Poaching Crisis. The death of the hippo is evidence of how conservation partnerships are power-laden processes fundamentally concerned with the access and control over land and resources. (Post)colonial game laws and a now decades-long commitment to enhancing private sector investment in conservation spaces ensures that these relations of power remain uneven and conflictual. Tracing these relations and the conditions that lead to the formation of particular conservation partnerships is critical in understanding the impacts of such on different actors and ecologies (Noe et al., 2017). Here, staying with the research (and being allowed to) amidst the interruption presented by the hippo’s death revealed these power relations firsthand, providing insights into how they unfold in the field. Instead of turning away (or being turned away) valuable insights were made possible by being attuned to the ethnographic moments that exist on the fringes of the techniques of research. This is the essence of the “waiting field.”

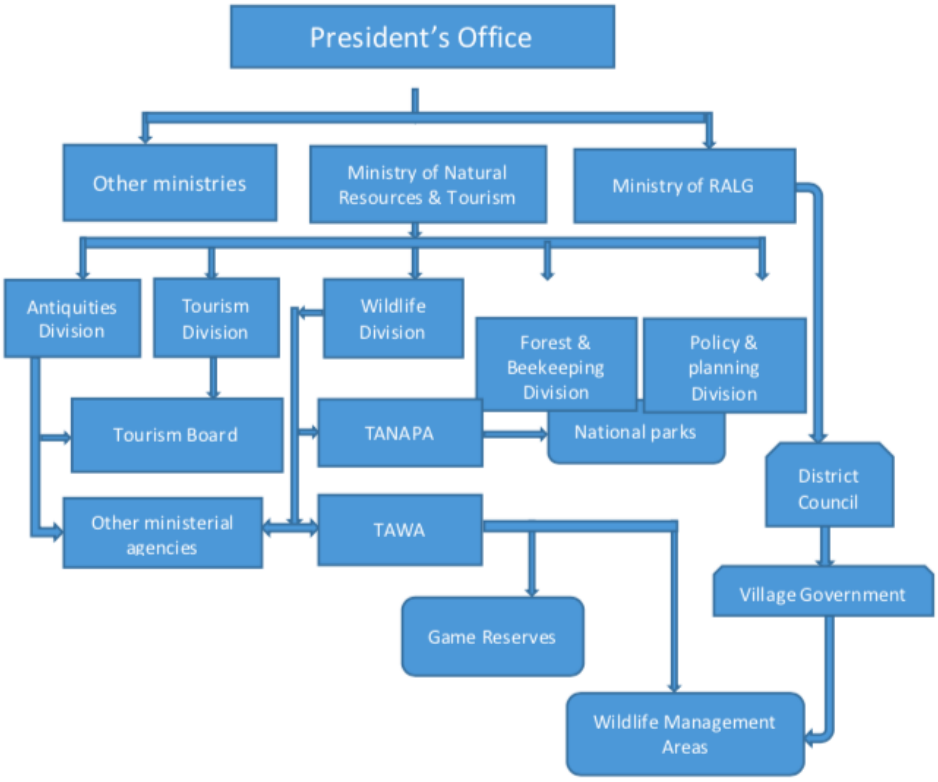

Figure XIII: Institutional Structure of Wildlife Management – *A flowchart of the institutional arrangement for Tanzania's wildlife sector illustrates the many actors involved and the various authorities tasked with managing specific protected area designations. As you can see, WMAs are of particular interest for the story mentioned above, as village government's and TAWA are responsible for the joint management of these spaces. Source: Noe et al., 2017, 12.*

Conclusion

The conservation sciences community is are increasingly recognizing that conservation is both social and political and that qualitative data has much to offer the conservation sciences (Sandbrook et al., 2019). Yet, as evidenced by the recent debates in Tanzania, and personal encounters with the conservation community, there is still much work to do to "mainstream" the social sciences in conservation. In providing a number of examples from the field, that will undoubtedly be familiar to a range of conservation scientists, I argue that the "waiting field" framework, and its attention to the moments on the fringes of research, enhances the rigor of qualitative inquiry and complements additional research methods. In bringing this framework

into conversation with broader debates across the conservation science community, the chapter illustrates how qualitative data helps document and describe the conservation phenomena being studied and, in being reflexive in our research pursuits, helps to shape further inquiries into the politics of, in this case, conservation partnerships (See: Bennett et al., 2017).

To conclude, I echo calls of other social scientists in suggesting that deploying social science methods, some of which are discussed here, and revisiting the power of ethnographic techniques, will prove vital for the conservation science community under the conditions of increasing biodiversity and wildlife crises. The "waiting field" framework is just one way to think about how to bring the benefits of ethnography into a broader multi-method approach to conservation research. Given its call to analyze the moments on the fringes of research that all researchers recognize, it may provide a useful point of cohesion between natural scientists studying conservation and social scientists doing the same. Perhaps in embracing the "waiting field" more collaborative interdisciplinary conservation scientists can build off each other's strengths en-route towards informing more just conservation interventions.

4

Stopping the Slaughter: The Economic Rationale to Anti-Poaching in Tanzania

Abstract: Having experienced significant declines in its wildlife populations, especially the elephant, Tanzania has embarked on a nation-wide anti-poaching program. These efforts are similar to those in regional countries and informed by discourses that claim poaching is an issue of (inter)national security. However, far more widespread than the contemporary "poacher-as-terrorist" trope used to rationalize militarized conservation in other locations is Tanzania's categorization of the poacher as an "economic saboteur," who threatens the national economy. In this chapter, I show how this categorization is one aspect of a broader economic rationale directing the country's increasingly militarized anti-poaching response. Here, the logic is that wildlife is central to the tourism industry, and critical for the economy, and therefore must be secured from its poacher enemies. Highlighting various examples of this economic threat discourse, the chapter details how conservation organizations and governmental actors, aiming to "stop the slaughter" of Tanzania's elephant populations, utilize an economic rationality in their efforts to defend the value of wildlife to the Tanzanian economy. Premised on the desire to expand the economy, this economic rationale authorizes both the intensification of militarized conservation policy and practices and contradictory partnerships that arise within it, including with the extractive industries.

Introduction

At the epicenter of the Second Poaching Crisis between 2009-2014, Tanzania lost 60 percent of its elephant population. International demand for ivory is driving the increase in illegal killing of wildlife and the decline in elephant populations (Chase et al., 2016; Wasser et al., 2015). Tanzania's response to this crisis follows global trends of "green militarization" or the increasing "use of military and paramilitary (military-like) actors, techniques, technologies, and partnerships in the pursuit of conservation" (Lunstrum, 2014, 817; Mabele, 2016). From the infamous violence of Operation Tokomeza, to an increase in military training for wildlife officers, and the launch of the new (para)military Tanzania Wildlife Management Authority (TAWA), Tanzania continues to militarize conservation in response to its so-called "war against poaching." Despite its central position in the decline of elephant populations, Tanzania's militarized response to this crisis has received limited critical attention (See: Mabele, 2016; Noe, 2018; Weldemichel, 2020).

The green militarization of conservation policy and practice is often rationalized as a response to the (inter)national security threats posed by commercial wildlife poaching and the illegal wildlife trade. These security discourses, their unconventional actors and their troubling impacts on the lives of people and wildlife have been the central focus of a growing body of literature examining the securitization of conservation (Duffy, 2016; Lunstrum, 2014; Massé & Lunstrum, 2016; Ramutsindela, 2016). In showing how poachers are framed as "economic saboteurs" and a threat to the Tanzanian economy and nation, I build on this literature and pay attention to how the political economic conditions of the wildlife economy shapes and authorizes its green militarization (Duffy, 2016; Lunstrum, 2018; Marijnen & Verweijen, 2016; Massé &

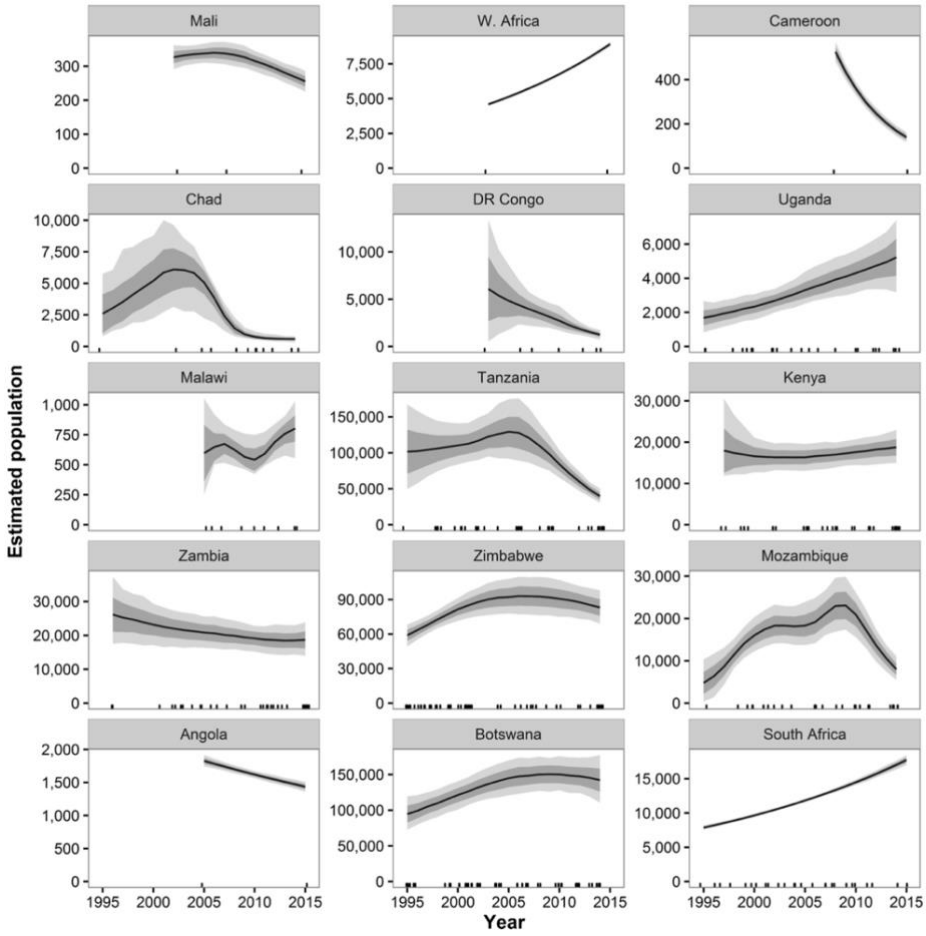

Figure XIV: Elephant Population Estimates – Population estimates from the Great Elephant Census show significant declines in elephant populations across various countries with Tanzania and Mozambique among those seeing dramatic declines. Source: Chase et al., 2016.

Lunstrum, 2016). In so doing, I answer calls to investigate who benefits from the increasing tendency towards wildlife's securitization (Duffy et al., 2019).

Today the wildlife economy is critically important to Tanzania's broader economic performance. Wildlife and nature-based tourism is often espoused as the country's ticket to attain sustainable development and continued economic growth (The World Bank, 2015b, 2019). The relation between wildlife and economic development is not new and expanding tourism, and the network of protected areas that is so critical to it, has long been "explicitly linked with national economic development" in Tanzania (Neumann, 1998, 144). Illustrating this the nation's

inaugural president, Julius Nyerere once remarked:

> I personally am not very interested in animals. I do not want to spend my holidays watching crocodiles. Nevertheless, I am entirely in favour of their survival. I believe that after diamonds and sisal, wild animals will provide Tanganyika with its greatest source of income. Thousands of Americans and Europeans have the strange urge to see these animals. (Neumann, 1998, 144)

Nyerere was right. Today, tourism is the country's leading foreign exchange earner and is said to account for 18 percent of Gross National Product (Bluwstein, 2016; Cunningham, Haji, & Morisset, 2015; World Travel & Tourism Council, 2018). Over one million tourists enter the country each year and the sector, comprised mainly of wildlife tourism, expects significant annual growth (The World Bank, 2019). When combined with the rise of the Second Poaching Crisis and its dramatic declines in wildlife populations, it comes as no surprise that discourses of poaching's threats to the economy reach the highest levels of policy-making in the country and across the conservation community (See: Bluwstein, 2016).

Similar to other countries, a poacher-as-terrorist discourse exists in Tanzania and rationalizes the militarization of conservation (See: Duffy, 2016; Ramutsindela, 2016). However, in Tanzania this is far surpassed by the categorization of poachers as "economic saboteurs." As I show, labelling poachers as "economic saboteurs" forms one part of a broader economic rationale directing the country's anti-poaching drive, leading to the overt militarization of its conservation policy, practice, and spaces. The logic is that wildlife is central to the tourism industry, and critical for the economy, and therefore it must be secured from its poacher enemies. When combined with the broader trends of green militarization experienced across the country, this connection to protecting the wildlife economy presents an under-analyzed rationalization for the increasing securitization of conservation spaces. This chapter contributes to the growing literature on green militarization by detailing how the governance of Tanzania's wildlife economy, including its increasing militarization, is rationalized by its economic value and thus

its importance to the national economy. I show how political-legal categorizations of the poacher produce an economic threat narrative that renders poachers as the enemy in Tanzania's so-called "war on poaching." Further, I illustrate how a broader economic rationale to militarized conservation in Tanzania is informed by the apolitical promotion of the tourism industry and recent efforts to (re)value the elephant species by major conservation actors. The chapter details how conservation organizations and governmental actors utilize this economic rationality in their efforts to defend the value of wildlife to the Tanzanian economy. Finally, premised on the desire for economic expansion, this economic rationale authorizes both the intensification of militarized conservation and contradictory partnerships with extractive industry actors that arise within it.

After a sustained engagement with the literature examining conservation's securitization, I provide an overview of the poacher as "economic saboteur" and the broader economic rationale to militarized conservation that it informs. The chapter closes by examining how this economic rationale, in addition to authorizing green militarization itself, also authorizes the problematic relationship between Tanzania's conservation authority and a uranium mining company.

Methods

The research is based on the analysis of digital media and documents from a variety of organizations, corporations, and governmental bodies. This is supplemented by dozens of interviews conducted between 2017-2018 across Tanzania and with actors in various subject groups, including non-governmental organizations, the tourism sector and extractive industries, local communities, and government. Given the sensitivity of this topic, I protect the anonymity of all research participants, citing just the year that the encounter took place. All names found in this chapter are from publicly available documents and media reports.

The Rationales for Green Militarization

Conservation Security Discourses:

In recent years, despite suspect evidence (See: Haenlein & Maguire, 2015; Titeca & Edmond, 2019), the dramatic increase in wildlife crime and poaching is repeatedly linked to concerns about (inter)national security, especially the idea that poaching finances international terrorism. Often framed as a "war on poaching," the subsequent responses to the Second Poaching Crisis, aimed at curbing the dramatic decline in wildlife populations, constitute the "green militarization" of conservation policy, practice and spaces and dovetail with a broader militarization of society (Lunstrum, 2014, 2018). Although conservation policy and practice has an extensive history of militarization and violence across sub-Saharan Africa and beyond (Lunstrum, 2015; Neumann, 2004a; Peluso, 1993), increasingly militarized responses to commercial poaching has garnered significant attention from the conservation community. Proponents claim the militarization of conservation is necessary to stave off the worst of the Second Poaching Crisis (Hübschle & Jooste, 2017; Shaw & Rademeyer, 2016). Meanwhile, critical perspectives show that when the protection of conservation spaces turns into an issue of security, it is often concerned with intensifying the state-led practices of community control and pacification of rural and recalcitrant populations (Peluso & Vandergeest, 2011; Verweijen & Marijnen, 2016; Ybarra, 2012), combatting uncorroborated concerns about security threats and terrorism (Duffy, 2016; Lunstrum, 2014; Ybarra, 2016), and seeking opportunities to expand new markets and the accumulation of wealth and power (Devine, 2014; Marijnen & Verweijen, 2016; Massé & Lunstrum, 2016). Building on the latter point, critical engagement with the broader political economy of militarized conservation has uncovered some revealing insights

about who profits from militarization and the actors and forces both shaping and enabling it. Massé and Lunstrum (2016) argue that the logics and rationales of security increasingly work to "provoke the dispossession of vulnerable communities," enabling a further enclosure of lands and resources. Here, the securitization of wildlife and biodiversity is incentivized by the potential profits to be made by military and security contractors, the tourism sector, and conservation organizations (Devine, 2014; Massé & Lunstrum, 2016; Ojeda, 2012). Critically, the intensifying violence of conservation is also linked to the (re)centralization of tourism revenues into the hands of the state, particularly from community-based conservation projects (Weldemichel, 2020). Further scholarship shows how, through the production of consumable images of heroic wildlife defenders, warscapes, and wilderness spaces under threat, militarized conservation itself is subject to processes of commodification (Marijnen & Verweijen, 2016). Through fundraising efforts consumers become implicated in the violence of militarized conservation from behind the comfort of their electronic devices, not dissimilar to those who engage with the online platforms of conservation authorities (Büscher, 2016; Lunstrum, 2016; Marijnen & Verweijen, 2016). The state is not merely facilitatory here, as military and security contractors enable the militarization of conservation, Lunstrum (2018) argues these relationships both mask "the larger economy of violence they reap profit from" (1033) and vitalizes militarized state power in the name of environmental protection. Cutting across these findings are trends that illustrate the violence of militarized conservation, which often targets racialized and marginalized communities and continues the century-old project of conservation-induced dispossession (Lunstrum & Ybarra, 2018; Massé & Lunstrum, 2016; Witter & Satterfield, 2019). Taken together, critics posit that green militarization is both unjust and jeopardizes peace, stability, and the conservation ideals that it claims to uphold (Duffy et al., 2019).

The Trope of the Poacher:

Central to these (inter)national security discourses is the (re)categorization of the colonial trope of the poacher. Through legal orders and law enforcement, colonial state's criminalized black African hunters and allowed white "hunter-conservationists" to dictate the allowable use of violence against wildlife and those now deemed "poachers" (Duffy, 2016; Fairhead et al., 2012; Koponen, 1995; Neumann, 2004a; Ramutsindela, 2016). The violence legitimized by these colonial tropes is the very basis of the protected area ideal, used by (post)colonial states and their conservationist allies to police and control rural populations and assert control over their lands and resources (Brockington, 2002; Kelly, 2011; Sandlos, 2007).

Considering the security discourses mentioned above, today's trope of the poacher is refashioned into the "poacher as terrorist," a label central to wildlife crime's broader enrolment into the realm of global security politics and the "war on terror" (Duffy, 2016). In other contexts labels such as squatters, insurgents and narco-peasants are used to portray livelihood activities as illegal and authorize violent responses (See: Ybarra, 2012). For example, as many protected areas exist within international borderlands, poachers who cross international borders are labeled as "insurgents." Because they are said to threaten national security, the sanctity of borders and the very notion of sovereignty itself, illegal hunters become the targets of extreme violence, including shoot-on-site policies (See: African Geographic, 2017; Lunstrum, 2013; Lunstrum & Ybarra, 2018). In contrast to the terrorism linkages, there is greater evidence that wildlife crime is linked to organized crime (Haenlein & Maguire, 2015; Titeca, 2019; Wittig, 2016). Here, responses are similar to those mentioned above, allowing both hard and soft approaches to militarization aimed at staving off the entrenchment of criminalization and "the erosion of the rule of law and security in areas where the poaching economy has taken hold" (Massé,

Lunstrum, & Holterman, 2018). Taken together, the results of these discursive frames amount to the justification of violence against those deemed to be degrading nature and those who threaten the value of natural capital (Fairhead et al., 2012; Fletcher et al., 2019).[32] These security discourses "renders the complexity of poaching invisible (Duffy, 2016, 238)" and often fails to engage with the reasons people undertake these illegal activities in the first place, such as the long histories of criminalizing hunting practices, economic impoverishment, demand and high market prices for wildlife products, socioeconomic status, and economic inequality (Challender & MacMillan, 2014; Duffy, St. John, Buscher, & Brockington, 2016; Hauenstein, Kshatriya, Blanc, Dormann, & Beale, 2019; Knapp, Peace, & Bechtel, 2017; Lunstrum & Givá, 2020). These discourses situate the poacher in the "war on terror" and extend the reach of conservation's military approach far beyond the protected area (Duffy, 2014, 2016; Massé & Lunstrum, 2016; Ybarra, 2016). In doing so, they rationalize green militarization and, as conservation goes on the offensive, increasingly place people–often those already marginalized by conservation interventions–and wildlife in abject danger (Duffy, 2016; Lunstrum, 2014; Massé et al., 2018).

The Economic Security Threat of Poaching

As mentioned above, the critical research focused on the Second Poaching Crisis and wildlife crime reveals how poaching has increasingly become an issue of (inter)national security, with the militarized response seen by proponents as proportional to the threat. In order to account for and "fully comprehend the poaching-security interface in different contexts and at various levels" (Ramutsindela, 2016, 169), it remains important to chart the colonial trope of the poacher across

[32] Similar discursive frames target pastoralists in Tanzania (Bergius, Benjaminsen, Maganga, & Buhaug, 2020).

time and space. Here, I trace how poaching and wildlife crime is also framed as an *economic* threat to host countries and the stability of the global economy, a current gap in the literature examining conservation's securitization. I show how in Tanzania the poacher is categorized as an "economic saboteur," a discursive frame central to a broader economic rationale for militarized conservation that proceeds across the country. It is yet another example of how the frame of the poacher is increasingly mobilized across Tanzania and the region to justify the further appropriation of land and resources and the normalization of violence against illegal hunters (See: Fairhead et al., 2012; Neumann, 2004a; Weldemichel, 2020).

Economic Sabotage in Tanzania:

From Nyerere to Mkapa to Magufuli, Tanzania's leaders, facing significant pressure from the conservation, tourism, and donor communities, have largely extended the colonial categorization of wildlife as an economic resource critical for the development of the nation. The power of conservation to establish and maintain state authority, predominantly in rural areas, was also of great appeal to the leaders of the newly independent Tanzania (Garland, 2006; Neumann, 2004a). The Tanzanian African National Union (TANU) saw wildlife conservation as a significant source of potential foreign currency, critically important for the development of the newly formed independent nation (Neumann, 1998; Yeager & Miller, 1986). Following independence, and building on a legacy of colonial Wildlife Orders that constrained access to land and resources for villagers (Sunseri, 2003), the Government of Tanzania passed the Wildlife Conservation Act in 1974, further centralizing control over wildlife across the country. Here, the government looked to increase the economic potential of the tourism industry and establish greater state authority over village lands, interests that simultaneously contributed to the expansion of the protected area network (Garland, 2006; Neumann, 1998, 2004b; Shivji, 1976).

However, war with Uganda, a border dispute with Kenya, and economic hardships led to stagnation in the tourism industry and decline through the late 1970s and early 1980s (Levine, 2002; Neumann, 1998; Yeager and Miller, 1986). Although nationalized, the tourism industry was "completely dependent on outside donor subsidies for its survival" (Levine, 2002, 1048).

Tourism's rebound in the 1980s is largely associated with the liberalization of the Tanzanian economy and increased foreign investment (Neumann, 1998; Garland, 2006). Around the same time, international development and conservation agendas began to merge as the language of "sustainable development" entered popular discourse (Levine, 2002). Conservation and its tourism counterpart continued to be promoted as vital for poverty alleviation and national development, increasingly so under the era of community-based conservation (CBC) programs that are framed as a more just approach to conservation than the era of "fortress conservation" that preceded it (See: Brockington, 2002; Levine, 2002). This period of re-regulated access to publicly held lands and resources for private capital is well studied in the literature (Büscher et al., 2012; Igoe & Croucher, 2007). Insights from this research show that CBC continues to centralize control over wildlife and land in the hands of the state, conservation organizations, and the rent-seeking elite (Benjaminsen et al., 2013; Bluwstein & Lund, 2018; Igoe & Croucher, 2007). Managed as a critical economic resource, this centralized control over wildlife is inscribed in Tanzanian law, which entrusts wildlife, and its trophies, as the property of the state. Any wrongful utilization of wildlife is subject to a variety of legal mechanisms with a range of penalties. Centralized control and an expanding legal framework makes it challenging for local communities to access and use wildlife and is key to the decades of wildlife-related conflicts across the country (Benjaminsen & Svarstad, 2010; Brockington, 2002; Gardner, 2012).

Poaching as Economic sabotage:

From the 1970s onwards, the Tanzanian economy was in crisis. In many ways, such as the continued centralization of state control over wildlife and the expansion of the protected area network, the importance of the wildlife economy to the country was further enhanced. Yet, during this time, wildlife also came to be an important resource through its direct exploitation. For example, during the war with Uganda, Nyerere allowed Tanzanian forces to feed their camps through the killing of Ugandan game (Garland, 2006). At home, Tanzania was not immune to this illegal utilization of wildlife as government officials, the military, and police are said to have been involved in significant levels of poaching from the 1970s onwards that flourished under institutionalized levels of corruption (Matthiessen & Lawick, 1980; Somerville, 2016). Wildlife was not the only part of the economy experiencing an increase in illegal exploitation. Mired in crisis, the informal or second economy matured "from mere isolated activities to organised [sic] networks of an alternative economy… made possible by the failure and total breakdown of the official economy" (Kiondo, 1990, p. 184). According to Maliyamkono (1985) indicators of the second economy experiencing growth included "smuggling, building and land speculation, false reporting of income and tax evasion, withholding of goods and services–even shortages of labour, fraudulent overseas orders, illegal hunting for ivory, and outright theft of scarce commodities" (Cited in Kiondo, 1990). In response, Nyerere's government launched the "War on *Ulanguzi*," referring to the activities of the second economy (Kiondo, 1990). Many of those targeted included people operating in illegal markets, embezzling public funds and poaching wildlife (Sedigh & Muganda, 1999). The "anti-economic saboteur campaign," as it was known, was framed as curbing institutionalized levels of corruption that were further harming Tanzania's economy at a time of crisis. Only after a period of weeks did the passing of the Economic Sabotage (Special Provisions) Act 9 of 1983 provide retroactive legal standing to the initial wave

of arrests and detentions (Kiondo, 1990; Lofchie, 2014; Mwaikusa, 2013). Those arrested were denied right to counsel, right to bail and appeal, and cases were handled not by the judiciary but through special tribunals mandated by parliament, the ruling party, or the police (Kiondo, 1990; Mwaikusa, 1991, 2013). The anti-economic saboteur campaign is largely seen as a blemish on Nyerere's governmental record as it failed to disrupt the second economy and represented a significant threat to the rule of law in the country (Kiondo, 1990; Mwaikusa, 2013). Ultimately, the Economic Sabotage Act was repealed and replaced with the Economic and Organized Crimes Control Act (EOCCA), which brought cases of economic sabotage back under the jurisdiction of the judiciary (Mwaikusa, 2013).

Today, use of the EOCCA is on the rise. Offenders charged under the EOCCA are so frequent that, in a 2016 amendment to the law, the Magufuli government established a separate division of the High Court of Tanzania to deal with the cases (URT, 2016). Widely used in various sectors of the economy, the EOCCA is cited in cases involving mining sector officials charged with embezzling revenue from diamond sales (Ng'wanakilala, 2017), and telecommunications executives allegedly involved in conspiracy, fraud, and tax evasion (Mtambalike, 2018). Journalists have also been targeted, drawing the condemnation of foreign governments (VOA News, 2019). The "Ivory Queen," a Chinese national recently sentenced to 15 years in prison for smuggling over 800 pieces of ivory worth $5.6 million USD, was also charged with the EOCCA (Jumanne, 2019; Reuters, 2019).

Then there are the poachers. A recent assessment of criminal cases in northern Tanzania suggests that use of the EOCCA for wildlife-related cases has steadily increased since 2010 (Salum, Eustace, Malata, & Mbangwa, 2017). Broadly construed in law, an offence "against the conservation of wildlife" is considered an "economic offence" with offenders therefore facing

charges under the EOCCA (Slobodian et al., 2016). Nearly all the 204 wildlife-related court decisions originating in Tanzania between 2002-2016, found on the IUCN's Wildlex database cites the EOCCA in its filings.[33] Chargeable offences under the EOCCA include the unlawful possession of trophies, the most common charge brought against wildlife offenders in Tanzanian courts, and the "unlawful possession of weapons in certain circumstances" (Slobodian et al., 2016; URT, 2016). Although also used in high-profile wildlife cases such as the Ivory Queen, the concern here is that using the EOCCA in this manner disproportionately impacts small-scale offenders, such as those transporting ivory, and does not deter higher-level involvement in organized crime (Slobodian et al., 2016). Legal and human rights experts express concerns that rights may be withheld in cases citing economic sabotage, not dissimilar to those experienced under the campaign of Nyerere's government.[34]

I mention this not as a legal critique of the EOCCA. Rather, it shows how Tanzanian law considers poaching as an *economic* crime with those convicted facing penalties ranging from fines upwards of 30 years in prison (Slobodian et al., 2016). As can be seen, framing the poacher as an economic saboteur is not new in Tanzania, its roots date back decades. Yet, today's framing overlaps with broader security discourses, creating an economic threat narrative that decries how the saboteur, in this case the poacher, engages in acts of subversion against the state and the economy. The logic is that economic saboteurs are both a threat to the state, its economy, *and* a threat to the development of the nation. This is troubling given what we know of those who often commit acts of poaching and transport government trophies–they are often not those trafficking or generating excessive wealth from the poaching economy. Yet, the discursive, political and material mobilization of wildlife's economic importance to Tanzania gives credence

[33] See: http://Wildlex.org (Accessed November 14, 2019).
[34] Interviews, 2018

to implementing severe laws and enforcement measures against those engaged in the poaching economy, regardless of their reasons for doing so. Tanzania is not alone on this front. Kenya, a jurisdiction also using harsh penalties for wildlife-related crime, has recently adopted the label of "economic sabotage" for those found involved with poaching (Kahumbu, 2015). Other international actors also draw attention to how wildlife crime and poaching is thought to threaten conservation-related development initiatives and (eco)tourism, especially in developing nations that significantly rely on the tourist economy (Obama, 2014). The United States Office of Intelligence claims that the illicit trade in ivory and rhino horn "arguably weakens macroeconomic and fiscal stability, deters investment, contributes to income inequality, and hinders growth at all levels of an economy" citing tourism revenues as that which are predominantly threatened (The Director of National Intelligence, 2013). Scaling up beyond national borders, the National Strategy for Combatting Wildlife Trafficking, a critical source of funding and support for the militarization of conservation, signed by US President Obama "recognizes that we must redouble our efforts to address wildlife trafficking now if we are to preserve species and promote *global* peace and *economic stability*" (Obama, 2014, 12, emphasis added).

Framing poaching in this way (re)produces poachers as enemies of the nation and a target population that is sacrificeable given their crimes against the state and development. Such a categorization does important justificatory work as there cannot be a "war against poaching" without there first being an enemy. This political-legal categorization of the poacher as economic saboteur also informs a much broader economic rationale that authorizes militarized conservation across Tanzania.

Tanzania's Economic Rationale to Anti-poaching

The economy is not the only rationale for green militarization in Tanzania, as the severity of biodiversity's decline, protecting national heritage, and (inter)national security concerns, especially in border areas, are also used to justify the increasing violence of conservation practice in the country (Weldemichel, 2020; WildAid, 2016).[35] However, I argue that the threat to the nation's economy, and therefore its development, is a leading rationale for the green militarization of conservation in Tanzania. Central to this rationale is the categorization of the poacher as an economic criminal which, as the previous sections show, is grounded in Tanzania's approach to managing wildlife as a critical resource for the nation's development. As briefly mentioned, the post-Nyerere liberalization period saw the tourism sector experience significant growth, extending its status as critical to the nation's economic development (Neumann, 1998). Strengthening the promotion of the wildlife economy, former President Benjamin Mkapa took aim at "a heightened onslaught of poverty, using the weapon of tourism" (Quoted in Nelson, 2012, 360). Building from this historical trajectory, this section shows how the value of the wildlife economy is valorized today and, when placed in relation to the economic threat narrative of poaching, authorizes the intensification of militarized conservation seen across Tanzania.

The (Re)Valuation of Wildlife to the Tourism Sector:

Given its reliance on wildlife, Tanzania's tourism economy is intimately linked to its vast network of protected areas, which have experienced substantial growth in the past few decades. Today, 38.17 percent of Tanzania's terrestrial surface is covered by some form of protected area designation and over one million tourists visit annually (UNEP-WCMC, 2019; World Travel &

[35] Interviews, 2018

Tourism Council, 2018). But alongside this link between wildlife and development exists an equally long history of conflict and tension between profit-seeking actors and local communities. A history rife with examples of corruption, rent-seeking, violence, and dispossession has led to a detailed literature describing conditions of "land grabs," land alienation, and territorialization in the name of maintaining state and elite access and control over land and wildlife resources (Benjaminsen & Bryceson, 2012; Bluwstein & Lund, 2018; Bluwstein et al., 2018; Gardner, 2012).

Despite its well-documented conflictual nature, the wildlife economy and tourism continue to be framed as a veritable gold mine for Tanzania, linked to poverty alleviation, foreign direct investment, and national development. Economic indicators measuring tourism's contributions to the nation are repeated in government, private sector, and elite discourse and framed as Tanzania's greatest potential link to attaining the elusive concept of sustainable economic development (Cunningham, Haji & Morisset, 2015).

Experiencing sustained growth in the past years, various programs are in place to facilitate the tourism sector's growth, including a $150 million USD loan from the World Bank to improve the Southern Tourism Circuit. Today, Tanzania's tourism sector is the country's highest earner of foreign exchange, contributes roughly 18 percent of GDP, and accounts for 12 percent of total employment in the country of 55 million people (The World Bank, 2019). The sector is almost entirely dependent on wildlife, which accounts for as much as 90 percent of tourism offerings (Caro & Davenport, 2016). With this in mind, it comes as no surprise that, when confronted with the wildlife declines of the Second Poaching Crisis, the potential threats to the tourism sector stirred the conservation community.

In responding to the Second Poaching Crisis, international and regional assessments revealed

a renewed interest in (re)valuing wildlife, especially elephants, to national economies. Efforts to price the elephant are not new, as the species has long been enrolled in capitalist social relations in both its living and dead forms. Historically, this valuation centers on utilizing an appropriate mix of consumptive (hunting, ivory and elephant part markets) and non-consumptive (tourism) use values of elephant populations (Barbier et al., 1990; Barnes, 1996; Blignaut, de Wit, & Barnes, 2008). Although challenging to calculate effectively (See: Moore, 2011), the most recent assessments of the elephant's worth continue to focus on their value to the tourism industry.

A campaign produced by the David Sheldrick Wildlife Trust in Kenya, claims a living elephant contributes over $1.6 million in tourism revenues over the course of its lifetime, 76 times more than the estimated $21,000 USD a raw tusk could fetch on illegal markets (iWorry, 2014). Rob Branford, director of the campaign (2014) claims, "if elephants live, tourists will come and economies can be boosted. It's another argument as to why we must save elephants and a financially compelling one," despite the report's very limited methodological elaboration (2). Others argue that tourism losses due to poaching equate to some $25 million USD annually across the African continent and that: "Even from a tourism perspective alone, increased elephant conservation is therefore a wise investment by governments in these regions" (Naidoo, Fisher, Manica, & Balmford, 2016, 1). The conservationist's logic here is that properly pricing wildlife will motivate people of all walks of life to protect it. This, an effort to (re)commodify elephants is a foundational component of the neoliberal turn in conservation, which claims that nature can only be saved if it is "imbued with profit potential or else there is little incentive for rational actors to pursue it" (Büscher et al., 2012, 13). Although the above authors concede that justifying conservation on economic terms is difficult because conservation's economic benefits are poorly understood, a view that critical scholarship has long expressed, the crux of these two

studies is that poaching is threatening lucrative tourism economies and therefore protecting elephants makes–above all else–economic sense.

This economic rationale to wildlife protection poses several issues. First, it is deeply interlinked with colonial stereotypes of African nature and wilderness that makes the value of wildlife "contingent on the desires and fantasy structures of people with a historically colonial relation to the continent of Africa" (Garland, 2008, 63). Brendan Fisher, a co-author of the Naidoo et al. (2016) study, provides an illustrative example of how these stereotypes connect to this economic rationality for protecting wildlife: "If you close your eyes and think about Africa, there's an elephant in that picture. So it makes perfect sense that as elephants disappear off a landscape tourists are less likely to visit those places" (Newswise, 2016). Second, it renders the tourism sector, as the source of harnessing the value of wildlife, apolitical, and masks the various conflicts linked to the advancement of nature-based tourism (Benjaminsen & Svarstad, 2010; Gardner, 2012). Third, relying on economic calculations that put a price on wildlife advances neoliberal discourses and rationalities that capitalist markets and mechanisms, such as tourism, can, and will, save wildlife and biodiversity (Dempsey & Suarez, 2016). This continued promotion of the market as a solution to environmental crisis, despite extensive evidence that shows market-based approaches cannot compete with the cost-effectiveness of resource extraction, fetishizes market interactions and interventions (Fletcher, 2013; Fletcher & Büscher, 2017). In other words, pricing wildlife in this way "instills neoliberal political rationalities among conservationists" (Dempsey & Suarez, 2016, 653) and those claiming to protect wildlife, as these claims become attached to economic growth. As I show below, this logic acts in contradictory ways and is used both as a rationale for intensifying militarized conservation and as a justification for approving other economic development activities, such as mineral

extraction, that run counter to the mandate of biodiversity protection.

Worth More Alive:

In Tanzania, the link between poaching and the economy is embedded in popular media, NGO, and government discourse. Both the United Nations Development Program and the IUCN cite the economic threat to tourism as key to its programming (IUCN, 2016; UNDP, n.a.). The Environmental Investigation Agency (2014) adds the notion to their justifications for improving wildlife protections, and significant donors such as USAID and the World Bank also cite threats to tourism revenues as central to their various programs (Cunningham et al., 2015; USAID, 2019). According to the World Bank's Lead Environment Specialist, Ann Jeannette Glauber, the link between poaching and tourism guides the institution's work:

> Wildlife is a tremendously important resource in Tanzania, both for the broader economy and at the household level. What we've done successfully is help showcase the importance of tourism to the national economy, and to assist the government in highlighting the importance of sustainably managing wildlife by investing in developing tourism as a long-term economic sector with high job-creation potential.
>
> Today, we are supporting efforts to strengthen tourism development in communities where poaching is a devastating problem… Our response to poaching is to support incentives to keep animals alive, and to make them worth more alive than dead. (The World Bank, 2015a)

Conservation organizations make similar connections. WildAid, an international organization that often engages with the security discourses mentioned above in its campaigns (Duffy, 2016), repeatedly makes intentional linkages to poaching and the economy.[36] WildAid's "Poaching Steals from Us All" campaign exemplifies the logic behind the economic rationale to anti-poaching, as the detrimental environmental features of commercial poaching are avoided as animals are *stolen*, a term linked to ownership and commodification. WildAid's various campaign videos overwhelmingly rely on a discourse of poaching's threat to the economy, in one

[36] Interviews, 2017

example claiming that poachers "steal our animals, our jobs, and our future" (WildAid & African Wildlife Foundation, 2019).

In its most recent Tanzanian campaign, "Be the Pride," WildAid continues to rely on an economic discourse and rationality for protecting wildlife, now focused on the lion and its contributions to Tanzania's economy. Devota Mdachi, the Managing Director of the Tanzania Tourist Board, says of the new campaign: "If we do not protect our lions and make sure they have secure, safe areas in which to live, then we risk losing a vital part of our nation's heritage and a key driver of our wildlife tourism industry" (WildAid, 2019). These campaigns are an example of how economic logics permeate conservation discourses throughout Tanzania, which are internalized by NGOs, government officials, and Tanzanians across the country, not uncommon in environmental governance efforts today (See: Fletcher, 2010). One conservationist working extensively on anti-poaching efforts in Tanzania explains how they approach discussions with local communities in their anti-poaching work:

> The work is not just about me being paid; it is also important because wildlife brings a lot of USD to the country and tourism is very important to the country's national development… if wildlife are killed [illegally], then yes, I will be out of a job, but a lot of other Tanzanians will lose out. (Interviews, April 13, 2018)

During field research I heard similar responses from community members whose villages are involved in the tourism industry *and* those that are not, from game wardens engaged in anti-poaching patrols, and from ministers and policy makers in the media. Tanzania's now former Minister of Natural Resources and Tourism (MNRT), Lazaro Nyalandu, captures the essence of this economic rationale perfectly:

> Elephants are at the top of the 'wish list' for many tourists who come to this country, and tourism generates over 17% of our Gross Domestic Product. Our elephants are a great asset to this country, in many ways, and my government is determined to stop the slaughter. But we cannot do it alone: We want to enlist the help of all of our citizens to stop the theft of our national heritage. (WildAid, 2016)

Nyalandu's message and the narratives and discourses linking poaching to economic decline form a dominant feature of the ongoing anti-poaching response in Tanzania.

Economic Justifications for the (Para)militarization of Anti-Poaching:

This economic discourse is explicitly connected to Tanzania's intensification of the so-called "war on poaching" (Platt, 2015). Officials such as the current Minister of Natural Resources and Tourism, Dr. Hamis Kigwangalla, highlight the need of Tanzania's paramilitary authorities to protect the country's wildlife resources, a key contributor to the national economy (Jacob, 2019). Minister Kigwangalla, who appears in the aforementioned WildAid lion campaign stating: *"simba ni utalli"* (lions are tourism) is often promoting the country's anti-poaching efforts and overseeing training exercises while brandishing military fatigues. Other officials such as Robert Mande, the Chairman of the National Anti-poaching Task Force and the Assistant Director of Anti-poaching in the Wildlife Division also link poaching as a threat to the economy and government coffers (Sanga, 2019; Xinhua, 2019a). Mande, a self-proclaimed architect of Operation Tokomeza, was integral in organizing a controversial project with American military veterans operating heavily armed (para)military operations throughout Tanzania before being shut down by Minister Nyalandu after one of its members claimed the group would "kill some bad guys and do some good" (Brooks & Hopkins, 2016; Peter, 2015). Further examples include Tanzania's Vice President Samia Suluhu Hassan, who presided over the 2018 inauguration of a 300-person anti-poaching group that would "completely combat wildlife poaching in the country." The paramilitary group's efforts, that include members from TAWA, Tanzania National Parks Authority (TANAPA) and the Tanzania People's Defence Force, the Vice President claimed, would increase wildlife populations and boost the tourism sector across the country, Tanzanian news outlets reported (Kamagi, 2019; Namkwahe & Nyakeke, 2018). The

now-former Permanent Secretary of the MNRT, Major General Gaudence Milanzi has also expressed concerns about poaching's impact on tourism stating: "This is one of the very important sectors for the country's economic growth, we are therefore supposed to do everything in our powers to protect the sector so that it could continue attracting more tourists to the country" (Mugarula, 2016). Major General Milanzi, the former Commandant of Tanzania's National Defence College, has openly expressed his willingness to use military tactics and military training in the so-called "war on poaching." Accepting and overseeing TANAPA's change from a civilian authority to a legally inscribed paramilitary force, his appointment in 2015 is seen as signaling a formal shift in anti-poaching policy and practice towards an increasingly militarized approach (Brooks & Hopkins, 2016; Mabele, 2016; Tanzania Daily News, 2016). Although Milanzi has recently retired, his approach appears to have been sustained by his successor, Prof. Adolf Mkenda, who recently claimed that the country's anti-poaching efforts are "receiving positive comments from stakeholders and this will attract more tourists to visit our national parks." The Daily News reports, Mkenda and the government of Tanzania will further intensify its crackdown on poaching to reach a zero-poaching target by 2024 (Kamagi, 2019). These shifts have been supported by conservation organizations, donors, and other stakeholders who often claim Tanzania's increasingly paramilitary approach to conservation is necessary for the "professionalization" of the country's conservation forces.[37]

This economic discourse is more than just rhetoric. Using economic indicators to justify collaborating with foreign military veterans in anti-poaching operations, formalizing the transition of conservation authorities from civilian to paramilitary institutions, and establishing specialized anti-poaching units in coordination with the military are all examples of the material

[37] Interviews, 2017-2018

consequences of Tanzania's economic rationale to anti-poaching. A propensity to respond militarily is exactly the issue with categorizing poaching as an economic issue. When taken together alongside the broader threats and discourses of security, concerns about economic decline rationalize Tanzania's increasing turn towards green militarization in the conservation sector. This is not to say that declining wildlife populations do not impact economic growth, it may very well negatively impact the tourism economy. Rather, the point here is to show how the contemporary discourse of poaching's threat to economic growth authorizes the militarization of conservation, an approach that has detrimental impacts on communities and conservation (Duffy et al., 2019; Lunstrum, 2014). Efforts to (re)value wildlife, alongside the categorization of the poacher as economic saboteur and the broader articulation of wildlife as an economic resource embeds a neoliberal political rationality within the wildlife economy, which becomes governed through decision-making processes focused strictly on economic growth (See: Fletcher et al., 2019). The logic portends that growth of the wildlife economy must be defended by an increasing turn towards militarized conservation because those who jeopardize economic growth through subversive acts such as poaching are "stealing from us all."

The Rational Actors of the Wildlife Economy

An economic rationale for the militarization of conservation is pervasive in Tanzania and has significant impacts on local communities and conservation outcomes. Defending the wildlife economy because of its economic value also authorizes the involvement of new actors, such as the extractive industries, in the rise of green militarization in Tanzania (Chapter 5).

When the poaching crisis was at its peak, calls for increased private sector engagement were as well. As the CEO of the Tanzanian Private Sector Foundation (TPSF) Godfrey Simbeye

makes clear, the private sector's growing role in anti-poaching is vital for the defense of the economy:

> Wildlife, in particular iconic species such as the elephant, rhino, lion, cheetah, and leopard are a key aspect of Tanzania's national identity and form the foundation of the tourism sector. Poaching is rampant, tarnishing our nation's image internationally and threatening the sustainability of this crucial pillar of our economy. TPSF calls upon all Tanzanian businesses to take a stand against poaching and to work with PSAPI [Private Sector Anti-poaching Initiative] to battle to save our treasured natural wealth. (TPSF, NA)

Such calls are not all that surprising when considering the importance of the private sector in the wildlife economy, especially the tourism industry. However, Minister Nyalandu's call for support in the "war on poaching" from the mining industry was a new development in the country: "we are asking companies such as Uranium One to join hands with the Tanzanian government to fight poaching" (Mantra Tanzania, 2014a). Looking closer at the emergence of this relationship between Tanzania's conservation wing and a uranium mining company provides insights into the contradictions inherent to an approach to wildlife management premised on economic growth.

Mantra Tanzania Ltd.:

Mantra Tanzania Ltd. is the operator of the Mkuju River Project inside the Selous Game Reserve. The company, owned by Rosatom, the Russian state atomic agency, significantly contributes to the anti-poaching support of the Selous' management team in an area of the country hard hit by the Second Poaching Crisis. I focus on the details and impacts of this support elsewhere (Chapter 5). For now, I want to stress that the urgency of the wildlife crisis opens space for the extractive industries, here a uranium mining company, to present itself as a rational actor in the wildlife economy, happily contributing to anti-poaching efforts while (re)producing resource access regimes and territory. This rationality is embodied by a MoU, that links the issuance of a Special Mining License for the project to the urgency of the poaching crisis, signed

in 2014 by the company and Ministry of Natural Resources and Tourism (Ministry of Natural Resources and Tourism & Mantra Tanzania Ltd., 2014). Under the arrangement the Tanzanian authorities maintain their presence in the Selous while Mantra significantly contributes to the management, funding, training, and operations of the anti-poaching teams in the south of the game reserve. In a company video, Minister Nyalandu refers to Mkuju River as an example of "the best possible project," a framework for sustainable development in the country, that has vast international and national support (Mantra Tanzania, 2014). Seemingly the partnership between Mantra and TAWA, the parastatal authority responsible for managing the Selous, is critical to the

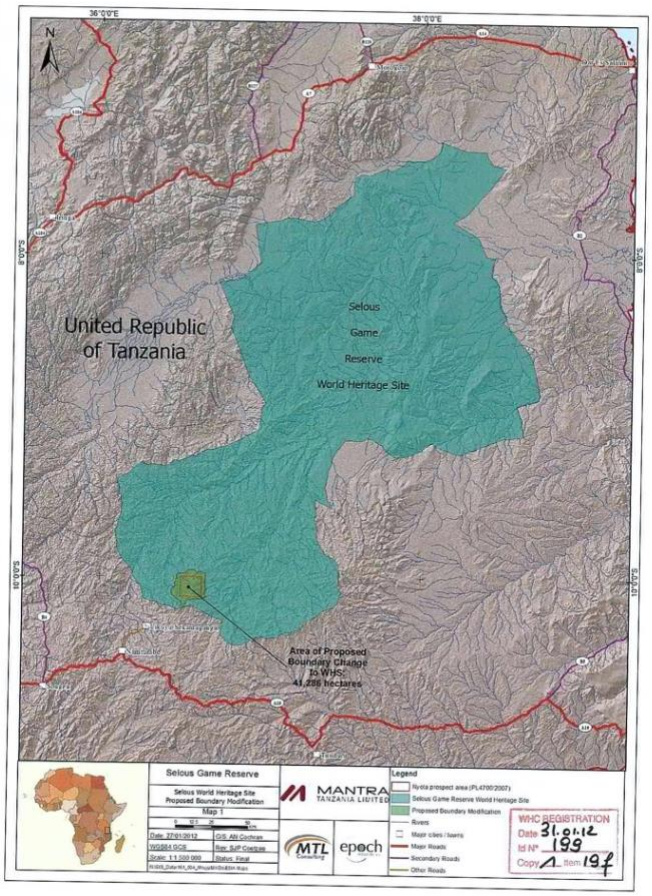

Figure XV: The Selous' Boundary Modification – *A 2019 executive order has radically changed the boundaries of the Selous, making the MRP now part of the newly established Nyerere National Park, creating various legal questions. This map shows the initial excision of the MRP from the Selous Game Reserve. Source: (UNESCO, 2019)*

viable management of the game reserve and the broader wildlife economy (Corporate Digest, 2014).

The logic here is that Mantra's support for anti-poaching efforts helps secure the wildlife economy while also growing the broader economy through expanding extractive industry activities. This is not lost on the conservation community. UNESCO's approval of the project, inside the boundaries of a World Heritage Site, is in-part premised on securing company support for improving broader conservation efforts inside the Selous (WHC, 2012). Others suggest Mantra's anti-poaching support may be a model for broader private sector engagement in conservation (Mantra Tanzania, 2014). Although perhaps not happy about the development, in discussing Mantra's anti-poaching support with me, one international conservationist involved in wildlife protection said rather plainly they "do not care who is doing the anti-poaching work, as long as it is done collaboratively."[38] This is how the natures of "win-win" neoliberal conservation takes shape in southern Tanzania, whereby the costs of such "sustainable development" efforts are set aside as growing the economy, and conservation's place within it takes center stage. Although efforts to estimate wildlife's contribution to the economy are deeply flawed, the consequences of these efforts produce an economic foundation that helps rationalize the militarization of anti-poaching and depoliticizes the partnerships that become integral to it. Let us not forget, this is the stated intention of those trying to price living elephants in the first place as they aim to "speak the language of policymakers" (iWorry, 2014) and "motivate African governments and communities" (Vaughan, 2016).

With the Selous, the consequences of this economic rationale, and the partnerships it leads to, is that little attention is given to the disastrous social, economic, and ecological history of

[38] Personal communications, August 10, 2016

industrial mining in Tanzania (Holterman, 2014b), the dispossession linked to the Selous' establishment (Neumann, 2001b), the limited community engagement and consultation for this mining project (Ngowi & Longopa, 2017), and/or the community concerns about potential health and environmental impacts of such a project.[39] Instead, community members deal with increasing human-wildlife conflicts, stricter relationships with Selous management, and an uncertain future linked to the mine's potential development.[40]

For Mantra, its support for anti-poaching masks its potentially harmful impacts of mining on surrounding communities and ecosystems and helps the company secure access and control over its resource deposit. Its anti-poaching efforts "offset" its development of infrastructure, limited community engagement, and the environmental and health-related concerns associated with uranium mining. Similar processes occur in the tourism sector (Bluwstein, 2017). Managing populations in this way, be they human and/or wildlife, are oriented towards a cost-benefit analysis whose emphasis is on improving economic growth. Yet the issue here is that economic growth as a metric of sustainability and a rationalization for wildlife protection depoliticizes conservation partnerships with the extractive industries, as it prioritizes support for the securitization of wildlife resources. Such an approach risks today's conservation goals becoming less about biodiversity protection and more about securing the potentiality for economic growth.

Conclusion

This chapter details how, in Tanzania, political economic conditions and the value ascribed to wildlife under contemporary neoliberal capitalism contribute to the authorization of green militarization in the name of securing the national economy from its greatest threat: the poacher-

[39] Interviews, 2018
[40] Interviews, 2018

as-economic-saboteur. Additionally, the tendency to manage wildlife as an economic resource further rationalizes the political foundations of neoliberalism, mainly that governance of, in this case, wildlife is premised on the logics and rationality of economic growth.

The challenge here is that categorizing wildlife as an economic asset, (re)commodifying living elephants, and classifying poachers as economic saboteurs, "reaffirms narrowed antipolitical explanations for biodiversity loss, instills neoliberal political rationalities among conservationists, and forecloses alternative and progressive possibilities capable of resisting status quo logics of accumulation" (Dempsey & Suarez, 2016, p. 653). With Tanzania and the Selous, this results in the intensification of conservation's militarization and the acceptance of any rational actors who contribute to it, regardless of what their broader business operations may mean for development and/or conservation. Here, mining activities are rationalized as "sustainable development," by government and conservation actors alike, because of its contributions to the securitization of the wildlife economy and the broader economy. The extractive industries are accepted as "wildlife stakeholders" and seen as pragmatic allies for conservation, who suggest that the extractive industry's relatively small ecological footprint is outweighed by its oversized impact in protecting wildlife.

Tanzania's tourism sector *is* important to the function of its economy, and wildlife makes up a significant portion of the broader sector. The aim of this analysis is not to suggest that the illegal killing of wildlife should continue or that the efforts to stop poaching are futile. Instead, the intention is to shed light on the problematic components of portraying wildlife protection as tied to expanding economic growth under neoliberal capitalism, a form of governance that facilitates a specific human-nature interface premised on the unabated expansion of economic growth (Fletcher, 2010; McCarthy & Prudham, 2004). It may prove more useful to examine how

this approach, as critical scholars suggest and I agree, is the very foundation of the biodiversity/wildlife crisis in the first place, not the way out of it (Büscher et al., 2017; Collard, Dempsey, & Sundberg, 2015).

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Tanzania's Conservation-Extraction Alliance: Green Militarization as Socio-ecological Fix

Abstract: Partnerships between conservation and extractive actors are hardly new. Yet, the severity of the global biodiversity crisis presents a new twist on increasingly novel and flexible partnerships that I call conservation–extraction alliances. Informed by more than 11 months of field research in Tanzania, I show how the country's intensification of (para)military tactics, rationales and logics relating to wildlife conservation–Tanzania's green militarization–intensifies with support from extractive industry actors. The chapter is a case study that shows how extractive industry actors provide expertise, resources, and support to the newly formed Tanzania Wildlife Management Authority, a legally inscribed paramilitary force. In the process of doing so, the mining company secures access to its desired mineral deposit inside the Selous Game Reserve and quells social criticism of the project, thus fixing both the economic and political crises facing the extractive industries under contemporary capitalism. However, the impact of this alliance further complicates an already tenuous relationship between local communities, wildlife managers, and private corporations.

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Introduction

The video turns to an aerial shot of the forest canopy. A seemingly endless landscape of miombo woodlands comes across the screen. This is the Selous Game Reserve in southern Tanzania. Over the image of its canopy viewers hear the beginnings of radio chatter:

"Delta four, estimate the number of poachers, over," states the first voice.

"I think maybe there are four or five, over" the respondent claims as the imagery now shifts to several camouflaged and well-equipped field rangers moving purposefully across the dense forest floor.

Viewers then hear the voice of Benson Kibonde, the now-former head game warden of the Selous: "We consider Mantra as one of the conservation partners… the requirements for coming to a level of successful protection of Selous are so huge."

An image of a poached elephant carcass enters the frame. The video continues with text, audio, and visuals representing the great lengths that Mantra is taking to ensure elephants in this landscape, one of the most severely hit regions in the recent elephant poaching crisis, are better protected. Unmanned aerial vehicles scan the skies, microlight aircraft take off from a dirt airstrip, high-level officials talk of creating intelligence networks in the surrounding area, and game wardens drill in military fashion. Sandwiched between similar examples of Mantra's work in education and local procurement, these images make up a nearly 7.5 minute video brandishing the corporate social responsibility (CSR) activities of Mantra Tanzania Ltd., a Uranium One Company (Mantra Tanzania, 2014a). With these images in mind, this chapter argues that an expanding roster of actors, that now includes the extractive industries, helps make possible the green militarization of conservation in Tanzania.

It is common to see a wide range of actors involved in biodiversity conservation efforts around the world. Non-governmental organizations, the private sector, international financial institutions, private citizens, local communities, and donor nations, have all gained power throughout the sector, scholars argue, with the emergence of neoliberal conservation (Brockington et al., 2008; Büscher & Davidov, 2013; Büscher et al., 2012; Corson & MacDonald, 2012; Gardner, 2016; Igoe & Brockington, 2007). Similarly, critical scholars examine how this expansion of actors as part of increasingly securitized conservation policy and practice connects to the broader dynamics of neoliberal conservation (Devine, 2014; Duffy, 2016; Lunstrum, 2018; Marijnen & Verweijen, 2016; Massé & Lunstrum, 2016). This chapter expands on these contributions in showing how extractive industry actors emerge in the green militarization of conservation spaces, policy and practice. Extractive industry involvement in conservation is framed as helping to stave-off the wildlife crisis but simultaneously works to fix both the economic and social crises experienced by the extractive industries under contemporary capitalism.

Partnerships between conservation and extractive industry actors are not new per se (Büscher & Davidov, 2013; Chapin, 2004; Corson, 2011; Hackett, 2015; Seagle, 2012). Yet the emergence of these partnerships in the context of a global biodiversity crisis presents a new twist on increasingly novel and flexible partnerships that I call conservation-extraction alliances. Relying on more than 11 months of field research in Tanzania, I show how the country's intensification of green militarization, or the increasing use of (para)military tactics, rationales and logics across its conservation sector (Lunstrum, 2014), intensifies with the support of extractive industry actors. I argue that Mantra's involvement in anti-poaching helps secure its desired mineral deposits, and both informs and shapes the broader (para)militarization of conservation spaces

across Tanzania. The chapter shows how the extractive industries, yet another actor to gain from the diffusion of power under neoliberalism and the expansion of green militarization, provides expertise, resources, and support for the increasing (para)militarization of the Selous and the newly formed Tanzania Wildlife Management Authority (TAWA).

I begin by briefly discussing the methods used in this research, which is followed by a review of the relevant literature examining the expansion of actors in conservation's securitization and increasing intersections between conservation and the extractive industries. This review is informed by recent scholarly inquiry arguing that the interest in conservation from extractive industry actors is pivotal for fixing multiple crises through the opening of new spaces for investment and in reducing political and social risks increasingly connected to extractive operations (Enns et al., 2019). In detailing the intersections of extractive industry and conservation actors in southern Tanzania, I show how the expansion of green militarization acts as a socioecological fix for the mining, oil and gas industries. The empirical sections illustrate how Mantra Tanzania provides support for wildlife conservation efforts to legitimize their operations and helps advance a country-wide (para)military agenda. Supporting the design and implementation of this agenda ensures that extractive industry actors, such as Mantra, are now "wildlife stakeholders" in Tanzania and involves the sector more closely in law enforcement and community policing activities through its anti-poaching efforts. Finally, the last section describes the impacts this conservation-extraction alliance has on people-park-*corporation* relations. In short, the addition of the latter further complicates an already tenuous relationship.

Context and Methodology

Uranium One is one of the largest uranium mining companies in the world and is a wholly

owned subsidiary of the Russian State's Atomic Energy Corporation (Rosatom). Rosatom first purchased a stake in Uranium One, at the time a publicly listed Canadian company, in 2009 and took a controlling interest the following year (Uranium One, n.a.). In 2013, Rosatom took Uranium One private, delisting it from the Toronto Stock Exchange (Koven, 2013). Besides various producing mines outside of Russia, Uranium One also operates the Mkuju River Project (MRP) in southern Tanzania, which is owned by Mantra Tanzania Ltd. Critics argue that Rosatom's integrated approach to nuclear diplomacy across the African continent is aimed at gaining influence in countries such as Egypt, Ethiopia, Nigeria and Rwanda and earning vast profits through project developments that may increase energy challenges for developing nations instead of remedy them (Burke, 2019; Harding & Burke, 2019). There is some talk of Rosatom assisting the Government of Tanzania in building research reactors as a step towards nuclear energy production in the country (The East African, 2016).[41] However, Rosatom's focus appears to be producing uranium for export once the commodity price rebounds. In this light, the benefits from the MRP project are not generally framed in terms of domestic nuclear energy supply, but are said to be derived from the potential for increased tax revenue, employment, foreign direct investment, and its ability to transform Tanzania's mining sector into a world leader in uranium production (Ebenezer & Simon, 2018; Mantra Tanzania, 2014a; The Guardian, 2018a). This is noteworthy due to its stark contrast to other large-scale development projects taking place within the Selous, such as Stiegler's Gorge Hydroelectric project, which is framed as critical for the country's industrial development strategy because of its proposed doubling of the country's electrical output (Herrmann, 2019; Xinhua, 2019b).

The MRP is the most advanced uranium project in Tanzania and received a Special Mining

[41] Actors such as the International Atomic Energy Agency and the European Commission have also contributed to the advancement of the nuclear sector in Tanzania (Dixit, 2018).

License in 2013. Although this license is currently suspended, in response to the depressed uranium market, the project remains in a "care and maintenance" stage, primed for development once the economics of the project are more favorable to its investors. Although Rosatom has interest in other projects throughout Tanzania, it is Uranium One/Mantra Tanzania's commitment to the MRP in the southern Selous that is of interest to this chapter.

While Tanzania receives much attention from critical scholars concerned with conservation (Benjaminsen & Bryceson, 2012; Gardner, 2016; Goldman, 2009; Igoe & Croucher, 2007; Neumann, 1998), the Greater Selous Landscape has largely escaped the view of this critical analysis (Exceptions include: Neumann, 2001b, 2004b; Sunseri, 2003). This study, with data generated between 2016-2018, joins more recent/ongoing studies in turning a critical eye towards the vast southern regions of Tanzania (Bluwstein & Lund, 2018; Nepsus Research Project, 2016; Noe, 2010, 2015, 2019). Although wildlife stakeholders see the extractive industries becoming increasingly involved in conservation and anti-poaching throughout Tanzania, and trends suggest this is taking shape in relation to other projects, this analysis focuses on the most developed articulations of the conservation-extraction alliance stemming from the Mkuju River Project.[42] In the context of the Second Poaching Crisis and an emergent interest in mineral development, this chapter acts as a case study of the Selous with a focus on the collaborative and novel partnerships between its managers and Uranium One/Mantra Tanzania.

As a "conservation social sciences" project (Bennett et al., 2017), I rely on semi-structured interviews with government, non-governmental organizations, civil society, the private sector, and local community leaders and members to better understand the emerging relationships

[42] Interviews, November 30, 2017
Interviews, May 7, 2018

between conservation and the extractive industries. Interviews are supplemented by focus groups, participant observation with the conservation authority, and document, policy, and archival analysis throughout my field visits. I reviewed relevant corporate, governmental, and non-governmental documents and used Nvivo software during many rounds of coding and analysis.

Prior research in Tanzania helped in gaining access to the research environment in southern Tanzania (Holterman, 2014b). I attained official clearance from the Tanzanian Wildlife Research Institute, the Commission for Science and Technology, the Selous Game Reserve Project Manager, TAWA, the District Commissioner of Namtumbo, and multiple Village Chairpersons. Although the geography of the research is increasingly (para)militarized and politically sensitive, each clearance brought newfound access and legitimacy to the research process and was important in following procedure and building trust with research participants. Along with help from a research assistant and various gatekeepers, I conducted over 11 months of research throughout Tanzania, which included the participation of more than 90 people, from the aforementioned subject groups in interviews. Of this total, including group interviews, roughly 30 interviews were held with TAWA officials and their partners, including those in management positions, game wardens and officers. Over 40 interviews were conducted with people living in villages nearby the Selous, including with village leaders and community members. The remaining interviews were conducted with relevant actors in southern Tanzania and beyond.

The Novelty of Conservation-Extraction Alliances

Green Militarization:

Africa's population of 350,000 savannah elephants is declining at an annual rate of 8 percent

(Chase et al., 2016). When combined with a series of national dynamics, mainly corruption, the seemingly insatiable global demand for ivory is proving disastrous for Tanzania's elephants (See: Environmental Investigation Agency, 2014; Packer, 2015). Poaching, or the illegal killing

Figure XVI: Selous-Mikumi Ecosystem – *TAWIRI's representation of the Selous-Mikumi ecosystem taken from its 2013 aerial survey of the elephant population across the region. Source: (Tanzania Wildlife Research Institute, 2013)*

of wildlife, is the driving force behind these declines and genetic assessments highlight the Greater Selous Landscape as a "hotspot" of poaching activity accounting for 86-93 percent of globally examined large seizures of illegally obtained ivory since 2006 (Wasser et al., 2015). One of the hardest hit countries, Tanzania lost 60 percent of its elephant population between 2009-2014 (Chase et al., 2016). Census data from the Selous-Mikumi ecosystem alone shows a decline from 70,406 elephants in 2006 to 13,084 in 2013 (Tanzania Wildlife Research Institute,

2013).

Tanzania's response to the Second Poaching Crisis includes the formal adoption of (para)military logics, rationales, and approaches to anti-poaching policy and practice (Lunstrum, 2014; Mabele, 2016).[43] Due to increasing concerns about poaching as an issue of economic and (inter)national security, anti-poaching in Tanzania mirrors global trends illustrative of this "green militarization" (Duffy, 2014, 2016; Lunstrum, 2014; Massé et al., 2018). Yet when the protection of conservation spaces turns into an issue of security, it is often concerned with intensifying the historic practices of community control and pacification of rural areas (Cavanagh et al., 2015; Peluso & Vandergeest, 2011; Ybarra, 2012), combatting uncorroborated concerns about (inter)national security (Duffy, 2016; Lunstrum, 2014; Ybarra, 2016), and the accumulation of wealth and expansion of protected area ideals (Massé & Lunstrum, 2016). In Tanzania and beyond the Second Poaching Crisis is oft framed as a "war against poaching" despite suspect linkages between illegal killings and international terrorism (Duffy, 2016; Haenlein & Maguire, 2015; Haenlein et al., 2016; Titeca & Edmond, 2019). Research shows how these discourses and approaches to anti-poaching, often grounded in science-based interventions and racialized targeting of marginalized communities, intensify the violence against local peoples and further complicate people-park relations (Büscher & Ramutsindela, 2015; Cavanagh et al., 2015; Fairhead et al., 2012; Lunstrum, 2014, 2015; Lunstrum & Ybarra, 2018; Neumann, 2004a; Peluso, 1993).

Green militarization in Tanzania shares some of these global characteristics but has its own unique features. For example, the country's various conservation agencies are all embarking on new (para)military training. The newly minted TAWA, a legally inscribed paramilitary force that

[43] The First Poaching Crisis took place in the 1970s-1980s and culminated with the 1989 CITES ban on elephant ivory (Barbier et al., 1990; L. Moore, 2011; Somerville, 2016).

manages all wildlife areas outside of national parks and the Ngorogoro Crater Conservation Area[44], will have its entire staff trained in paramilitary skills and logics at the Mlele training facility in the Katavi Region of western Tanzania.[45] Military leaders hold powerful positions within the Ministry of Natural Resources and Tourism (MNRT) such as the Permanent Secretary, Major General Gaudence Milanzi; tasked with winning Tanzania's so-called "war on poaching." The country's various wildlife colleges and training centres have altered their curriculums to include a focus on (para)military tactics and logics with Mweka, perhaps the most well-known wildlife college in East Africa, intending to "have the entire College be in combat boots," according to its Rector (Ngowi, 2016). [46]

Controversial and violent military-led operations have been implemented across the country including Operation Tokomeza, agents of which have allegedly committed grave human rights violations in communities located nearby protected areas (Legal and Human Rights Centre, 2015). In general, there exists a re-enforcement of protected area boundaries and stricter penalties and fines for transgressors that emerge in response to the Second Poaching Crisis. A broad range of actors support these moves. Various elements of foreign militaries have engaged in trainings of Tanzanian conservation personnel (Hopkins, 2015; Summers, 2016). Perhaps the most public example is Veterans Empowered to Protect African Wildlife, an organization now banned in Tanzania after taking a controversial approach to operations in the country, including one member claiming: "we're going over there to do some anti-poaching, kill some bad guys and do some good" before arriving in Tanzania (Peter, 2015).

Conservation organizations have also supported trainings (WWF-Tanzania, 2018) and

[44] This includes game reserves, wildlife management areas, game controlled areas, and Ramsar sites. TAWA also manages centralized anti-poaching operations known in the country as the KDU.
[45] Personal Communications: October 11, 2017
[46] Interviews, April 11, 2018

donated a range of equipment to various wildlife actors across the country (Frankfurt Zoological Society, 2015). Many in the international community claim those in the business of protecting biodiversity have "no choice" but to standardize this (para)military approach to anti-poaching regardless of the negative optics it may generate, lest we risk losing species to extinction.[47] Many donors have been keen to support these developments (U.S. Embassy Dar es Salaam, 2016). As far as trends go in the (para)militarization of conservation spaces this evidence is far from novel. Yet, support for Tanzania's (para)militarized conservation efforts also comes from some rather unlikely allies in extractive industry actors who, under the conditions of neoliberal capitalism, have become increasingly more involved in biodiversity conservation.

Emerging Actors in Biodiversity Conservation:

The expansion of neoliberal conservation, or the idea that nature can only be saved through its submission to capital, has increased the range of actors involved in conservation decision-making (Büscher et al., 2012; McAfee, 1999). Although materializing differently across time and space, non-state actors such as environmental non-governmental organizations, the private sector, local communities, and private individuals and corporations have, in various ways, all experienced and benefitted from the diffusion of power under neoliberalism (Brockington et al., 2008; Büscher et al., 2012; Castree, 2010; Gardner, 2016; Igoe & Brockington, 2007). Here, the state is facilitatory, granting access and control over land and resources to this group of conservation stakeholders and further promoting a form of "hybrid environmental governance" meant to make, in this case, conservation more efficient, democratic and profitable (Büscher et al., 2012; Igoe & Brockington, 2007, p. 433).

In Tanzania these global trends materialize with the rapid promotion and expansion of

[47] Interviews, May 3, 2018; Personal Communications, October 11, 2017

Wildlife Management Areas (WMAs); community-based conservation aimed at devolving resource rights to communities and bringing them closer to conservation-related decision-making and socioeconomic benefits. The expansion of the WMA program has faced many criticisms, and an elaboration on such is not the intention of this chapter.[48] Of interest though are the alterations to Tanzania's Wildlife Conservation Act 2009 (WCA 2009) that inscribed the WMA program into law. Besides creating WMAs, the legal changes allow for the exploration and extraction of oil, gas, and uranium within game reserves pursuant to several stipulations and regulations (URT, 2009). This slight, but significant, addition to the WCA 2009, resembling regional trends (Mackenzie et al., 2017) is overlooked in the literature, but for few exceptions. For example, Noe (2013) shows how WMAs strengthen government and private sector access and control over village resources by facilitating the activities of junior mineral exploration firms inside WMAs despite its protected area status. With such activities, alongside the legal changes for exploring and mining inside game reserves, came a spatial (re)ordering of protected areas in southern Tanzania that opened doors for the extractive industries to become "wildlife stakeholders" across the country and legally opened new land to extractive industry investment.[49]

The interests of the extractive industry have long been intertwined with the conservation sector and the establishment and maintenance of protected areas (See: Corson & MacDonald, 2012; WWF-UK, 2015). For decades conservation actors have worked nearby sites and with the extractive industries, engaging in "performances of sustainability" that allow for the

[48] These critiques include how the establishment and maintenance of WMAs recentralizes village resources into the hands of the state and major conservation organizations, dispossess local peoples from their lands and resources and allows capital, in the form of private business, rent-seekers, and the state to accumulate wealth from the resources available within the boundaries of WMAs. See: Benjaminsen TA, Goldman MJ, Minwary MY, et al. (2013) Wildlife management in Tanzania: state control, rent seeking and community resistance. *Development and Change* 44(5): 1087-1109; Bluwstein J and Lund JF (2018) Territoriality by Conservation in the Selous–Niassa Corridor in Tanzania. *World Development* 101: 453-465.

[49] Interviews, November 30, 2017; June 1, 2018

expansionary goals of conservation-extraction alliances to coexist and inform one another (See: Chapin, 2004; Seagle, 2012). Besides financial arrangements, activities undertaken in these partnerships focus on attempts to offset the destructive features of industrial extraction through the enactment of conservation activities and/or production of conservation spaces elsewhere (Büscher & Davidov, 2013; Corson, 2011; Hackett, 2015; Seagle, 2012). Often these relationships have been framed as the extractive industry's efforts to green-wash its activities en route to the promotion of a contradictory narrative of, for example, "sustainable mining" (Kirsch, 2009).

However, recognizing the continued growth in these partnerships, recent scholarship theorizes how these divergent actors are increasingly working together to "secure the foundation upon which their production and accumulation is based" (Enns et al., 2019, p. 17). Shared practices and collaborative alliances allow conservation actors access to new opportunities for the accumulation of capital through the expansion and/or creation of new protected areas, ecotourism ventures, and/or the commodification of scientific expertise (Enns et al., 2019; See: Norris, 2016). For the extractive industries, as the sector faces increasing crises related to the depletion of commercially viable resource deposits and the growing social and political opposition to extractive processes, partnerships with conservation actors offer both a spatial and socioecological fix (Enns et al., 2019). Such fixes include a myriad of ways whereby the production of space and nature are transformed as a means to, however temporarily, address the social and environmental crises of capitalism (Ekers & Prudham, 2015, p. 2438). In the extractive industries this includes regulatory process and project negotiations that often dilute social contestation within formal and legal processes "shaped by interests of extractive capital/state alliances" (Bridge, 2004; Zalik, 2015, p. 2453). Concerning conservation-extraction

alliances, a willingness to support conservation initiatives within and beyond allotted resource concessions opens protected areas to extractive industry investment, therefore making extraction more productive through providing access to previously off-limits deposits (Enns et al., 2019). Degazettement of protected areas in the name of expanding extractive industry operations is evidence of this and is often associated with shifting trends in conservation legislation that renders "strategic resources" extractable within protected areas (Bebbington et al., 2018; Enns et al., 2019; Mackenzie et al., 2017; Mascia et al., 2014; Qin et al., 2019). Furthermore, investing in conservation, such as the anti-poaching initiatives in Tanzania discussed here, also works to resolve the extractive industry's crisis of legitimacy and stave-off the political and social risk of growing dissent towards its mode of operation (Bridge, 2004; Enns et al., 2019).

In the case presented here, this crisis of legitimacy links to the desire to operate within a protected area at a time when companies, such as SOCO International Plc., were facing significant pressure due to its presence in well-known protected areas (See: Global Witness, 2014) and many of the globe's "majors" committed to avoiding prominent conservation spaces, such as World Heritage Sites, altogether (WHC, 2019). Yet, under the conditions of the Second Poaching Crisis, whereby the Selous experienced a dramatic decline in elephant populations, Uranium One/Mantra Tanzania's legitimacy crisis also presents its own fix. As this chapter shows, a sustained "politics of legitimacy," integral to which is the significant investment in green militarization of conservation, is invaluable in solving the company's own crisis of legitimacy as a corporate actor operating within a globally recognized World Heritage Site.

Furthermore, this chapter responds to recent calls to investigate who profits from the rise of militarized conservation (Duffy et al., 2019). While some authors show how green militarization itself is being commodified, generating funds for controversial anti-poaching efforts (Marijnen &

Verweijen, 2016; Massé, 2019), others point to how private sector actors looking to expand markets in ecotourism and private security and military contracting are driving the green militarization of conservation itself (Devine, 2014; Lunstrum, 2018; Massé & Lunstrum, 2016). Yet, although there is a small literature that discusses the intensifying militarization of the extractive industries as concerning mine security operations (Holden & Jacobson, 2007; Holden, Nadeau, & Jacobson, 2011; Simbulan, 2016), little is said about the intersections of the extractive industries with the intensification of green militarization (See: Enns et al., 2019). Using the case of Mantra Tanzania in southern Tanzania, I show how the inclusion of the extractive industries within the broader political economy of green militarization helps extractive industry actors gain legitimacy and access to controversial resource deposits inside protected areas and simultaneously helps shape the (para)militarization of conservation across Tanzania. In this way the extractive industries are included alongside the growing list of actors that generate wealth and power through processes of "accumulation by securitization" (Massé & Lunstrum, 2016), which lend themselves to *fixing* the extractive industry's own economic and social crises across time and space.

Taken together, this body of research is illustrative of how the incommensurability of conservation and extractive industry activities is but a powerful myth. When both sectors pursue agendas of growth based on the foundations of private property and the expansion of contemporary capitalism, conservation-extraction alliances will find novel ways of expanding their respective agendas *together* (Brockington & Duffy, 2010; Enns et al., 2019; Norris, 2016). The chapter now turns to how this unfolds in Tanzania.

Extraction and Conservation: A History of Convergence

Resource Exploration in Southern Tanzania:

Discoveries of uranium in Tanzania date to as early as the 1950s. Early exploration activities included the utilization of airborne aerial surveys that identified multiple uranium mineralization occurrences across the country during the post-independence period (Tanzania Episcopal Conference, National Muslim Council of Tanzania, & Christian Council of Tanzania, 2012). More recent interest in commercially viable deposits paralleled the commodity price's dramatic rise to all-time highs in the 2000s. In 2005, just two years before unprocessed uranium would hit $136 USD/pound, Tanzania issued some 70 uranium exploration licenses, many in the country's south (Noe, 2013). The state's development trajectory places a significant focus on the mineral economy; aiming for the sector to achieve 10 percent of Gross National Product by 2025 (URT, 2000). Historically, high uranium prices were a boon for Tanzania's mineral economy, and its developmental promises helped articulate a vision of the country as a world leader in production; with some imagining a future of domestic nuclear energy supply (Dixit, 2018). These narratives and Tanzania's long sought hopes of diversifying its mineral economy, a sector dominated by multinational gold corporations, helped spur a veritable uranium frontier in the country's south.

As Figure XVII highlights, various uranium licenses overlap with protected areas in southern Tanzania, including the Selous and nearby WMAs. Plans to protect these areas did not stop an infusion of capital into the exploration of the sites. Benjaminsen et al. (2012) argue that the legal creation of WMAs brought forth "the conditions under which subsequent dispossessions could take place" across village lands. The ad hoc and illegal contracts signed between one hunting investor, a controversial figure with deep political ties, and multiple mineral exploration companies is perhaps the best example of what these further rounds of dispossession across southern Tanzania's WMAs could look like (Baldus, n.a.; For a discussion of these deals see:

Noe, 2013; Rex Attorneys, 2007). This after all is the "wildlife and uranium hot spot" according to the consortium that promotes the country's WMAs, a framing that suggests a seamless coexistence between these two resource bases.[50] However, these nefarious deals are not the only instances when land protections did not halt the expansion of the extractive industries. As changes to the WCA 2009 settled and the market price for uranium soared (until Japan's Fukushima disaster) corporate and state actors sought legitimacy for the MRP in the face of mounting (inter)national criticism about the possibilities of operating a uranium mine within one

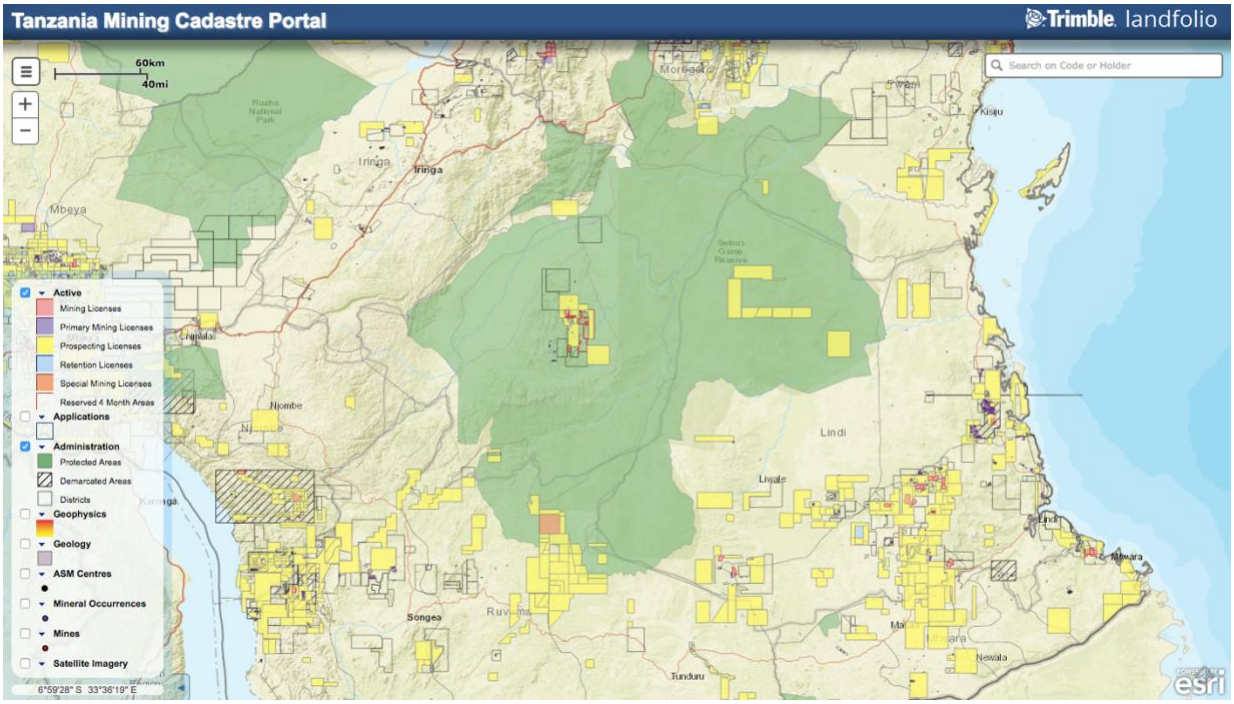

Figure XVII: Mining Licenses in Southern Tanzania – *Publicly accessible mining data shows the overlap between mining licenses and various protected area designations in southern Tanzania. The red square in the southern Selous indicates Mantra's license for the MRP. Source: Author screenshot from FlexiCadastre: Accessed February 7, 2019.*

of Africa's largest protected areas and a World Heritage Site.

The Selous Game Reserve:

As mentioned above, the 50,000 km^2 Selous is considered an elephant poaching "hotspot" by

[50] The tagline for the WMA is visible through the Internet Archive's Way Back Machine: https://web.archive.org/web/20170331145540/http://www.twma.co.tz/wma/mbarangandu. Accessed August 20, 2019.

conservation organizations concerned with ending the illegal killings of elephants across the region. Although the situation is stabilizing, the peak of the killings between 2009-2014 resulted in a significant reduction in Tanzania's elephant populations, particularly that of the Selous. In 2014, UNESCO placed the Selous on the World Heritage Sites "in danger" list, citing the dramatic decline in elephant populations as its primary reason (although other threats were cited and have since been added).[51]

With a long history of commodity production and extraction from ivory, to rubber, and beeswax, the Selous is not new to extractive interests (Neumann, 2017). An interest in prospecting and developing mineral resources within the colonial boundaries of game reserves in then Tanganyika is also a part of this history. According to former wardens of the Selous, the South African conglomerate De Beers conducted extensive surveying work inside the reserve in the 1950s, albeit without success (Baldus, 2005). The oil industry has also made its presence known in the Selous as Royal Dutch Shell conducted surveying within the reserve to the extent that:

> Thousands of kilometres of geodesic lines were cut through formerly nearly impenetrable thickets. Again a large workforce was moving over large areas of the reserve, and the cut lines, many of them never overgrown and still existing today, opened up the Selous and facilitated poaching. In the late eighties a concentration of elephants skulls could still be observed along these cut lines. (Baldus & Ngoti, 2004)

Shell would later donate equipment to the Game Department as compensation for its exploration activities (Baldus & Ngoti, 2004). More recently, 13 prospecting licenses were granted for precious minerals inside various parts of the Selous between 2002-2003, however the extent that activities took place is unknown (Baldus, 2005). Of these examples, Shell's activities appear to have had the most direct impact on the biodiversity of the Selous. Yet, the pressures placed on

[51] Including the Tanzanian government's interest in developing the Stiegler's Gorge hydroelectric project in the northern sector of the Selous.

the reserve by the extractive industries indicate a long-held belief that the reserve is home to a bounty of subterranean resources that, under the right conditions, can be extracted.

Uranium One/Mantra Tanzania began uranium prospecting inside the Selous in 2006 with feasibility studies conducted in 2009 (IUCN, 2014). In 2012, after years of political maneuvering, UNESCO accepted the excision of 400 km^2 from the Selous, as a World Heritage Site, to allow for the development of the MRP (WHC, 2017).[52] The decision cites "exceptional and unique" circumstances that allow for the project's approval and represents the politicization of the World Heritage Convention (WHC) whereby state actors aim to promote resource development within WHS properties (Meskell, 2014; WHC, 2012). Although the MRP is currently paused, exploration activities are complete, and the company has found commercially viable uranium deposits that Uranium One/Mantra Tanzania intends to extract once favorable market conditions return.[53]

The Politics of Legitimacy:

Interviews often referenced the political power and influence that the company leveraged to get approval for, and legitimize the validity of the MRP, such as consulting on the changes to the WCA 2009 and exerting political leverage regarding the WHC's boundary modification decision.[54] The latter is important as sustained political efforts to modify the Selous' boundary, as a World Heritage Site, spanned years, despite the project's legality under Tanzanian law in accordance to the WCA 2009. This politics of legitimacy allows Tanzania to showcase its commitment to conservation and the World Heritage Convention, while Uranium One/Mantra Tanzania can now claim its operation "borders" the Selous (Uranium One, 2019b). In addition to

[52] Under Tanzanian law the boundary of the Selous does not require alteration as exploration and extraction is legal within game reserves.
[53] Interviews, June 1, 2018; See also: (The Guardian, 2018a)
[54] Interviews, November 30, 2017; December 15, 2017

this, the severity of the Second Poaching Crisis and Mantra's insistence on supporting governmental responses aimed at ending poaching created support and legitimacy for the project despite concerns over its location within/nearby the Selous. It can even be said that the 2014 listing of the Selous as a World Heritage Site "in danger," due to the level of poaching in the property, increased the legitimacy of Mantra's anti-poaching support, seen as the actions of a responsible mining company.

In its 2012 decision, the WHC stressed that Tanzania ensure the investor supports broader conservation efforts across the Selous (WHC, 2012, p. 214). As different Tanzanian authorities grant surface and sub-surface rights, mining companies must pay rent for the area covering its prospecting license known as concession fees. According to reports, Mantra pays a higher rate at $5000 USD/km^2/year (IUCN, 2017a). To gain surface access rights, Mantra is also paying a block fee similar to how a hunting company would access the surface rights for their operations.[55] Through these payments mineral and oil/gas licensing, from a financial perspective, can replicate the rents normally received from the hunting sector; a sector that has largely collapsed under international pressures and a history of corruption in Tanzania (Packer, 2015). Such financial support is one reason the former Minister of Natural Resources and Tourism claimed the newly minted TAWA would be "heavily complemented" by Mantra's wildlife protection and anti-poaching efforts (Corporate Digest, 2014).

In referring to the Mitigation Hierarchy, a copy of Mantra's Environmental Impact Assessment suggests that the creation of a project offset that assists with the management of the Selous will be critical in its mitigation efforts. Today the deployment of "one of the most sophisticated anti-poaching programs in Africa" is how the company supports TAWA and

[55] Interviews, April 6, 2018

offsets its impact on biodiversity. The anti-poaching program has four components: "highly trained elite scouts (trained and equipped by Mantra), regular anti-poaching patrols, cutting-edge technology-based aerial surveillance and informant networks embedded in the local communities" (Uranium One, 2019a). Company representatives are not blind to the clout such CSR programs can have and recognize that the anti-poaching program "carries a lot of weight for the company," providing legitimacy to a project that faces intense criticism.[56] In other words, programs like this are merely the cost of doing business within the boundaries of the Selous.[57]

The case of Mantra and other extractive industry companies operating in protected areas, such as Swala Oil and Gas Plc. in the Kilombero Game Controlled Area, hints at the mythical powers of resources in that the wealth derived from their extraction can solve virtually all of a nation's developmental challenges (Coronil, 1997).[58] Yet these partnerships present very real potential for concession and block fees, planning and managerial support, anti-poaching support, and other benefits to a resource-strapped conservation authority. This is important when considering the challenges faced by under-funded and under-resourced conservation authorities such as TAWA, particularly in the context of a struggling hunting industry. It is with this context in mind that many TAWA representatives speak of the importance of Mantra's support to the authority and the positive impact the company is having in its joint efforts to end wildlife poaching in Tanzania.[59] This is an area hard hit by the Second Poaching Crisis.

The Anti-Poaching Unit of the Mining Company:

Mantra Tanzania's anti-poaching support reaches far beyond the oft-seen financial

[56] These criticisms have come mainly from global NGOs, the IUCN and WHC who, despite allowing the project to proceed, list mining as a threat to the Selous (Change.org, 2012; Uranium Network, na; WWF, na).
[57] Interviews, November 30, 2017; June 1, 2018; Personal Communications, March 5, 2018
[58] The oil company has agreed to support TAWA's management plan for the endangered puku antelope as one of the conditions placed on it by the National Environment Management Council.
[59] Interviews, 2018

contributions of the extractive industry's CSR programs. The company offers financial support to the wildlife division tasked with protecting the Selous, but it also provides equipment, training, and support for anti-poaching efforts that reach far beyond the mine site itself. Mantra's efforts have relied on regional expertise and trends in wildlife law enforcement and anti-poaching for years and, in doing so, also assists the transformation of the broader (para)militarization of conservation spaces in Tanzania.

The origins of Mantra's anti-poaching program are blurry. Interviews suggest the program is informed by the challenges employees faced with both wildlife and poachers during exploration activities as early as 2007. Yet, the program was not confirmed until 2011, one year before UNESCO's vote on the boundary modification, and officially began in 2013.[60] Mantra's mining site rests near the mouth of the much discussed Selous-Niassa wildlife corridor and Trans Frontier Conservation Area (Noe, 2015). The company recognizes the site as a popular destination for wildlife and game wardens confirm, "wildlife come right up to the [mining] camp," and that as TAWA, "we need to protect that site as well."[61]

Here, the mining camp, as a stand-in for capital, must be protected. Game wardens have long held this dual position. They must protect the investor more commonly embodied by tourists from wildlife *and* the wildlife from investors/tourists. Here, they hold a dual position of game warden and mine security and are enrolled in the increasing (para)militarization of mine security seen in other parts of Tanzania (Holterman, 2014). Company representatives see the Selous providing multiple layers of security to the mine and its personnel: "Being in the game reserve we feel more secure. Also, the rangers, they are there with AK47s, big magazines, we are feeling

[60] Interviews, November 30, 2017; June 1, 2018; Personal Communications, March 5, 2018
[61] Interviews, April 3, 2018

very safe."[62] This perspective brings two issues that often arise in mining-community relations forward. The first involves the often-contested points of access to the mine site and camps. Game reserve access is severely restricted and those without a permit face arrest, fines or worse (Bwagalilo, 2018).[63] Second, the above quote does not suggest a fear of wildlife. Instead, the fear appears to rest in the nearby communities; a sentiment that is often lodged against communities nearby mining operations (Holterman, 2014b). Such perspectives hint at rather conflictual mining-community relations, which is discussed further below.

The Mantra-TAWA relationship offers insights into a new twist on historic trends at mine sites. Mantra's support for TAWA to become a "professional" (para)military authority provides sound return-on-investment as the newly trained game wardens bolster the security of the mine site and "are no different" when stationed at the Mantra camp compared to their other posts within the Selous.[64] In designing and implementing its comprehensive anti-poaching strategy, that relies on regional expertise and popular trends in wildlife law enforcement and anti-poaching, Mantra is ushered into the broader trends of green militarization and helps to shape how it develops across Tanzania.

Initially, the company spared no expense in building out its anti-poaching unit (APU) and strategy. The company contracted the expertise of regional anti-poaching specialists to design the APU and work closely with the MNRT, the government ministry tasked with managing the Selous (that responsibility has since been passed on to TAWA). Many of these experts hired by the company are well regarded in the sector and come to anti-poaching work from various security and military backgrounds originating from places such as Australia and South Africa.

[62] Interviews, November 30, 2017
[63] Interviews, May 30, 2018
[64] Interviews, April 3, 2018

Contracting regional anti-poaching experts who influence major organizations shaping anti-poaching policy and practice illustrates the flexibility of CSR programs meant to perform the extractive industry's authority and expertise over a particular topic of interest. Besides the commitment to engage regional experts, the company also set aside significant financial resources to build out and support the growth and activities of the APU at the Likuyu Sector of the Selous.

In addition to providing financial and technical support for the Selous headquarters at Likuyu sector, Mantra pays the patrol allowances of game wardens stationed at the APU camp at the MRP. At the height of funding for the APU, a company report claims the "infrastructure available to the Mantra APU far exceeds industry standards seen elsewhere in Protected Areas across Africa. The living conditions, and support available, for the scouts are the best that either instructor has ever observed" (Mantra Tanzania, 2014b, p. 9). Although falling uranium prices has slowed the construction of the mine and led to the consistent alteration of the APU, the program remains active. At its peak, four teams of 5-6 game wardens would rotate out of the field on patrol. Patrols comprise 15 days in the field before game wardens return to the sector headquarters some 52 kilometers away from the mining camp. Teams patrol 1000km^2 of the Likuyu sector, mirroring the dimensions of the mining concession but also extending far beyond it across the sector. The original Memorandum of Understanding (MoU) between the company and the MNRT also included support for a second sector of the Selous that borders the sector hosting the company's resource deposit. However, since the mine is not fully operational, both parties have agreed to set this aspect of the agreement aside for now.[65]

In addition, Mantra's APU teams engage in various training programs to "impart the tactical

[65] Interviews, April 6, 2018

paramilitary skills required to operate in a hazardous environment" and to "impart military appreciation and planning skills" on game wardens tasked with patrolling the area (Mantra Tanzania, 2014b). For Mantra and other actors across the country, these efforts are largely seen as a "professionalization" of anti-poaching in Tanzania by ensuring a standardized level of training for game wardens across the country and weeding out corrupt and ineffective individuals.[66] Mantra employees cannot legally carry firearms, and the APU wardens are technically TAWA employees. In contrast, investors behind the Friedkin Conservation Fund have negotiated special investor status with the Government of Tanzania, which allows their employees to carry firearms.[67] With these investors, including Mantra, seen as leading examples in private sector support for anti-poaching, future partnerships may see such partners negotiating more power over anti-poaching personnel as a condition of business in the country.

Mantra has also taken to the skies in other aspects of its anti-poaching strategy. Across the region conservation actors increasingly focus on securing the skies and the strategic benefits that come with it (Massé, 2018). Mantra supported the construction of a new airstrip in the southern Selous to help facilitate the utilization of aerial surveillance activities and wildlife data generation.[68] Although not as advanced as in other countries, aerial surveillance is critical in anti-poaching efforts across the Selous as it allows patrol teams to analyze and plan their routes using relatively up-to-date aerial data. Following the much-hyped potential of drone technology in the conservation sector, Mantra conducted a trial of unmanned aerial vehicles in 2014 within the Selous in collaboration with various partners. Company documents show that the terrain of the Selous and the material conditions of TAWA constrained the trial and that extensive utilization

[66] Personal Communications, October 11, 2017; March 5, 2018; Interviews, December 5, 2017; June 12, 2018
[67] Interviews, March 13, 2018
[68] Interviews, October 20, 2017

of the tested drone technology would have resulted in a significant reduction of coverage area by the anti-poaching teams (Steiner, 2014). Despite this failure, drones have caught the attention of conservation stakeholders in Tanzania and efforts to utilize the technology, regardless of costs, are ongoing (Bathawk Recon, 2017; Noe, 2018).

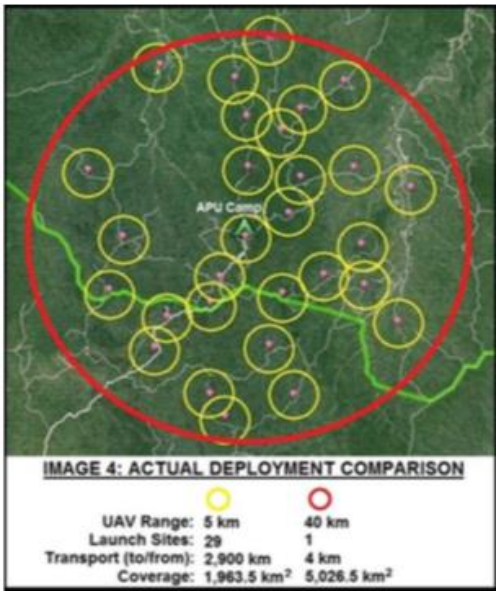

Figure XVIII: Drone Testing Sites – *Testing launch sites for drone trials within and beyond the APU camp and the boundary of the Selous extend the territorial range of the Mantra program beyond its concession area. Source: (Steiner, 2014).*

As mentioned in the opening paragraphs, the company has also been keen to develop an extensive intelligence-led anti-poaching operation in the southern Selous. Intelligence-led anti-poaching operates within and nearby population centres bordering protected areas and thus extends law enforcement operations beyond the protected area in question. Intelligence programs have been promoted for years because of the results they generate (See: Lotter & Clark, 2014; Moreto, Cowan, & Burton, 2018). For obvious reasons, there are limited details on these intelligence programs, but they often include a series of community-based informants trained or recruited by wildlife organizations/authorities to report on mischievous individuals and/or actions within locales of interest for law enforcement. Informant reports might include the plans

of individuals or groups to illegally enter protected areas and/or the location of weapons and/or wildlife trophies. With this intelligence, law enforcement officials can plan their operations and/or counter the movements of suspected illegal entrants to protected areas. These are law enforcement and military tactics that are commonly utilized in the enforcement efforts of conservation organizations and authorities in Tanzania and beyond (Duffy, 2014, 2016; Lunstrum, 2014; Massé et al., 2018; Moreto, 2015). There are many critiques to this approach (Massé et al., 2018), of which can be added the development of intelligence-led anti-poaching operations acting under the purview of CSR.

Mantra and most anti-poaching units in the country operate two types of patrols. The first are "proactive patrols" whereby units identify areas needing patrols, perhaps on a rotating and/or seasonal schedule or areas that represent higher risks for illegal activities (perhaps hosting large wildlife populations and/or lush with sought after tree species). Second, "reactive patrols" based on intelligence gathered through the APU's networks are intended to "counter attack" the potential movements of individuals/groups engaged in, or expected to be engaged in, illicit activities.[69] Taken together, these tactics illustrate a kinetic or hard approach to anti-poaching (Massé et al., 2018), in this case taken up by a mining company in partnership with the wildlife authority. Conducting intelligence-led anti-poaching operations illustrates how the partnership between Mantra and TAWA is not merely financial. Interviews revealed that Mantra is "very much involved" in the apprehension of poachers and the confiscation of weapons and wildlife trophies.[70] The efforts of the APU bring the mining company closer to community policing and law enforcement through both its partnership with the wildlife authority and its design and implementation of an anti-poaching program that reaches beyond the company's mining

[69] Interviews, November 30, 2017
[70] Interviews, October 20, 2017; November 30, 2017; June 1, 2018

concession area.

Desires to use the broader CSR programming as a component of the anti-poaching intelligence network resembles the latest evolution of the soft side of anti-poaching and the intersections of what colleagues and I have called the conservation-security-development nexus (Massé et al., 2018). To simplify here, the idea is to encourage community members to join intelligence networks and/or provide intel to law enforcement officials and the company in exchange for, or because of, the existence of company-funded community development projects. Although some company representatives suggest their interests in operating in such a manner were turned down by the company, others claim that the company's broader CSR program is critical for the development and maturity of its anti-poaching intelligence networks as anti-poaching makes up a substantial amount of the CSR agenda.[71] The notion that programs aimed at increasing the socio-economic conditions of communities impacted by development projects are linked to the same community's willingness to engage in the dangerous activities of intelligence gathering and law enforcement goes against the development of respectful and reciprocal relationships critical in avoiding or mitigating conflicts between mining developers and communities (Conde & Le Billon, 2017). An approach to community development that takes a reduction in poaching as its primary aim likely results in the community development component of these programs falling from view. This may result in missed opportunities for communities most impacted by development projects to gain socio-economic benefits, however small they may be, from development projects such as, in this case, mining operations (See: Masse et al., 2018). Community members are already wary of Mantra's community engagement programs and often cite a significant discrepancy between the company's support for the Selous and its limited

[71] Interviews, October 20, 2017; November 30, 2017; June 1, 2018

support for nearby communities.[72] If already limited community development projects are seen as linked to intelligence gathering and anti-poaching operations of the Selous community-park-corporation relations could become even further strained. It is worth repeating that the extent to which this has been an active component of Mantra's CSR program is unknown, but even a slight mention of such, or its unintended impacts, are troubling and requires further research with all private sector actors involved in anti-poaching and wildlife crime initiatives, not just the extractive industries.

As depicted in this section, in partnering with TAWA, whose game wardens move far beyond the Selous into nearby communities and urban centres across the region, Mantra's support assists the broader (para)militarization of conservation spaces and practice in Tanzania. Its financial support provides equipment, facilities, and trainings that help the newest waves of TAWA recruits become adept in (para)military tactics, rationales and logics. Support for drone trials and aerial surveillance assist with the continued securitization of the skies across the Selous and the development of its own intelligence-led anti-poaching operations brings the mining company and its partners closer to the complexities of community policing and law enforcement. For Mantra, the APU and its support of TAWA provides legitimacy across multiple scales. As one part of its broader CSR program, the APU is critical in securing the company's license to operate and simultaneously in opening the Selous' boundaries to extractive industry investments. A wildlife-poaching crisis, years of neoliberal reforms and corruption (Hunter's Path, 2016; Packer, 2015), including legal changes to the WCA 2009, and UNESCO's 2012 decision, all provide the legitimacy and conditions for Mantra's operations within a protected area. The Second Poaching Crisis presents the conditions for Mantra to fend off its own crisis of

[72] Interviews, March 30, 2018

legitimacy on the (inter)national scale, winning awards for CSR and becoming a leader in corporate-led anti-poaching. Under-represented in all of this is how the company's support for the (para)militarization of TAWA strengthens the capabilities of its game wardens whose reach impacts local peoples across the region.

Strained People-Park-Corporation Relations:

The Selous' establishment and expansion has a long and conflictual history in this region (Neumann, 2001a, 2001b; Noe, 2019). Today at the village level, perspectives on the relationship between the Selous and nearby communities are mixed. Some community members and leaders speak highly of the relationship, citing its mutual benefits as wildlife and communities gain through conservation and hunting tourism. However, community members who face the brunt of the challenges from human-wildlife conflict, living closer to the reserve boundaries, voice their disapproval of Selous management. This disapproval centres on the levels of access to the Selous granted to mining companies and the changing nature of community-Selous relations. [73]

Many community members express a mounting level of frustration from what they see as a double standard of who can enter the Selous and for what activities. Many argue that while mining companies can access the reserve, threatening its wildlife/forests and the community's health, and benefitting from the minerals inside the reserve community members cannot harvest forest products such as mushrooms, even after raiding elephants threaten their livelihoods. Entering the Selous to search for resources to supplement their livelihoods without permits leads to arrests, fines, or perhaps worse, they say (Also see: Bwagalilo, 2018).[74] Increasing human-wildlife conflicts and allowing mineral companies access to the Selous, while curtailing local access, has led many community members to think TAWA values wildlife over the lives of

[73] Interviews, May 30, 2018
[74] Interviews, May 30, 2018

residents.[75]

The above frustrations are only enhanced when people discuss TAWA's shifting operational mandate. Some point to the adverse impacts that TAWA's formalized (para)military approach has on community relations. On the village level, some highlight how these changes result in community members feeling "harassed" by game wardens. Others discuss the outright forceful approach taken by TAWA in the communities nearest the Selous, speaking of unsubstantiated arrests of suspected poachers, torture, and coercion.[76] Some question if TAWA officials follow official arrest procedures and cite examples of game wardens that "shoot randomly" in the village, including one publicized incident when a teenager was shot (The Guardian, 2018b). Highlighting a further notion of frustration with TAWA's changing mandate and the presence/authority of mining companies is the idea that the Selous benefits from increased anti-poaching and protection measures while community-led protection efforts in the adjacent WMAs receive little or no benefit or support from these corporate "friends" of conservation. In these ways community-Selous relations continue to be at odds. It suggests that the alliance between TAWA and Mantra, forged in response to the so-called "war on poaching," exacerbate the inequalities of conservation and increase the potential for conflictual people-park-*corporation* relations.

Taken together, the case of the Selous provides insights into how conservation-extraction partnerships are formed and the impacts they have on conservation policy and practice. Efforts made to quell the (inter)national criticism of the MRP has both TAWA and Mantra expecting the extractive industries to become an increasingly important wildlife stakeholder in the country. The infrastructure to do so is already in place. Although the WCA 2009 specifically mentions

[75] Interviews, April 9, 2018; May 30, 2018
[76] Interviews, May 30, 2018; April 5, 2018

game reserves as being open to extractive industry opportunities, other protected area designations, such as the examples mentioned in southern WMAs and the Kilombero Game Controlled Area, also appear open for business. Similarly, as the IUCN (2017) points out, the "lack of clarity in terms of industry access to other minerals within the property in contradiction with the Tanzania Wildlife Act [sic]" may provide further opportunities for extractive industry actors to operate inside the Selous. Finally, through its MoU with the MNRT and its reported lobbying of the WCA 2009, Uranium One/Mantra Tanzania has become a wildlife stakeholder and created a pathway for future investors to do the same.

Mantra's partnership with the Government of Tanzania and TAWA resemble the green-washing efforts of other extractive industry corporations in similar situations, but they also present opportunities for Mantra (and its parent companies) to accumulate wealth and power and gain legitimacy for its operations within the Selous during a time of wildlife crisis. This case is revealing at a time when some major multinational extractive corporations have pledged to stay away from UNESCO World Heritage Sites altogether (WHC, 2019). Most troubling perhaps is how, in this case, a controversial uranium mining project gains legitimacy through its ability to attach itself to the activities of regional anti-poaching operations, which, because of its increasingly militarized nature, face significant criticism themselves (See: Legal and Human Rights Centre, 2015; Mabele, 2016). This is proving challenging for local communities facing the brunt of increasing human-wildlife conflicts and frustrated by the contradictions of access and control over the Selous' resources. Such developments are exacerbating an already complicated and tenuous relationship between the Selous and nearby communities; adding mining companies to a seemingly never-ending list of those who benefit more than communities living nearest conservation's most prominent spaces.

Conclusion

Mantra's anti-poaching program is another example of the commensurability of conservation and extractive industry actors forged under the conditions of neoliberal capitalism and the urgency of the Second Poaching Crisis (See Büscher & Davidov, 2013; Corson, 2011; Norris, 2016). The partnership between Mantra and TAWA is illustrative of the conservation and mining sectors' shared practices of (para)militarization and how both sectors work to "secure the foundation upon which their production and accumulation is based" (Enns et al., 2019, 17).

Mantra's involvement in financing, managing and conducting (para)militarized anti-poaching operations in Tanzania enrolls the mining sector, and its hired expertise, into the broader trends of green militarization. As addressed above, this includes both hard approaches, including the development of intelligence-led anti-poaching operations, and softer approaches, such as the potential linkages between anti-poaching and community development programs. These efforts assist the company in securing its desired mineral deposits from both a political standpoint, through gaining legitimacy for the project, and in a physical sense by helping to secure the area from various threats, making investment in previously off-limit spaces possible. The extensive anti-poaching program also helps to shape and inform the broader (para)militarization of conservation spaces across Tanzania, as Mantra now becomes a wildlife stakeholder in the country. Returning to the CSR video mentioned above, Gareth Taylor from a company called Elite Security Services, claims Mantra's program will have long reaching impacts on the Selous:

> They are the leaders if you like, in terms of corporate, with regard to anti-poaching and I really believe they can show the way and they can encourage other corporates to get involved in a similar way and also try and coordinate this. Having a company like Mantra come and bring financial as well as managerial support and project management to the Selous Game Reserve I think is going to have a huge positive effect locally but it is going to spread into the rest of the Selous Game Reserve. (Mantra Tanzania, 2014a)

The extent that Mantra's efforts in anti-poaching will spread beyond Tanzania remain to be seen.

Apart from benefitting from the intensification of (para)military approaches to wildlife crisis, Mantra's efforts are another example of how the extractive industries can maintain flexibility in its response to social and political crises. Here, the industry strengthens its access and control over resource deposits while adapting to the concerns of the wildlife crisis. It is hard to know if the involvement in anti-poaching efforts will become the way forward for other extractive industry corporations seeking access and control over mineral deposits in biodiversity "hotspots." The conditions of each prospective project are different and some multinationals claim they will stay away from World Heritage Sites (WHC, 2019). Yet, such claims say nothing of state-owned enterprises and more intrepid junior extractive firms' willingness to venture wherever deposits exist. As such, it appears certain that the extractive industries will remain on the front lines of biodiversity "hotspots" as long as the subterranean profile is lucrative; thus, ensuring a future of novel formations of the conservation-extraction alliance.

6

Unearthing Conservation Territory: Protected Areas and Subterranean Space

Abstract: This chapter examines the relationship between resource extraction (mainly mining) and conservation territory (most commonly expressed as protected areas). Relying on 11 months of field research and a historical analysis of the development of surface and subsurface rights in Tanzania, I show how critical conservation scholarship has much to gain from a closer examination of subterranean relations of power. The chapter shows how, through the historical production of conservation territory, subterranean resources can be added to the list of those enclosed by the establishment and maintenance of protected areas. With the Selous Game Reserve as a case study, I show how the Tanzania Wildlife Management Authority targets the materiality of the Selous and works to secure a range of resources for the development trajectory of the Tanzanian state. In addition to wildlife, the conservation authority utilizes its increasingly militarized approach to conservation to secure mineral and hydrological resources for its future development.

Introduction: "It is the uranium"

Our Land Cruiser is stuck at the base of an ominously steep hill. While it idles motionless, I approach a game warden that has called me to his location. We are in the southern Selous Game Reserve, Tanzania's largest protected area. Dense vegetation of miombo woodlands covers most of the area and, as our current situation suggests, the rolling hills that encapsulate this area, beautiful from afar, present a challenge in maneuvering the features of this terrain. The game warden, also known as a ranger in conservation vernacular, hands me a heavy object. Its shape resembles a log one might throw on the embers of a midsummer night's fire, but its weight and texture are dramatically different from wood. "Mtetereka," he says, "it is the Swahili word for 'the tree that changes into stone.'"

Petrified wood, I gather, while considering that at some point in time a convergence of forces entrapped this piece of miombo under a mound of soil and sediment, suffocating it. With no options to breathe, the organic material took on the qualities of the minerals flowing through and across it, a process no-doubt facilitated by the intense seasonal rains in this part of the country.

A few short moments later the Land Cruiser bumbles its way up the treacherous hill, made worse by the road's many crevasses carved by these same seasonal rains. Walking towards the truck, I grab a small amount of soil from the nearby embankment and remark about its soft texture. Two nearby game wardens turn my way and in unison exclaim: "it is the uranium."

Mtetereka is the thing you might expect to find in this place, its transformational processes a product of temporal scales incomprehensible to the development trajectories of modernity. Although more often referenced in terms of charismatic megafauna, Mtetereka represents a purity and timelessness of Nature that is often cited as the reason for protecting these massive,

so-called wilderness spaces.[77] However, as we know from decades of critical research, this wilderness is a particular production of nature and one that is imposed on humans and nonhumans living nearest these spaces, often in the form of protected areas (Neumann, 1998). Producing and enforcing nature in this way has been integral to the establishment and expansion of the modern territorial state and is a truly global phenomenon. The results of these impositions often lead to the dispossession of rural peoples from their lands and resources to make way for conservation spaces that can be promoted as wild and devoid of people (Adams & McShane, 1996; Neumann, 2004b). Thus, we have seen state and non-state actors enclose land, wildlife, and forests through the advancement of the protected area ideal, all in the name of protecting the environment and biodiversity from the so-called degrading livelihoods of local and Indigenous peoples (Benjaminsen & Bryceson, 2012; Benjaminsen et al., 2013; Corson, 2011; Fairhead et al., 2012; Kelly, 2011; Massé & Lunstrum, 2016; Peluso & Vandergeest, 2011). Yet, rarely do we shift our analytical focus towards what lies beneath this conservation territory. This chapter takes issue with the "surface bias" of much political ecological and critical geographical research concerned with nature-society relations (Bebbington & Bury, 2013; Elden, 2013b). In unearthing conservation territory, I add to the literature critical of conservation by remaining attuned to *all that space contains* and the strategies of security and control that target subterranean space. Doing so broadens the conceptual lens analyzing the convergence between conservation-extraction actors and, in the case of the Selous, highlights the range of resources, including subterranean minerals, targeted for "protection" by Tanzania's conservation authority.

Unearthing conservation territory in the Selous means engaging with subterranean space in a

[77] Here, I refer to accounts that posit Nature as a pure category, static, and ahistorical, as well as those who render socionatural relations as commodities to be bought and sold, what some scholars call Nature™ inc. (Braun, 1997; Büscher et al., 2014; McAfee, 1999)

more intentional manner. Take, for example, uranium, far from merely a rock, it is so vibrant and activated that its fissile qualities and radioactivity have captivated geopolitical powers for more than a century (Bennett, 2010; Hecht, 2012). Uranium's connection to *power* (both in the sense of energy and politics) has rendered the element as a valuable global resource, politically strategic and destined to be secured wherever it may lie. Uranium's qualities, its materiality, urge us to attend to the geological depths that have produced it over millennia and how those depths are imagined, produced, and secured. The confluence of the Selous' commercially viable uranium deposits and its importance to the wildlife economy provides an opportunity to expand the gaze of critical scholarship beyond the protected *area* and into the relations that sever territory into "different, discontinuous layers" (Weizman, 2002, p. n.a.). Here, the Selous is an example of how conservation and extraction are not necessarily opposing projects. Instead, each are premised on similar territorial logics that have, in historical-geographically specific instances, seemingly divergent actors maintaining access and authority to *overlapping* resource-bases. The above encounter with the geological and the vibrant characteristics of both Mtetereka and uranium offer an empirical entry point to the shifting priorities of resource control within and nearby the Selous.

In geological terms, the south of Tanzania makes up one part of the Upper Carboniferous to Lower Jurassic Karoo Supergroup (Appendix B), a subterranean layer widespread across East and Southern Africa (Schlüter, 2008). Although colonial governments had long seen Tanzania as a site of nuclear potential, interest in its uranium peaked in the mid-2000s; tempered by the dramatic crash of the commodity price in a post-Fukushima nuclear economy. In 2007, UNESCO monitors assessing the World Heritage Site property discovered Uranium One plc's exploration activities inside the Selous. A series of back-and-forth assessments and reports

between the global conservation authority and the State party resulted in both the approval of the Mkuju River Project (MRP), a uranium mine, and the listing of the Selous on UNESCO's list of World Heritage Sites "in danger" (2012; 2014).[78] The World Heritage Committee rationalized the listing as predominantly connected to the precipitous increase in wildlife poaching simultaneously arising within the property and its broader continuous ecosystem (See: Wasser, 2015). It also listed mineral, oil and gas exploration as a concern, enhanced by Tanzania's alteration of the Wildlife Conservation Act 2009 (WCA 2009) opening the country's game reserves to the exploration and extraction of oil, gas, and uranium resources (Ch. 5). Taken together, an extractive industry frontier was catalyzed in the country, and the Selous was center stage, now a jurisdiction legally open to certain forms of industrial extractive activities with international conservationists more centrally focused on curbing the increase in poaching. In short, the materiality of the Selous and the political-legal shifts over the management of the reserve expanded the range of resources targeted for protection within the confines of this bounded conservation territory.

As a destination for trophy hunting, photographic tourism, a site of significant hydroelectric development, and now a uranium hotspot, the Selous' value is increasingly articulated across multidimensional spatial registers. Various actors (government, mining, construction, conservation/tourism, hunting) target the layers of its territory and, with an economic rationale at its base (Chapter 4), the Selous is calculated as more than merely a protected area but a territory comprising a range of valuable extractable resources. In conceptualizing the convergence of conservation-extraction in the Selous, my argument proceeds in three primary ways. First, attuned to the materiality of territory and through a historical analysis of the development and

[78] The uranium mine is technically excised from the World Heritage Site designation but legally remains a part of the game reserve.

separation of surface and subsurface rights, I show how, besides more common land and wildlife resources, conservation territory also encloses subterranean space. Second, I argue that the politics over subterranean access and control shapes conservation policy, practice, and territory in southern Tanzania. Finally, taking these dynamics together, I show how the newly established Tanzania Wildlife Management Authority (TAWA) targets all that its conservation territory contains and secures a range of resources that hold value for the developmental trajectory of the Tanzanian state. Besides wildlife, the conservation authority utilizes its increasingly militarized approach to conservation security to "protect" mineral and hydrological resources from other resource users and for the development of the Tanzanian state. In strengthening its protected area boundaries, and in some instances moving beyond them, the wildlife authority is engaged in the securitization of mineral and hydrological resources within and beyond the confines of Tanzania's protected areas. Considering the enclosure of conservation and subterranean space, and critically, the contemporary steps taken to secure them, this chapter contributes to the critical conservation literature by unearthing protected areas and examining the convergence of conservation and the extractive industries in southern Tanzania.

Research Context and Methods

This chapter is based on over 11 months of research across Tanzania. More than 90 people from various subject groups took part in interviews between 2016-2018. This timeframe is important to keep in mind as the Government of Tanzania has since carved the newly formed Nyerere National Park (NNP) out of the Selous, its official boundaries and management structure uncertain. While in the field, I supplemented interviews with focus groups, participant observation, and document, policy, and archival analysis across multiple field visits. Especially

relevant for this chapter is the time spent within and nearby the Selous, including repeated visits to southern Tanzanian communities neighboring the reserve, where I engaged with community members, leaders, and organizations. I also visited three of the eight sector headquarters as depicted in Figure XIX: Matambwe, Ilonga, and Likuyu Seka, the latter making up the bulk of my time *in* the field. Sectoral headquarters are the bases of the Selous' field operations, each consisting of a team of wardens that, among other duties, conduct patrols throughout their sector and beyond. Besides time spent with TAWA officials in these sectors, I interviewed TAWA officials in the cities of Dar es Salaam, Morogoro, and Songea. My engagement with TAWA mirrors its vast geography, a jurisdiction that covers 169,553 km^2, incorporating 79 percent of Tanzania's protected area coverage (TAWA, 2019).

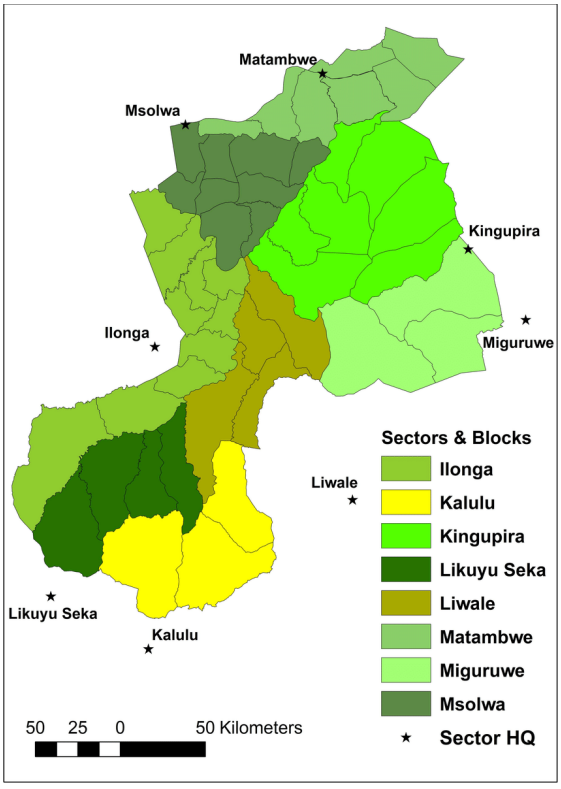

Figure XIX: Selous Sectors *– Most of the sector headquarters of the Selous (stars) exist outside of its bounded space, expanding its territorial reach further. The image here also depicts the division of the reserve into hunting blocks, which has now been altered given the announcement of the NPP. Source: (Brink et al., 2016).*

Conservation Territory

As a political ecologist, I see territory as not merely a container of the state, but as produced through a myriad of social relations that allow for particular ways of seeing, calculating, and (re)ordering space (Elden, 2009, 2013a; Neumann, 2004b; Scott, 1998). When strategies of control are aimed at demarcating boundaries, allocating access and control to land and resources, and designating the resource uses within particular spaces, they (re)produce territory and its governance structures (Peluso & Lund, 2011; Sikor & Lund, 2009; Vandergeest & Peluso, 1995). Such processes illustrate the politicization of, and the struggles over, what come to be called natural resources and the forms of governance managing their access and use. This territorialization comprises the historically contingent processes that establishes "control over natural resources and the people who use them" through negotiations and interactions amongst state and non-state actors (Corson, 2011; Vandergeest & Peluso, 1995, p. 385).

Conservation is an inherently spatial project; its primary strategy "the demarcation of spaces as protected areas within which rules control what humans (and non-humans) do" (Adams, 2019, p. 2). Critical conservation scholarship shows how the establishment, maintenance, and expansion of conservation territories conflicts with livelihood activities of peoples living within and nearby protected areas (Corson, 2011; Dowie, 2011; Sandlos, 2007). Often this legitimizes and expands state power (Lunstrum, 2018; Neumann, 2004b; Peluso & Vandergeest, 2011; Vandergeest & Peluso, 1995), encloses common resources such as land and wildlife for private/elite profit (Kelly, 2011; Ramutsindela, 2004), and securitizes wildlife and biodiversity resources in the name of curbing environmental crisis (Lunstrum, 2014; Massé & Lunstrum, 2016; Ybarra, 2012). Historically, this territorial strategy has travelled well. Although various conservation strategies exist, the "national park ideal" continues to reach widely across the globe

and remains a central cog of mainstream conservation today. Combined with this continued reliance on protected areas, mainstream conservation remains committed to its "capitalist character" (Büscher & Fletcher, 2020) and is joined by a plethora of non-state and private sector actors who stake claims of authority over land and resources under the context of increasingly severe conditions of biodiversity crisis (Adams, 2019; Bassett & Gautier, 2014; Corson, 2011; Sikor & Lund, 2009). The continued promotion of conservation territory across various camps of the contemporary conservation debate is evidence that, despite decades of critique and resistance to these exploitative models, the protected area remains a central ideal of contemporary conservation. Perhaps most central to this are the resurgent pleas of so-called "neoprotectionist" conservationists whose confidence in the promise of protected areas calls "for a separation between people and nature on a scale hitherto never imagined" (Büscher & Fletcher, 2020, p. 3), which includes the problematic Half Earth and/or Nature Needs Half projects (For critiques see: Büscher et al., 2017; Sandbrook, 2018).

Conservation Territory Goes Vertical:

Although critical scholarship has grappled with the expanded utilization of aerial technologies in conservation practices–especially security related practices–there has been less attention paid to analysis' of the multiple dimensions of conservation territory (Sandbrook, 2015a). Massé (2018) examines how conservation-security actors "shift already uneven political-ecological and geographic dynamics in their favour to better secure conservation space and nonhuman life by pacifying threatening humans (56)," which, through increasing utilization of vertical technologies has, according to Adams (2019), "transformed the work of protected area rangers in South Africa" (6). Massé's (2018) use of the concept of topography to empirically and analytically describe these transformations in conservation security is important for grappling

with the power dynamics embedded within security strategies targeting the "intersections between the horizontal and vertical dimensions of an area" (57). However, this analysis and its conceptual utilization of topography has yet to penetrate the subterranean depths that have become so central to the Selous and various other protected area struggles. Indeed, critical conservation scholarship has largely missed the politics and analytical purchase of grappling with the relations of power that target *all that space contains*, especially the subterranean. Norris (2016), who argues that conservation and mining industry actors share the labor necessary to achieve the social license to operate in Peru, identifies a similar gap in the broader literature. In doing so, he calls for a deeper analysis of how the overlapping interests and shared practices of conservation and extractive industry actors manifest in varying geographies. A reading of the broader critical literature and its implications for subterranean territory provide some conceptual entry points for answering this call.

The Importance of Subterranean Space:

It is without a doubt that the energy and material flows emerging from subterranean space play an integral role in the transformation of social life and the very constitution and continuation of contemporary capitalism (Bebbington & Bury, 2013; Huber, 2015). Today, viewed as central to economic growth and modernity, the subterranean is always calculated as "a source of potential" (Rogers, 2019, n.a.). Such calculations are grounded in the increasing abstraction of subterranean space "into discrete sets of data" codified by advancements in techno-scientific "modes of seeing, classifying and measuring the earth," that produce vertical territory and shape territorial relations and disputes (Braun, 2000; Pereira, 2015). If territoriality is the exercise of power over space and the people and things within it, then it is useful to think of subterranean territoriality as consisting of efforts to *stake a claim* to the underground (See:

Peluso & Lund, 2011). This too is about the exercise of power, and the (re)organization of subterranean space, an analysis of which, can benefit from scholarship engaging with, among other approaches, a "political ecology of the subsoil" (Bebbington & Bury, 2013).

Until recently, the canonical texts of political ecology had primarily been concerned with the relations of power and access and control over land, water, forests and wildlife (Bebbington & Bury, 2013). The essence of this concern within political ecological scholarship is this chapter's central point of departure, the recognition of this broader "surface bias" across scholarship critical of conservation and its various interventions.[79] Given the increasing convergence of conservation and the extractive industries at biodiversity and investment hotspots, this chapter contributes to scholarship examining this convergence (Corson, 2011; Enns et al., 2019; Norris, 2016) and argues that critical conservation scholarship has much to gain by remaining attuned to the materiality, power and politics of *all that space contains*, including the subterranean. Vital here are the relations of power that govern (and resist) access and control to subterranean space and the materiality of the underground that shapes how subterranean space is speculated upon, secured, and brought into production.

Territory's Materiality:

The materiality of territory includes both the geophysical attributes of matter and the built environment. Political geographer Stuart Elden (2017) refers to this combination as "terrain." For Elden (2017), terrain combines materiality and strategy, or in other words, the physical and human dimensions of geography and "the way they complicate political and legal questions" (217). Taking the materiality of territory seriously, including the subterranean, is vital because "all attempts at fixing boundaries and shaping territories is complicated by dynamic features of

[79] Stuart Elden has identified a similar trend in the broader political geographical literature in his treatment of volume (Elden, 2013b).

the Earth" (Elden, 2017, 208). In the Selous the vibrant characteristics of uranium and Mtetereka intersect with the built environment such as mining camps, road infrastructure, and ranger posts, shaping how conservation becomes the central security strategy of this dynamic territory. Remaining conceptually attuned to the materiality of territory needn't spiral into an analysis founded in the problematic tenets of environmental determinism but is instead a recognition of how the "material differences" of matter matter as they "enable and constrain the social relations necessary for resource production" (Bakker & Bridge, 2006, p. 21). Of course, these claims are not new and subterranean space has featured prominently in cases that illustrate how territory's materiality shapes political struggle over resources. From Mitchell's (2011) investigation into the fossilized foundations of democracy to the ways resources contribute to violent conflicts (Le Billon, 2001), and how materiality shapes the politics of resistance both discursively (Davidov, 2014) and along the infrastructures of resource landscapes (Scott, 2013) these, and other, "subterranean struggles" showcase how the material and social become entangled in precarious ways (Bebbington & Bury, 2013).

Uranium's "consequential materiality," or its agency regardless of its entanglements in relational webs, is worth special mention here (Kosek, 2006). Naturally radioactive, the element's vibrancy is consequential in and of itself, but when enrolled in processes of extraction, processing, and consumption, threatens even graver consequences all along the built environment and/or the "highway of the atom" (Van Wyck, 2010). Uranium's extraction and production has dire impacts on human and environmental health that remain etched in physical landscapes and leave behind toxic legacies for generations (Keeling, 2010; Stanley, 2014). These are the often-invisible forms of violence that uranium production begets, which alongside its most destructive explosions, result in the mutation of entire ecologies–forever (Masco, 2004).

Taken together, uranium is perhaps the most dramatic example of how the materiality of subterranean space shapes the politics of territory. As I show below, uranium's qualities and its *power* help (re)shape the rules of access and control governing the Selous, become enrolled in governmental strategies of security and containment, and inspire acts of resistance. In the case of the Selous, if we are to reduce the importance of subterranean space to conservation territory most simply, it would be to say that: what lies below the protected area *matters* in how that space is (re)produced and secured.

It is worth noting here that uranium is not the only resource in question throughout this chapter, as the Selous is also a space of overlapping tourism potential and hydroelectric development. The conceptual intentions of this chapter are to suggest that critical conservation scholarship, especially that concerned with territory, state power, and security, move beyond the surface and grapple with *all that space holds*. This allows for an analysis that takes into account the shifting and overlapping strategies of security and control deployed across conservation territory and those that target its diverse materialities (Bridge, 2013; Elden, 2013b, 2017; Weizman, 2002).

To emphasize the point: the materiality of territory is vital to how space is secured. The fixity of subterranean resources, such as uranium, and the fluid and mobile properties of water, two elements shaping the politics of the Selous today, inform the strategies of security and containment of Tanzania's conservation territory. The confluence of rivers heading towards Stiegler's Gorge inside the boundaries of the Selous forces a consideration for how non-human things move or flow throughout space, shaping the territorial forms in-land, in urban spaces, and out-to-sea (See: Grundy-Warr, Sithirith, & Li, 2015; Steinberg & Peters, 2015; Swyngedouw, 1999). Although different from subterranean resources, whereby flow and mobility are generally

considered only once the resource is extracted, the elusive and turbulent properties of water, especially under the conditions of climate change, is also a (moving) target for the strategies of security and containment found across Tanzania's conservation territory today. In the penultimate section, I briefly touch on how conservation territory is mobilized to secure the downstream flow of water towards the ongoing development of Stiegler's Gorge Hydroelectric project, an issue that also challenges the surface bias of critical conservation scholarship in different ways and one that requires further research into how the volume of water is shaping resource sovereignty and struggles across Tanzania (e.g. Billé, 2020; Steinberg & Peters, 2015). However, for now, the focus remains on the Selous' subterranean resources, which, importantly, remain situated in time and place, providing the modern territorial state with significant power over access and control of its subterranean resources, and the extractive industries with its primary focal point of competition–securing the hole (See: Bridge, 2015).

State Power and Enclosure:

The potential to derive significant, even mythical (Coronil, 1997; Watts, 2004), value from subterranean space has long placed it under the purview of the state and a corporate-state alliance that continues to expand under the neoliberal transformations of capitalism. The modern territorial state's power over subterranean space extends from the colonial and imperial expansion of the earth sciences that (re)territorialized the subterranean "as a legible vertical landscape," expounding an epistemology that views the sub-strata as resources primed for extraction (Braun, 2000; Garrett, 2019; Scott, 2008). This dominant political economic conceptualization of subterranean space is perhaps best captured in the growing literatures critical of extractivism in Latin America and beyond (Burchardt & Dietz, 2014; Gudynas, 2010; Holterman, 2014a), differing forms of (neo)imperialism (Butler, 2015) and a (re)emerging

literature on resource nationalism in places like Tanzania (Jacob & Pedersen, 2018), which captures a long-held linkage between the subterranean, nationhood and nationalism (Bebbington & Bury, 2013). In a special issue on "Subterranean Geopolitics," Squire and Dodds (2019) capture the essence of much of this literature by highlighting how subterranean space is "integral to nation-state building and geopolitical strategies of control, enclosure and exclusion" (1). These three strategies are central to the production of subterranean territory.

Enclosures consist of the "dispossession of certain users or the exclusion of some bodies and inclusion of others from rights of use and control" (Peluso & Lund, 2011, 672).[80] Enclosure of subterranean space is grounded in political-legal articulations of property rights, premised on notions of the split-estate, which separate the ownership rights of the surface and subsurface (Bridge, 2013). These property rights are articulated through the resource claim or license. In the vast majority of nations (the United States is unique), the state–and the state alone–presides over subterranean space and, given the capital-intensive nature of extractive industries, looks to attract investment in subterranean space from international capital (Emel et al., 2011). In addition to the acts of dispossession that often correspond with the imposition of the state's sovereign claims over subterranean space, mineral claims and exploration licenses, although providing legal rights to the holder, do not address the issue of accessing the subterranean and tend to drive extractive industry conflicts (Emel et al., 2011; Zalik, 2009). As such, great effort is taken to secure the point of access to the deposit below and maintain that access across time (Bridge, 2015). Maintaining this access is often driven by corporate-state efforts that delegitimize social movements and resistance (Bridge, 2004) and can include practices of legal enclosure, whereby

[80] Formative studies have shown these *ongoing* processes at work across various resource landscapes, such as forests and land (Peluso, 2011), wildlife (Neumann, 2004), global biodiversity (Corson & MacDonald, 2012), and also through the body (Federici, 2004), and in spaces whereby resistance threatens the capitalist mode of production (De Angelis, 2004).

"local and collective forms of authority are subordinated to private governance initiatives managed by extractive firms" (Szablowski, 2019, p. 722). In short, subterranean enclosures are often enforced through violence at the hands of the state and strengthened through relationships with extractive industry actors (Chapter 5). However, subterranean enclosures and their violent elements are also resisted at every turn, or as Anna Willow (2018) suggests, where there is extractivism, there is extrACTIVISM (See also: Conde & Le Billon, 2017).

Although different in context and form, the politics of subterranean resource access and control are informed by familiar processes of violence, dispossession, and enclosure, to those that produce and maintain conservation territory. Protected area establishment is often discussed in terms of enclosure, whereby common resources such as land, timber, and wildlife are (re)ordered and controlled by the state, which provides preferential access to conservation actors and their tourism counterparts. The territorial footprint of "fortress conservation" (Brockington, 2002) is vast, in the case of the Selous, totaling 50,000km^2. However, the territorial extent of subterranean enclosures is different to the expansive geographies of conservation, forestry, or agriculture in that access to, and control over, the point of access to the subterranean is all that matters when it comes to accessing the subterranean. As "an oil well or mine shaft represents a discrete, molecular point of access rather than a contiguous territorial claim" (Bridge, 2015), it is the process of gaining the rights to claims and/or licenses and securing access to the subterranean–the literal *staking of claims*–that drives extractive industry actors, and that makes extraction particularly adept at overlapping with territorial projects such as conservation. This is again indebted to the verticality of subterranean territory or the political-legal partitioning of territory into separate layers, whereby the surface and subsurface are alienated "so that each may be held separately" (Bridge, 2013, 56), which, allows for, in the case of conservation-extraction

territory, *ongoing* acts of enclosure across time and space (De Angelis, 2004; Peluso, 2011). At first a territory of conservation–supposedly a public resource held by the state in the name of its citizens–the Selous is (re)enclosed as a sprawling territory of resource extraction, equipped with exploration sites, a mine development camp, road infrastructure, and new forms of security and law enforcement.

Decades of critical conservation scholarship shows how conservation is understood historically "as the production of nature and space within the capitalist mode of production" (Neumann, 2017, p. 121) and as a strategy of territorial control (Bluwstein & Lund, 2018). Meanwhile, parallel threads of scholarship illustrates how subterranean space is "always a space of potential" (Rogers, 2019) and "integral to nation-state building and geopolitical strategies of control, enclosure and exclusion" (Squire & Dodds, 2019, p. 1). As conservation and the extractive industries increasingly converge under the context of biodiversity crisis, focusing on what lies below conservation territory, and the subterranean relations of power, brings a conceptual *depth* to the analysis of conservation and extraction and the increasingly blurred boundaries between them. Such an analysis is also informative politically as it shows how these "subterranean struggles" (Bebbington & Bury, 2013) impact the establishment and maintenance of territory. Thus, as I show below, under contemporary capitalism, conservation is never only concerned with biodiversity, wildlife, and ecosystem services. Instead, conservation, as a

territorial project is necessarily enrolled in the enclosure and securitization of subterranean space and its *potential* future extraction.

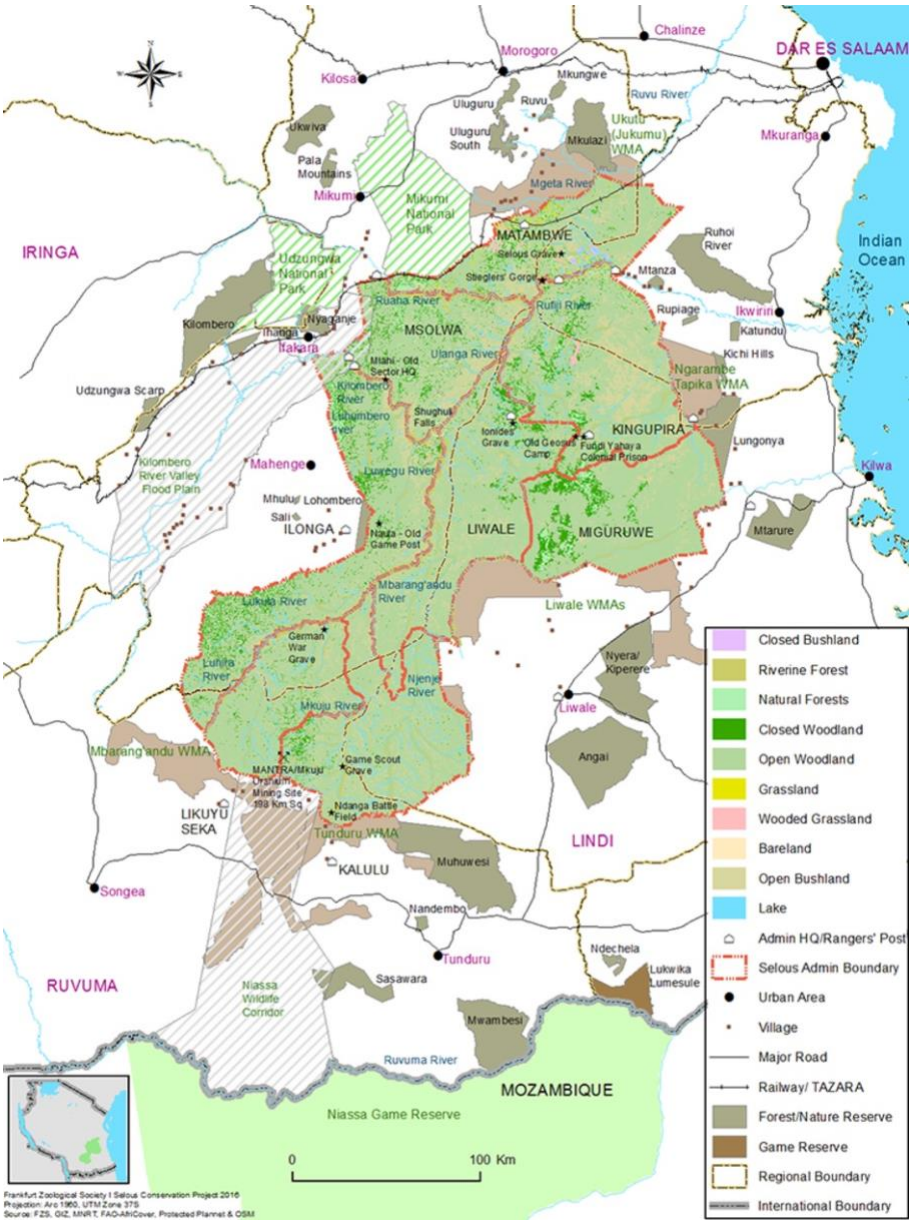

Figure XX: Overlapping Territories – *This Frankfurt Zoological Society map illustrates the complex and overlapping mosaic of territorial forms produced across the Greater Selous Ecosystem. Although the MRP, a uranium mine, is indicated in the southern Selous on this map, it fails to illustrate the geological extent of these viable subterranean deposits. Source: (Frankfurt Zoological Society, n.a.).*

Securing the Subterranean

The Selous' establishment, predicated on the eviction and dispossession of thousands of peoples (Neumann, 2001a, 2017), and the future establishment of Wildlife Management Areas alongside its boundaries, which recentralized control over village lands and resources into the hands of the state and powerful conservation NGOs (Benjaminsen et al., 2013; Bluwstein & Lund, 2018; Weldemichel, 2020), are important components in the emergence of a uranium frontier decades later, as frontier spaces "must be literally or discursively made empty in order to be coherently reimagined as a frontier" (Klinger, 2018, p. 5). Devoid of people and seemingly untamed, the Selous emerged in both time and space as a vast wilderness to be feared, disciplined, and protected. As noted above, the establishment of protected areas restricts access to the surface, allowing for the Selous' wildlife, claimed as the sole property of the state, to become the central focus of state-led management for decades, in so far as it could generate economic value through tourism and hunting. However, restricting access to the surface also makes accessing the subsurface equally difficult. This is critical for the extractive industries because, as discussed above, the "principal axis of competition is the struggle to locate the right point of access and secure exclusive control over it" (Bridge, 2015). A historical overview of the development of legal orders governing conservation and the extractive industries shows how these restrictions were lifted as a uranium frontier emerged across the Selous landscape.

As conservation and wildlife governance evolved alongside the establishment and subsequent expansion of the Selous, so too did the legal mechanisms governing subterranean rights. From the Mining Ordinance of 1920 onwards, the British colonial state "made a clear distinction between surface and subsurface landownership" claiming all minerals as the sovereign territory of the colonial governor (Emel et al., 2011, p. 74). Later iterations of legislation built on this

privileging of the subterranean. As Jacob and Pedersen (2016) succinctly trace, the discovery of minerals enacts Tanzania's mining legislation, which "takes precedence over land legislation that regulates surface rights" (12). However, this is not the case for conservation spaces, which are categorized as "reserved land" under the 1999 Lands Act (Jacob et al., 2016; Lugoe, 2010). Alterations to the WCA 2009 amend this, legally allowing for the exploration and extraction of uranium, oil and gas inside/below game reserves.[81] Similarly, recent changes to resource legislation such as the *Natural Wealth and Resources (Permanent Sovereignty) Act of 2017* claims "the entire property and control of all minerals on the surface or below the surface, including bodies of water, are public property vested in the President in trust for the citizens of Tanzania" (Sipemba, 2019; URT, 2017b). In mirroring the Land Act 1999, these alterations vest increasing power into the executive branch of government and together make possible the conversion of village, general, or *reserved* land into that whereby mining can take place (See: Kolumbia, 2019; Woodroffe, Genasci, & Scurfield, 2017).[82] Although newly articulated, this legislation reifies the (sub)division of territorial rights, which for our purposes here, has developed alongside the historical enclosure of the Selous and the evolution of the exclusionary legal mechanisms governing the reserve (Neumann, 2004b; Noe, 2019; Sunseri, 2003).

Although the establishment of the Selous may not have been intentionally conceived of as a potential source of mineral wealth, the historical production of the protected area, underpinned by a separation of territory into multiple distinct layers, helped produce the conditions for a future of mineral extraction across conservation territory. Instituting the state as the holder of

[81] With the legal status of other subterranean resources inside/below game reserves and other protected are designations unclear (IUCN, 2017a; Noe, 2013).
[82] Ownership and control of resources was previously placed in the hands of "the United Republic" (Woodroffe et al., 2017). The President is also increasingly involved in the negotiation of resource contracts (Jacob & Pedersen, 2018).

both surface and subsurface rights, the establishment and maintenance of the Selous by the German, British, and (post)colonial governments captured the subterranean wealth below its 50,000 km^2 surface within the territorial boundaries of a protected area. With this in mind, turning to the Mkuju River Project shows how the politics of access and control over subterranean space shapes conservation policy, practice, and territory in southern Tanzania.

Uranium in the Selous:

Tanzania's most advanced uranium mining project began prospecting in 2006 and feasibility studies in 2009 (IUCN, 2014). Its "discoveries" were not insignificant. Measured and indicated results, calculated with high levels of certainty regarding the ore, shape and mineral occurrences, found 48,000 tons of uranium at Mkuju River, inside the Selous (Wise-Uranium, 2013; World Nuclear News, 2017). With historically high commodity prices, estimates showed Tanzania would generate over one billion USD in Foreign Direct Investment from this project, with thousands of jobs created in the economically depressed south (Ebenezer & Simon, 2018). The potential of this project is enormous proponents, such as the former Minister of Natural Resources and Tourism, argue, claiming the MRP "will redefine Tanzania as a mining giant" (Mantra Tanzania, 2014a) and Tanzania as a global leader in uranium production (Mining Weekly, 2013). Despite this potential, the location of the deposit still had to be reconciled.

Because uranium holds so much *power,* it is often deemed a "strategic resource" by state governments and therefore governed in distinct ways compared to other minerals. Its energy and geopolitical potential, combined with political lobbying by the mining/uranium industry, led to Tanzania altering the WCA 2009 as mentioned above.[83] This amendment loosens the restrictions on allowable activities within game reserves, a dynamic recognizable within the nearby Wildlife

[83] Interviews, 2017-2018

Management Areas as well (Noe, 2013). Despite access to the Selous being restricted for most resource users, under the guise of environmental protection, the alterations to the WCA 2009 brought forth a new set of rules for extractive industry actors, transforming the reserve into a space of conservation *and* extraction. Regionally such legal accommodations are not new and they illustrate how states are increasingly looking towards the subterranean space of conservation territory as a potential source of resource development (Mackenzie et al., 2017).

As discussed above, conservation is a territorial project primarily concerned with expanding area and excluding local resource users from it in the name of protecting biodiversity. Central to this expansionary agenda is a particular abstraction that represents space in a uniform manner whereby "any unit can be compared and rendered equivalent to another unit by spatial categories" (Vandergeest and Peluso, 1995, 388). This abstraction is exemplified by the World Heritage Committee's approval of the Mkuju River Project in the Selous, despite the international body's "clear position that mineral, oil and gas exploration or exploitation is incompatible with World Heritage Status, and that such activities should not be undertaken within World Heritage Properties" (WHC, 2012). Citing "exceptional and unique circumstances," the WHC conditioned the MRP's approval on Tanzania's commitment to replace the 200 km^2 of the mine property that would be excised from the World Heritage Site with an equivalent area elsewhere.[84] According to the international body, an equivalent would be an opportunity to enhance the "Outstanding Universal Value" of the Selous (WHC, 2012). The condition sparked a debate on the boundary modification of the Selous and, despite being flagged internally as problematic, allowed the debate over the MRP to be more centered on the total area of the Selous, not the potential impacts on the reserve by the proposed mining

[84] Again, the 200km^2 is only to be excised from the official boundaries of the World Heritage Site as under Tanzanian law uranium can be legally mined in game reserves.

project.[85]

The problem here is that such an abstraction of space does not account for the range of impacts that, in this case, uranium mining can have on a landscape. Uranium's qualities and the potential impacts of its development have been continuously raised by various local community members and Tanzanian civil society organizations, which I discuss below.[86] Such claims are premised on the histories of human and environmental rights abuses across Africa and beyond, which includes toxic contamination of environments, people, and entire supply chains (International Physicians for the Prevention of Nuclear War, n.a.; OECD, 2014; Stanley, 2014; Van Wyck, 2010). Of particular concern is the mining portion of the supply chain, which consumes significant volumes of water and stresses localized water resources, while tailings facilities that host mining waste also present long-term economic and social costs to nations and localized threats to human and environmental health (Rosa Luxemburg Stiftung & Legal and Human Rights Centre, 2014).

With the MRP, proposed as an open-pit mine, industry and government proponents, and some international conservationists, obscure the spatial and temporal extent of these potential impacts when they suggest that, because the mining sector is predominantly interested in subterranean resources, the sector's territorial footprint is relatively small. The logic portends that the mine, and access to it, disturbs a mere sliver of land compared to larger protected areas and that the support generated from these activities can protect extensive swaths of the surface. This is captured well by one conservation professional with intimate knowledge of the Selous and MRP:

> I'm not a particular fan of an open-cast mine in a conservation area either, but it's hard to criticize a dirt

[85] Interviews, Paris, 2017
[86] Interviews, 2017/2018

> poor country from embarking on a project that'll employ thousands, and generate millions of much-needed capital. Tanzania has got more protected areas than almost anyone else, so I guess in their mind it's a fair tradeoff. Mining and conservation are directly at odds–it's hard for an ellie [sic] to live on a piece of ground that's being dug up. That being said, indirectly they can get along quite well–you lose 200 km^2 of ground, and the profits can protect 50,000 km^2 (Personal communication, 2018).

The comment, common among conservationists seeking more pragmatic relationships with capitalist enterprise, brings to mind the "sacrifice zones" that industrial development and the extractive industries are infamous for creating (Cottle, 2013; Shade, 2015). The conservation professional implies that profits from the MRP will support the broader conservation of the Selous. In Chapter 5, I discuss these supports and show how they also help fix the social and political crises facing the extractive industries today, leading to an expansion of extractive industry operations. A perspective that suggests mining profits will equal conservation returns, but that fails to recognize the potential harms of uranium development, poignantly highlights the challenge of this pragmatic approach to conservation-extraction partnerships that may "occasionally slow down some biodiversity loss in some places. But at the very same time they strengthen the broader drivers of biodiversity destruction that completely undermine the small gains that might be made" (Büscher & Fletcher, 2020, p. 204).

Furthermore, in making the discussion about the Selous' boundary modification, not the activity at the root of the modification, the WHC approved a uranium mine that is located at the opening of the Selous-Niassa Wildlife Corridor, a Transfrontier Conservation Area and significant migratory route for elephants as seen in Figure XXI.

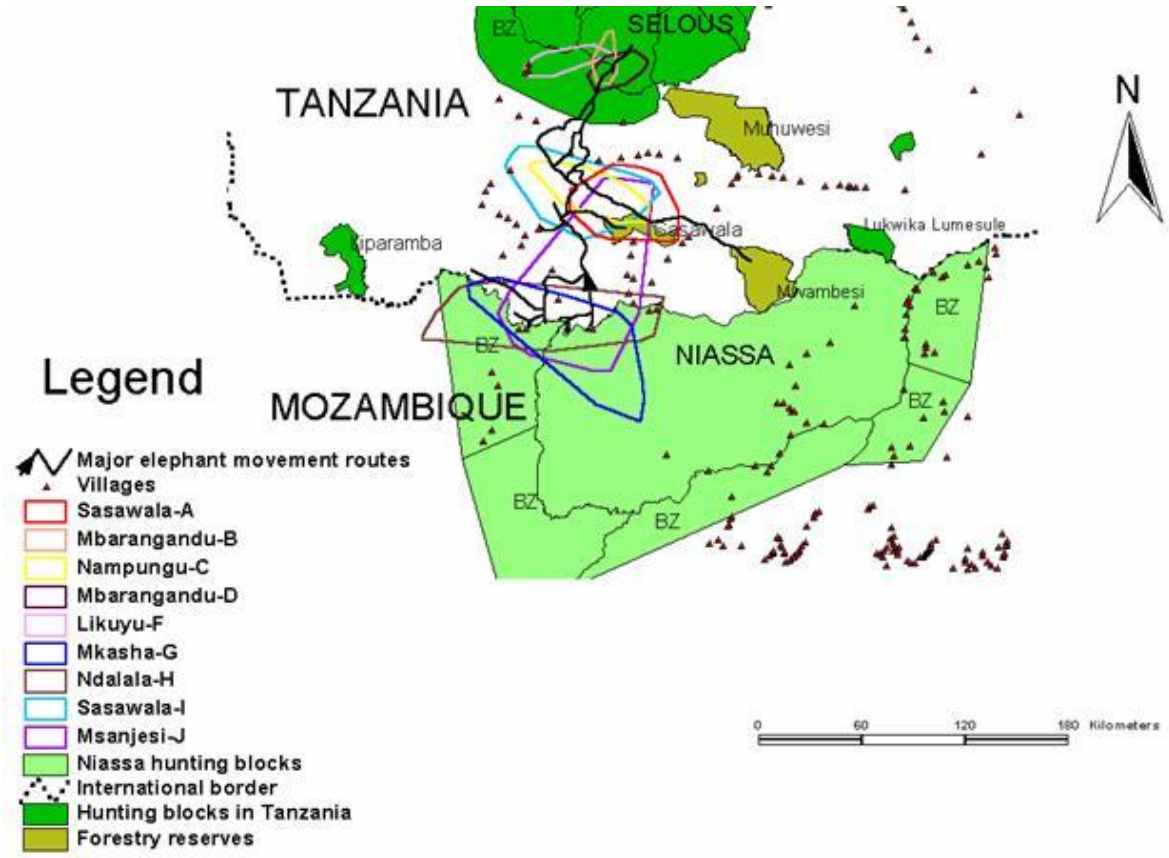

Figure XXI: Migratory Routes of Elephants in Selous-Niassa Wildlife Corridor – *The map shows major migratory routes for elephants throughout the Selous-Niassa Wildlife Corridor. The website tzwildlifecorridors.org, a collaboration between the Wildlife Conservation Society and Tanzania Wildlife Research Institute, identifies prospecting/mining for uranium and other minerals as "severe threats" to the existence of the corridor. Map source: (Mpanduji, Hofer, Hildebrandt, Goeritz, & East, 2002). Retrieved from http://www.tzwildlifecorridors.org/corridors/selous-niassa/ on August 15, 2020.*

As the earlier conservationist suggested, it is difficult for elephants to live in an area that is earmarked for an open-pit mine and, according to Rosatom–the company that owns the MRP–even the early stages of mine development have caused issues for wildlife as poachers "took advantage" of the road that the company built to the uranium deposit (The Moscow Times, 2012). The WHC's apparent lapse regarding how this development might negatively impact wildlife throughout the corridor is particularly strange given the committee had previously raised concerns about the deteriorating populations of elephants across the Selous and specifically cited reporting of poaching taking place in the area of the MRP (WHC, 2011). These threats to the

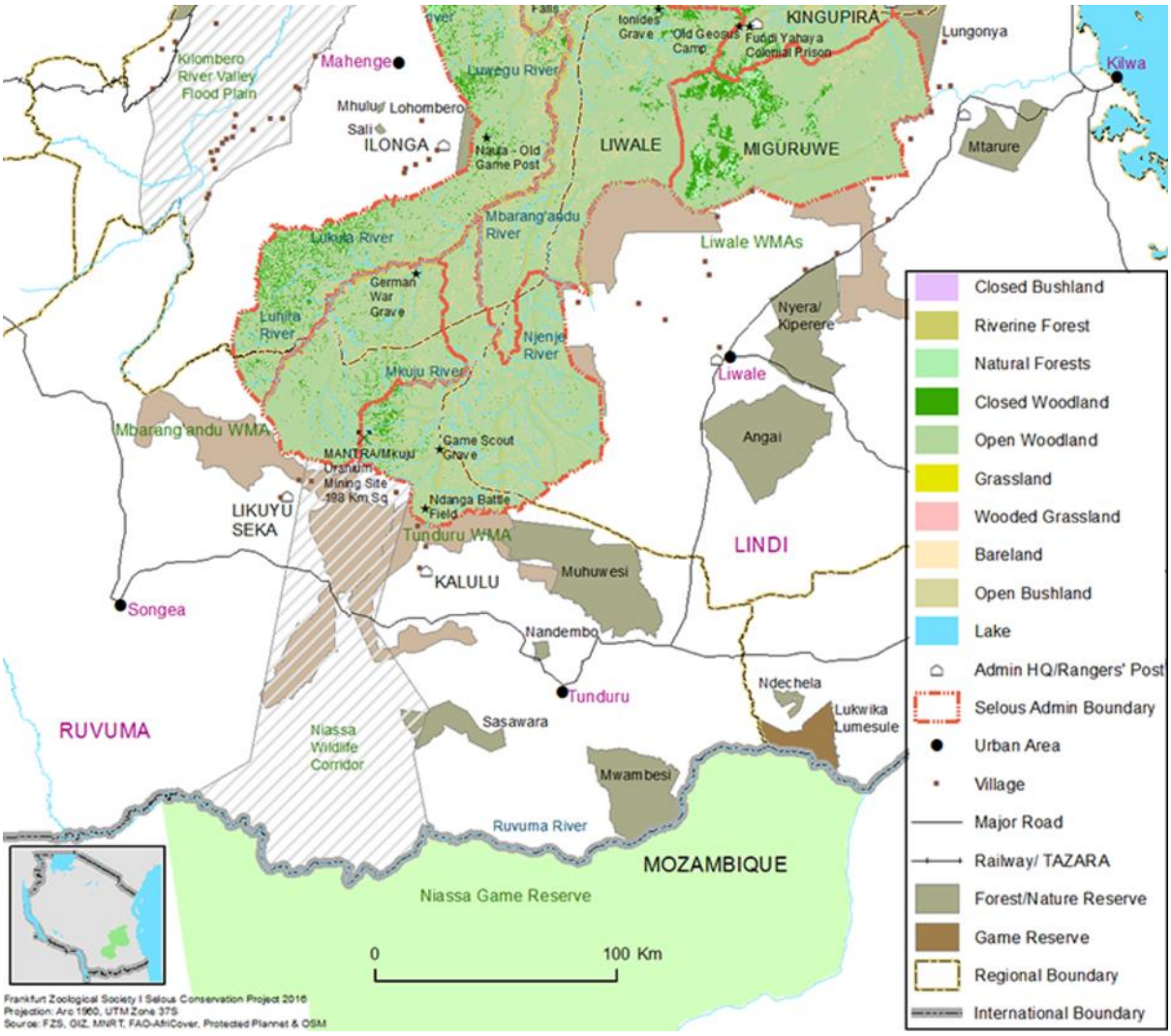

Figure XXII: Location of the Mkuju River Project – *Zooming in on this Frankfurt Zoological Society map shows the exact location of the MRP at the opening of the Selous-Niassa Wildlife Corridor, a popular migratory route and important biodiversity area for elephants*

elephant population were the lead factor behind the Selous being listed as a World Heritage Site "in danger" just two years later (World Heritage Committee, 2014).

Divorcing the impacts of mineral development on local community livelihoods and ecologies to expand conservation territory elsewhere, and in the name of mining profits that may or may not support conservation efforts, is also illustrative of how the politics of subterranean space shape conservation territory. First, it shows how the mainstream conservation agenda fails to account for dissenting or concerned voices regarding the potential uranium development in the

Selous and its impacts on community lands and livelihoods, despite the increasing acknowledgement that community support and engagement is necessary for effective conservation (Sandbrook et al., 2019). These community concerns illustrate how subterranean space and the materiality of territory also shapes community resistance efforts. For example, in the south, community leaders, members, and former employees of various uranium exploration companies, operating within and nearby the Selous, express concerns about the potential impacts of uranium mining on human and environmental health and the lack of healthcare infrastructure to deal with ailments stemming from potential contamination and/or a mining accident.[87] Many in the community deride the general lack of information regarding uranium and its development. This has led to community-led efforts seeking knowledge about uranium production and the commodity's end-use. In one high-profile case, community-led efforts led to the arrest and detainment of community members and leaders in neighboring Malawi. Researchers called the ordeal a "travesty" (Fig, 2017), while human rights organizations pressured Malawi to release the "Tanzanian 8" and drop charges against the peaceful human rights advocates merely seeking information about the impacts of uranium mining from colleagues living alongside active mining projects (Cyr, 2017; Kitabu, 2017). These broader resistance efforts have also gained international support as Tanzanian civil society organizations, in partnership with international allies, echo community concerns about environmental and health related issues, and access to information concerns, and have also expressed anxieties about the regulatory and infrastructural readiness of the country to begin uranium extraction (Rosa Luxemburg Stiftung & Legal and Human Rights Centre, 2014; Tanzania Episcopal Conference et al., 2012).[88] Civil society organizations have charted concerns about the consultation processes of the company and

[87] Interviews, 2018
[88] Interviews, 2017-2018

community members challenge that these were done in accordance with the law and international best practices (Ngowi & Longopa, 2017).[89]

Finally, through its exclusion of local communities from accessing the reserve, mainstream conservation, and its tendency towards conservation's militarization, risks increasing community tensions with both the reserve management and the mining corporation. As discussed in Chapter 5, the arrival of mining interests and the changing security situation in and around the Selous has negatively impacted nearby communities. Here, community members highlight excessive security practices, instances of harassment, and questionable procedures for operating within the community, including the circumvention of village leadership when approaching poaching suspects.[90] When asked about Mantra's support for the Selous' anti-poaching operations, a community leader expressed their dissatisfaction with the design of the program, replying exasperatedly that "we are all doing conservation," but support for community wildlife management efforts do not exist.[91] Meanwhile, the mining company's opportunity to access the Selous, while community members are restricted from its benefits, such as foraging and timber, has also caught the ire of community members.[92] Access to the Selous for extractive industry actors has driven speculation about the game reserve's territorial agenda, as many community members see the only beneficiaries of the mineral frontier being game reserve management and the mining company. I return to this point in the following section. These dynamics further shape community resistance efforts as community members, feeling increasingly restricted from the Selous, continue to push game reserve management for access to more lands and resources and compensation when wildlife destroys their crops. Taken together, this willingness to open the

[89] Interviews, 2018
[90] Interviews, March 30, 2018
[91] Interview, March 30, 2018
[92] Interviews, April 30, 2018

Selous' boundaries to international extractive industry capital has only increased an already tenuous relationship between nearby communities and the reserve's management (See Chapter 5).

The establishment of the Selous and the enclosure of the subterranean resources below it appear to have been an unintentional consequence of the historical production of conservation territory in southern Tanzania, which, at the time was oriented more towards establishing state control over recalcitrant populations and expanding markets for ivory, rubber, and beeswax (Neumann, 2017). Yet, in producing these territories as uninhabited wilderness spaces–after multiple rounds of evictions and *ongoing* restrictions over resource access/control–conservation, under contemporary capitalism that calculates the subterranean as a constant space of potential, facilitates the future establishment of an extractive industry frontier within the Selous. Subsequently, as I have shown above, the subterranean politics–the struggle over access and control of subterranean space–of this frontier moment shapes the policy, practice, and territory of conservation spaces and the resistance efforts challenging it.

Although historically unintentional, there is evidence today that suggests conservation territory, through a militarized strengthening and expansion of the Selous' boundaries, is increasingly mobilized by state-led authorities to enclose a much broader range of resources than normally considered as part of the conservation economy, including, minerals and hydro-electrical flow. In the sections that follow, I briefly excavate threads of evidence that suggest this frontier is expanding at the behest of the newly established TAWA, whose conservation efforts are aimed directly at securing *all that space contains*.

Territorial Expansion and the Geological Depths of Mahenge

In the western Selous, where miners pan for gold near the mineral-rich region of Mahenge, the Selous is targeted for expansion as both a protected area and site of future industrial expansion. Efforts to end the poaching crisis in this sector are more focused on curbing the "chronic" problem of illegal artisanal and small-scale mining (ASM) than wildlife poaching, a rather dramatic change from other sectors of the Selous.[93] Here, the Mbarika Mountains act as an obstacle to game wardens attempting to patrol the area and put an end to ASM within the Selous. Environmental conditions often dictate the regularity of patrols, which are increasingly reliant on aerial technologies for surveillance.[94] Significant effort is placed towards stopping illegal ASM practices in the Selous and TAWA claims the situation is increasingly under control thanks to harsher penalties and more regular patrols.[95] Yet, Tanzania's broader interest in the subterranean potential of the Selous, and TAWA's efforts to secure it, illustrate how it is not the activity of mining that concerns those protecting the Selous. Instead, what captures the attention of those tasked with securing this region is the way mining is practiced and those that are engaged in it.

In 2017 the Geological Survey of Tanzania conducted mineral surveys within and nearby the Selous in the Districts of Malinyi and Mahenge, Morogoro region. According to its senior geologist, the survey added various resources to the region's mineral profile (Mirondo, 2018). Although extractive projects based on these findings are likely far away, the surveying work itself, when combined with Mantra's MRP project, suggests the Selous' boundaries are open for business if the potential of economically viable extractive industry opportunities arise.

During interviews, the potential future development of the Selous' resources was repeatedly cited as a driving force behind its protection. One interviewed TAWA official with knowledge of

[93] Interviews, 2018
[94] Interviews, July 3 and 4, 2018
[95] Interviews, 2018

the Geological Survey's efforts stated this geological knowledge is important for identifying areas of value within the Selous. The official continued: "we are conserving the reserve and [this surveying] work gives us an idea of what is inside and what is there to protect for future decisions."[96] The sentiment that protected areas are effectively there to protect resources for future development is also held by those with knowledge of the MRP in the southern sector. When discussing TAWA's partnership with the uranium mining company, one high-level official claimed that the authority is having "to live with Mantra and [is] trying to understand how best to utilize the resources they have," before asking rhetorically that if such collaborations are not possible, "what is the use of having the resources?"[97] This is not lost on those at the village level, who stress they remain on the outside of those who benefit from the potential of mineral developments. For many community members in the south, the Selous managers and the mining companies are the only benefactors of the prospective mining development, leading to speculation that the Selous is expanding its territory to benefit from wildlife and mineral resources that are currently held in village lands and contributing to a relationship that is, according to interviews, best categorized as one of suspicion and distrust.[98]

This all comes to a head when considering the recent mention of expanding the Selous towards the Mbarika Mountains to account for the excised space of Mantra's project (WHC, 2018). At the time of research, the exact location of this discussed expansion is unknown. However, if the area under consideration for the Selous' extension overlaps with spaces known for miners who derive a livelihood from ASM, it may continue a trend of enrolling conservation in the securitization of subterranean wealth while "intensifying the pressure on small-scale

[96] Interviews, July 3, 2018, officials also mentioned the importance of protecting these areas as a public safety measure.
[97] Interviews, May 7, 2018
[98] Interviews, 2018

producers like artisanal miners who do not fit neatly into the green economy" (Bersaglio & Cleaver, 2018, p. 275). All told, such an expansion may yet illustrate how Mahenge is secured less as a tourist or wildlife destination and more as a substantial source of subterranean and extractive industry potential.

Stiegler's Gorge Hydroelectric Project:

Strengthening protected area boundaries to secure resources can also be seen in relation to the development of the controversial 2,100-megawatt hydroelectric dam inside the Selous. To secure the flow of water from the Kilombero River, Tanzania's largest watercourse, to the site of the mega-dam at Stiegler's Gorge, TAWA is active in strengthening the boundaries of the Kilombero Game Controlled Area (KGCA). TAWA's mandate for the KGCA includes the usual aspects of wildlife protection through anti-poaching and the assessment/management of tourism potential. However, multiple stakeholders, including TAWA, link the protection of the KGCA and the enforcement of its boundaries as critical to securing the Kilombero River, central to the development of Stiegler's Gorge dam (KILORWEMP, 2016). In an interview one TAWA manager claimed that the Kilombero River is a priority for TAWA's protection measures as it is a "key water source" for Stiegler's Gorge dam and "with the government serious about that hydroelectric project we [TAWA] also need to get serious about the protection of the GCA."[99] This seriousness includes a series of new mapping exercises, threats of evictions after the latest growing season, and the installation of beacons that demarcate a new boundary for the KGCA.[100] Perhaps most critically, at the time of research, TAWA was working towards upgrading the KGCA to a game reserve, representing a political desire to have its boundaries more strictly

[99] Interview, July 3, 2018

[100] Interview, July 3, 2018; It is worth noting that this region has seen extensive conservation-induced evictions of pastoralists in the past (IWGIA, 2013) and that suspect degradation narratives lobbed at small scale producers and pastoralists are central to the expansion of the so-called "Green Economy" in Tanzania (Bergius et al., 2020)

enforced due to increasing pressures on land, wildlife and water resources *and* their potential for development.[101] According to informants, this change is all but confirmed, pending approval in Parliament.[102] This is important because game reserves have much stricter regulations on access and resource use than game controlled areas; access and use of which is unregulated but for hunting of wildlife. The fact that multiple stakeholders link the enforcement of the KGCA's boundaries to the development of Stiegler's Gorge dam provides further evidence of the vital role of protected areas in securing a range of resources that can be utilized for various state-led development trajectories.

Conservation territory is central to the development trajectories of the Tanzanian state. As I've pointed out elsewhere (Chapter 4), this is often a story about capturing tourism revenue. However, as the case of the Selous illustrates, the production of conservation territory is about far more than wildlife and tourism considerations. Producing and maintaining conservation territory plays a foundational role in expanding the mineral frontier and in securing the flow of water to downstream development projects. Although more research on how these trends may transpire in protected areas outside of the Selous is necessary, the case here illustrates that viewing the production of conservation territory as merely a relation of the surface hinders our ability to see the intersecting relations of power across multidimensional space. Unearthing conservation territory by being attuned to the materiality of protected areas, including subterranean space, allows for an analysis of *all that space contains* and the full range of strategies aimed at securing it.

[101] Interview, July 9, 2018
[102] Personal Communications, June 11, 2020

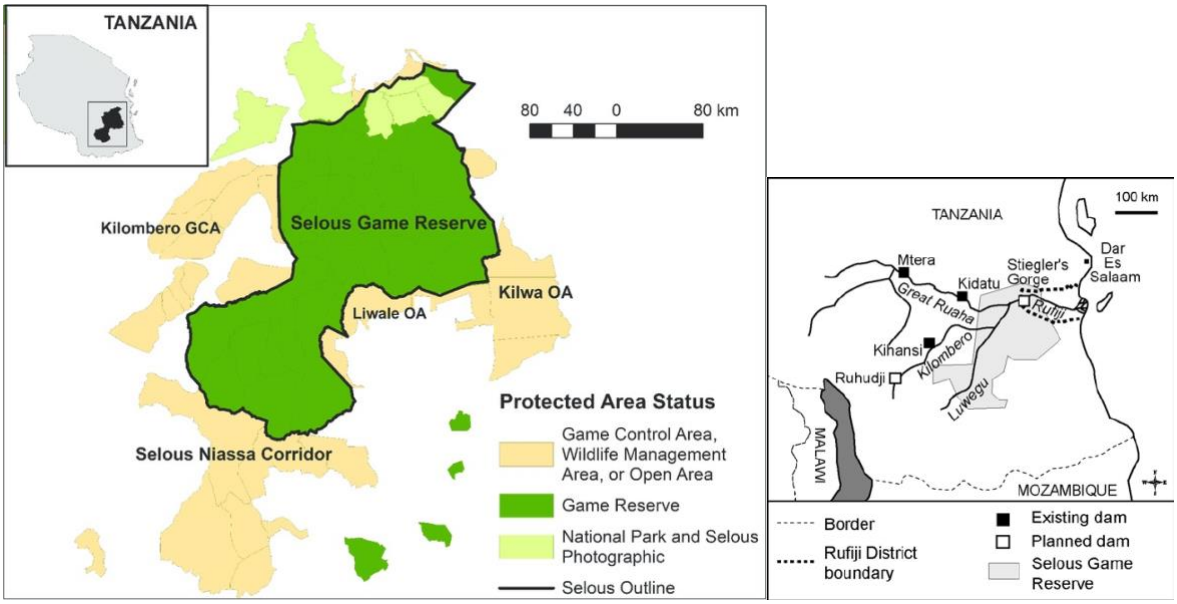

Figure XXIII: The Selous and Surrounding Protected Areas – *The boundaries of the protected area designations that constitute the Greater Selous Ecosystem (left) alongside a simplified hydrological map (right) indicating the Rufiji River and its main tributaries. As shown, Stiegler's Gorge dam is found at the confluence of three major river systems in Tanzania: The Great Ruaha River, Kilombero River, and Luwegu River. Sources: (Brink et al., 2016; Duvail et al., 2013).*

Conclusion

I have doubts that my handful of soil was, indeed, uranium. Yet, my geological encounter with Mtetereka and this potential handful of the powerful element described above, offers conceptual entry points to how the priority values of managing the Selous are far from concerned with merely protecting Nature, and are instead focused on securing the value of both the surface and subterranean space. Considered central to the wildlife economy and expanding the mineral frontier and, therefore, the economy writ-large (Chapter 4), the Selous is (re)produced as a site of conservation *and* resource extraction. Aided by the historical production of the Selous as a state-managed conservation territory, that simultaneously, albeit unintentionally, enclosed subterranean resources, TAWA, as the authority most recently tasked with protecting the Selous, secures its territory as a critical geography for Tanzania's hopeful industrialization. Today, the

Selous, its managers, and their allies are engaged in overlapping territorial projects that target *all that space contains*, its wildlife/tourism, mineral and hydroelectric *potential*. These efforts continue to restrict small-scale producers from accessing and controlling resources in Tanzania as the modern economy opens the Selous' boundaries to industrial development and closes them to small-scale producers, spurring tensions and leading to resistance. It also raises questions about the future of protected areas and ecosystem integrity, two foundational components of contemporary conservation. Unearthing the conservation territory of the Selous is illustrative of how conservation spaces are not merely concerned with wildlife, tourism, lands and forests. Instead, conservation, its policies, practices, and ideals are enrolled in strategies of securitization that target a range of resources across both time and space.

7

Conclusion: The Futures of the Conservation-Extraction Alliance

I have always wondered why Mantra Tanzania's push to extract uranium within the Selous Game Reserve never received the same attention as the British oil company SOCO International did for its exploration activities within the Democratic Republic of Congo's Virunga National Park (See: Global Witness, 2014). Although differences abound for the two cases, and Mantra's access to the Selous is far less spectacular than that of SOCO in Virunga, they both represent significant challenges to the most prestigious of all global protected areas, UNESCO's World Heritage Sites. Yet, Mantra's potential uranium mine at Mkuju River never gained the attention nor the accolades of its counterpart.[103] Is this because the contradictions of oil development within a National Park are just too much to bare under the conditions of climate change and biodiversity loss? Do mountain gorillas capture the public's attention more than elephants? Was it the

[103] Portrayed as a battle for Virunga National Park, the critically acclaimed Netflix documentary "Virunga," juxtaposes the so-called pristine wilderness of the Democratic Republic of Congo with that of an active warscape featuring good (park rangers) and bad (rebel groups, oil companies) actors. As Marijnen and Verweijen (2016) argue this normalizes the militarization of conservation while also helping to intensify its commodification. The documentary is reportedly being made into a full-length feature film by Hollywood stars Leonardo DiCaprio and Barry Jenkins (McNary, 2020).

ongoing violent conflict, the charges of corruption and/or the campaigning of international organizations such as Global Witness that was the lynchpin for bringing the SOCO-Virunga case so many headlines and ultimately leading to the company abandoning its exploration blocks? I do not have definitive answers to these questions, but I briefly mention these two cases side-by-side because it highlights how the intersections of conservation-extraction can take various forms. On the most extreme ends of the spectrum, such intersections can highlight the inherent contradictions to conservation-extraction as in Virunga or how each sector can be enrolled in the other's agenda, helping secure a future for both, as with the Selous. Today, what is perhaps most striking to me is how the development, implementation, and impacts of the conservation-extraction alliance in the Selous has become so normalized and apolitical, discussed not as a contradiction in terms but as a rational, pragmatic, and necessary component of both the conservation and extractive industry sectors under contemporary capitalism. As I detail in chapter 5, I think this is because of the efforts and effectiveness of Mantra Tanzania in negotiating the social, political, economic, and ecological crises of contemporary capitalism, and how mainstream state and non-state conservation actors are seemingly a partner standing-at-the-ready as they do. The mining sector more broadly appears increasingly adept at learning how to maneuver this precarious and contested political economy of resource extraction in ways that so often escape the spectacular. Such skills are no doubt central to the sector's increasing appeal to the future of the Convention on Biological Diversity and initiatives such as the World Bank's so-called "Climate-Smart Mining" program (The World Bank, n.a.).

Building on what started as a mere curiosity, and expanding upon recent research, I have used the preceding chapters to show how the increasing prevalence of conservation-extraction partnerships is effective for both sectors because it helps to "secure the foundation upon which

their production and accumulation is based" (Enns et al., 2019, 17). For conservation these partnerships provide various supports and opportunities to expand protected areas, ecotourism ventures, and, in the case here, the militarization of conservation through anti-poaching operations. For the extractive industries, it helps open up previously "sterilized" lands for exploration and development and helps to confront or "fix" the crises of legitimacy facing the sector today. This broader "politics of legitimacy" that I describe in Chapter 5 does double work, helping to fix both the crises of capitalism facing the extractive industries *and* legitimize the intensification of militarization as a response to wildlife crime and poaching. In doing so, the involvement and acceptance of the extractive industries within the militarization of conservation is a further reflection of the expansion of militarism and militarization and how they increasingly permeate everyday life.

Central to both the formation and so-called success of the conservation-extraction alliance investigated here is the continuation of the age-old practices that treat communities like *the* environmental enemy. In due turn, this is followed by the further mobilization of conservation's exclusionary logics as a means to enclose land and resources under the guise of environmental management and protection. As I have shown throughout the dissertation, the state and non-state discourses and categorizations of the poacher as an economic saboteur that rationalizes the intensification of green militarization and the fortification of protected area boundaries (Chapter 4) does not bode well for communities living nearest them. In Chapter 5, I show how the already tenuous relationship between communities and Selous management, grounded in the historic practices of dispossession and eviction (Neumann, 2004; 2017), is amplified by the opening of the Selous' boundaries to the extractive industries. People-park relations are further strained by the shifting operational mandate of the Tanzania Wildlife

Management Authority whereby community members point out feeling "harassed" by game wardens and speak of unsubstantiated arrests, torture, and coercion (Chapter 5). This double-standard of mining company access and stronger community restrictions only exacerbates the inequalities of conservation and increases the potential for conflictual people-park-corporation relations. In Chapter 6, I show how this conservation-extraction alliance emboldens the territorial practices of the state wildlife authority, which works to expand its boundaries and secure a much broader range of resources than has historically been the norm within the confines of protected areas. Both are examples of how the intensification of green militarization has a tendency to stray from the practice of strengthening people-park relations, a long known, and increasingly important, component of successful conservation interventions (Duffy et al., 2019; Sandbrook et al., 2019). Instead, green militarization, as has been shown in other cases (For example: Massé & Lunstrum, 2016), continues to see community members as either poachers, those who abet them, or merely informants; and community lands, that so often border protected areas, as ripe for the taking.

Given that the primary competitive logic driving extractive industry expansion is the opportunity to secure the access point to subterranean deposits (Bridge, 2015), it makes perfect sense that Mantra's anti-poaching supports, framed as Corporate Social Responsibility (CSR), would be directed almost exclusively towards the state-led wildlife authority. As I show in Chapter 3, the wildlife authority is just that, its presence setting the standard for wildlife management in southern Tanzania. Yet, in being concerned with securing access to the subterranean and quelling (inter)national social and political criticism, Mantra's support for the militarization of conservation in effect takes support away from a CSR agenda that is normally directed towards healthcare and education delivery, and places it instead towards an agenda that

is violent, increasing the securitization of communities, their lands and resources. The suggestion by multiple Mantra employees, detailed in Chapter 5, that support for broader community development projects should be, and at times already is, driven by the willingness of those same communities to engage in anti-poaching practices, such as intelligence gathering, falls far from even an antiquated definition of CSR.

I recognize that the Tanzanian case studied in this dissertation is just one historical-geographically specific example of the shape conservation-extraction alliances *may* take. Others have been analyzed and many more will emerge as the mainstream practices and policies of conservation become functionally integrated into the corporate machine of the global extractive industries (Corson, 2011; Norris, 2016; Seagle, 2012). As suggested in Figure VII (Chapter 2), that details the top-10 global mining companies reporting on conservation initiatives, this process is already well-underway and will be amplified through the mainstreaming efforts of the Convention on Biological Diversity. Although this dissertation sheds light on the formation and impacts of just one variant of the conservation-extraction alliance that has emerged under the conditions of the Second Poaching Crisis in southern Tanzania, I show throughout that, despite its celebrated status, this is a very dangerous alliance.

Rooted in the logics and practices of green militarization, the conservation-extraction alliance studied here brings out the worst of both parties, legitimizing and, we could even say, *mainstreaming* the violence, militarism, and exclusionary practices that both conservation and extractive industry actors, in their worst forms, are infamous for. In other words, in addition to these violent tendencies, such pragmatic approaches to capitalist enterprise and logics proffered by state and non-state conservationists "might occasionally slow down some biodiversity loss in some places. But at the very same time they strengthen the broader drivers of biodiversity

destruction" (Büscher & Fletcher, 2020, 204). In laying bare the rationales, actors, and impacts of Tanzania's conservation-extraction alliance above, I have made a similar point: that the shape of Tanzania's conservation-extraction alliance *enables* the expansion of the extractive industries, ultimately bringing out the worst of both parties.

This is not to say that conservation is inherently bad or that we must live in a world devoid of mineral extraction or even that conservation-extraction alliances have nothing of benefit to offer. Rather, what I am stressing here is that the case of Mantra in the Selous is a cautionary tale of the shape these alliances can take amidst an accelerating biodiversity and wildlife crisis. As I highlight throughout this dissertation, in addition to the violence, securitization, and militarism that this inspires, such an emphasis on green militarization also, in the words of Dempsey and Suarez (2016), "reaffirms narrowed antipolitical explanations for biodiversity loss, instills neoliberal political rationalities among conservationists, and forecloses alternative and progressive possibilities capable of resisting status quo logics of accumulation" (653). However, it does not have to be this way.

Final Conclusions and Potential Alternatives:

These concluding thoughts are in no way meant to suggest that resistance to mainstream conservation idea(l)s and the subsequent promotion of radical and revolutionary alternatives do not exist.[104] Rather, the point here is that a reliance on the intensification of green militarization as seen in the conservation-extraction alliance detailed in this dissertation bypasses other alternatives to conservation that could prove more effective and just. In conclusion, I want to highlight two potential futures, one more immediate than the other, that, if enacted, could

[104] Here I am thinking of the various movements supporting increased Indigenous governance efforts, including Indigenous Protected and Conserved Areas (Canada, 2018) and the ICCA Consortium (https://www.iccaconsortium.org), and alternative projects such as a conservation basic income (Fletcher & Büscher, 2020), among many others.

(re)focus conservation-extraction alliances on the strengths of each of the sectors involved–biodiversity protection and producing the materials *needed* for a post-capitalist society–instead of, as I've detailed above, their worst components.

Tanzania's conservation-extraction alliance is premised on the long-held vision of communities as *the* harbinger of ecological and economic destruction. This was the foundation of the initial era of "fortress conservation" and has made a dramatic comeback in the era of green militarization, whereby the "fences and fines" model of the fortress is being (re)enforced and strengthened. In between these, an era of community-based conservation (CBC) reigned, and although the lasting legacy of CBC in Tanzania has largely been the (re)centralization of state control over village lands and resources (Benjaminsen et al., 2013; Bluwstein & Lund, 2018), which has included opening up of village lands to the extractive industries (Noe, 2013), its more enduring legacy *could* be the realization that communities are central to affecting conservation successes. Reflecting on the WMA planning process, Brockington (2018) suggests that, despite the many flaws of WMAs, perhaps both wildlife and communities are better off with WMAs than without them. Similarly, commenting on a multi-year project review, Homewood et al. (2015) recommend that adjustments to the WMA program include more genuine participatory planning at the community level, stronger community rights over land tenure arrangements, and more equitable revenue distribution, as a way to balance the costs and benefits of CBC in Tanzania more equally. Central to both claims is the genuine inclusion of local communities in the planning, design, implementation and ongoing management of WMAs in Tanzania. Similar approaches could be beneficial for community engagement across Tanzania's broader conservation sector and, in particular, the (re)formulation of conservation-extraction alliances.

Building on these insights and ceding control over land and resources to local

communities, while actively checking the actions and authority of immensely powerful actors, such as extractive industry and tourism/conservation, could forge stronger and more equitable relations between conservation actors and impacted communities. Furthermore, rejecting the mainstream tendencies towards green militarization and mirroring the practical ideas offered by Mordecai Ogada (2019), who calls for the permanent removal of tourism industry interests from any conservation policy discussion in Kenya as a first step towards the decolonization of conservation, could lead to reforms of conservation-extraction alliances that prove more *immediately* beneficial for impacted communities. Thus, instead of expanding the colonial legacies of conservation through the *enforcement* of western idea(l)s of nature and the institutional structures that advance them such as the state, conservation NGOs, and private sector actors (Adams & McShane, 1996; Adams & Mulligan, 2007; Garland, 2006; Neumann, 1998; Noe, 2019), the most urgent change to the conservation-extraction alliance in Tanzania would be a strong commitment to engaging with and devolving decision-making responsibilities to the communities most impacted by prospective mineral development and protected area establishment/maintenance. Such changes would necessitate reversing the policy and legislative prescriptions that provide private sector actors, including the extractive industries, with more power as "wildlife stakeholders" and placing it in the hands of communities. Such a devolution of power would result in the community's *right to say no* to any potential developments.[105] For projects that go ahead, or are already existing, this would require steering any and all support generated from extractive actors, through CSR programs or other means, towards socio-economic programs decided upon by communities neighboring extractive industry and

[105] This is a power that has long been sought by impacted communities on the front lines of extractive industry and other industrial developments and is embodied, albeit rarely–if ever–practiced, in the principle of Free, Prior, and Informed Consent (See: Huizenga, 2019; Szablowski, 2010).

conservation projects. Importantly, these would not be handouts or stimulus, but tangible pathways towards regional economic development and the elimination of inequality (Lunstrum & Givá, 2020; Massé et al., 2018). What might this look like in practice?

Here, examples from fieldwork stand out. Instead of calling on communities to engage in anti-poaching surveillance and intelligence gathering operations as a condition for community development support, the benefits accrued from mining companies could be directed towards providing support and consistent wages for the existing and trained Village Game Scouts who patrol village lands that border the Selous. As stated in Chapter 6, community leaders nearest the prospective uranium mine at Mkuju River, are disheartened because "we are all doing conservation" and yet the effectiveness of community systems of conservation and wildlife protection are threatened by a lack of external and/or state support, while state-led militarized practices that target nearby communities are emboldened with corporate support. Current support for militarized conservation could also be redirected towards the development of beehive and/or chili fences, and other strategies that, although having mixed results, intend to reduce instances of human-wildlife conflict, a significant issue for farmers in southern Tanzania. Compensation claims of farmers impacted by human-wildlife conflict could also be addressed. Moving away from wildlife management issues altogether, other options for reforming conservation-extraction alliances could include strengthening regulatory oversight and taxes on resource development so that revenues can be generated and redirected towards effective socio-economic development in the communities most impacted by mining *and* conservation. Admittedly, these are far from perfect ideas, but they are tangible examples that could enact immediate beneficial change and that, in promoting alternative conservation and socio-economic development programs, would not result in the production of increasingly militarized spaces, like we see today. More structural

and revolutionary options also exist.

The central argument of this dissertation is that mainstream state and non-state conservation, under the conditions of biodiversity crisis, enable the expansion of the extractive industries. This expansion, predicated on fixing the crises of overaccumulation and legitimacy facing the extractive industries today, is an example of how mainstream conservation is intimately linked to the expansion of capitalism itself. This claim is well documented in the literature, which shows how mainstream conservation has never been removed from capitalist expansion (Brockington et al., 2008) and is vital for extending the *political* project of capitalism's neoliberal variant (Dempsey & Suarez, 2016; Fletcher & Büscher, 2017). If conservation is to move away from its capitalist ties towards more just and equitable forms than we must challenge the ways it is enrolled in the processes of capital accumulation, including, as I have shown here, as a component of the extractive industries. Luckily, there are already various projects and movements confronting the question of what a post-extractive future looks like, projects that would fundamentally alter the future of conservation-extraction alliances.

Take, for example, degrowth. Defined as "an equitable downscaling of production and consumption that increases human well-being and enhances ecological conditions at the local and global level, in the short and long term" (Schneider, Kallis, & Martinez-Alier, 2010, p. 512), the degrowth movement offers various policy and institutional prescriptions that would intentionally transition the economy towards a more steady-state. These include resource and CO2 caps, extraction limits, basic income and income caps, new forms of money, cooperative property and cooperative firms, and many others (Kallis, Kerschner, & Martinez-Alier, 2012). As "a radical political project of constructing an alternative socio-ecological future" and a way of exiting the capitalist economy (Kallis, 2017, p. 17), the degrowth movement aligns with, and

informs, political struggles fighting for a future of post-extractivism and/or a just transition (Auciello, 2019; Childs, 2020; Gudynas, 2013). Such visions of the future do not see a ban on all extractive industries, but a significant reduction, "whereby the only ones left are those that are genuinely necessary, meet social and environmental conditions, and are directly linked to national and regional economic chains" (Gudynas, 2013, p. 175). Decision-making processes are organized differently, stress democratic participation and move away from the financial logics of capital accumulation, beholden to the private profits of shareholders, executives and state powerbrokers. In developing, or continuing, only *the most essential projects*, post-extractivist thinking looks to centre the rights and concerns of women, working class and peasant communities', while reconsidering the scale of extractive industry projects altogether (Hargreaves, 2016). Such considerations of the social and economic relations of post-extractivist societies would also engender more effective and restorative land use practices. This would almost certainly include a rethinking of mine remediation that would move the practice beyond its technical application and "create opportunities for marginalized communities to confront past injustices, to remedy negative legacies of mining, and to determine future relationships with post-mining landscapes" (Beckett & Keeling, 2019, p. 225). These are just a few of the ways that post-extractivist and just transition struggles are informed by the principles of social and environmental justice and degrowth (Gudynas, 2013; Keeling & Sandlos, 2009; Temper et al., 2015).

In considering the case of Tanzania discussed here, perhaps these changes are not possible for uranium production, because perhaps uranium is not a *necessary* resource. Yet the premises built into these, and other, post-capitalist visions could go a long way in developing more effective and just socio-ecological futures, while moving away from the production of

fragmented economies and ecological sacrifice zones so common of today's extractive industries (Bridge, 2015; Ferguson, 2005). Despite having significant implications for biodiversity, a field of interest so often reduced to the interests of mainstream conservation organizations today, a reimagined mining sector along the lines of degrowth and post-extractivism, would likely render the conservation-extraction alliances of today entirely unrecognizable. Yet, in many ways, that is exactly the point. As Büscher and Fletcher (2020) argue it is within this revolutionary context of degrowth, that confronts the central tenet of capitalist exploitation and growth, that alternative and radical forms of living with nature will continue to emerge *and* flourish. For the authors, it is a "convivial conservation" that, in seeking to find a better way to live with nature, "moves away from capital-inspired ways of rendering visible the value of nature" (Büscher and Fletcher, 2020, 275). Similarly, others work to unsettle the continuity between colonialism and capitalism and embrace a plurality of perspectives of nature-society relations with a focus towards "multispecies abundance" (Collard et al., 2015, p. 322). Still others, in fighting for a post-extractivist future in Latin America, consider the potential of *buen vivir*, a perspective grounded in Indigenous thought and community struggles that "in terms of political confrontation… is concerned with reproducing life and not capital" (Acosta, 2017, p. 97), a perspective that resonates well with the concept of *ubuntu* in South Africa (Childs, 2020; Hargreaves, 2016). As seen here, these are just a few of the various political projects and confrontations actively envisioning a post-extractive future. Grounded in perspectives that resist and reimagine the dominance of a nature-society binary, such projects mesh well with thinking on the revolutionary future of conservation. Regardless of the shape these post-capitalist futures take, confronting the increasingly comfortable relationship between mainstream conservation and the extractive industries will prove fruitful grounds for (re)imagining and constructing a future that moves beyond extraction.

8

Epilogue: The Establishment of Nyerere National Park

In July 2019, the President of Tanzania, John Magufuli announced the establishment of Nyerere National Park (NNP) at a ceremony laying the foundational stone to Stiegler's Gorge Hydroelectric Dam inside the Selous. Magufuli stated that the establishment of NNP would improve the economic viability of the conservation territory, through the increase in tourism revenue. In November, the Parliament of Tanzania unanimously approved the establishment of NNP (Lyimo, 2019). Tanzania's latest national park would comprise the existing boundaries of the Selous Game Reserve, reportedly making NPP the largest national park in sub-Saharan Africa. Although the final boundaries of both NPP and the Selous are not yet confirmed, early suggestions place the Selous at 18,971km^2 with NPP at 30,852km^2 in size.[106] From the Selous to NPP, this (re)ordering of protected area designations results in both a change in the Selous' spatial orientation and the management structure of the reserve, one of Africa's oldest. Although Magufuli reportedly stated that the Selous "should be divided into two parts and the lower part

[106] Although a recently launched website brandishing the logo of the Tanzania National Parks Authority (TANAPA) have NNP slightly larger at 30,893km^2 https://storymaps.arcgis.com/stories/5de436cb70574e00bacd8a1c51ce8081 (Accessed 7-August-2020).

should retain its status as a game reserve and the upper should become a national park," this directive appears to not to have translated into the demarcation process of the two protected areas (Lyimo, 2019). Although not yet confirmed, informants state, and early cartographic drawings indicate, that NNP will include the Matambwe, Msolwa, Ilonga, Kalulu, and Likuyu Seka sectors of the old Selous, while the newly (re)ordered game reserve will continue to manage the Kingupira, Miguruwe, and bulk of Liwale sectors. Sticking out here, for quite different reasons, are the northern sector of Matambwe and the southern sector of Likuyu Seka, both being transferred to TANAPA as territorial components of NNP. As both sectors were central to the *Unlikely Allies* project, I provide some brief thoughts on the implications of their rearrangement.

Transferring Matambwe, the only sector of the Selous that hosts photographic tourism, to TANAPA is not a surprise. TANAPA has long managed the more popular aspects of Tanzania's Northern Tourism circuit, including the Serengeti National Park, and with efforts to improve the Southern Tourism Sector, including within the now former boundaries of the Selous, bringing TAWA's expertise into Matambwe is an idea that has, according to informants, been around for some time.[107] What this means for TAWA is perhaps less certain. As the newly formed authority, tasked with protecting a vast landscape of protected area designations, most of which are unpopular with tourists, the revenue generated from the Selous was significant for the broader operations of TAWA. It is worth recalling, that TAWA generates most of its revenue from Matambwe's photographic tourism and the tourism hunting sub-sector, which is also in a dramatic freefall for various reasons, including its suggested links to poaching and a strong international animal rights campaign.

Losing Matambwe, and also a large portion of prospective hunting areas to NNP has,

[107] Interviews, 2018

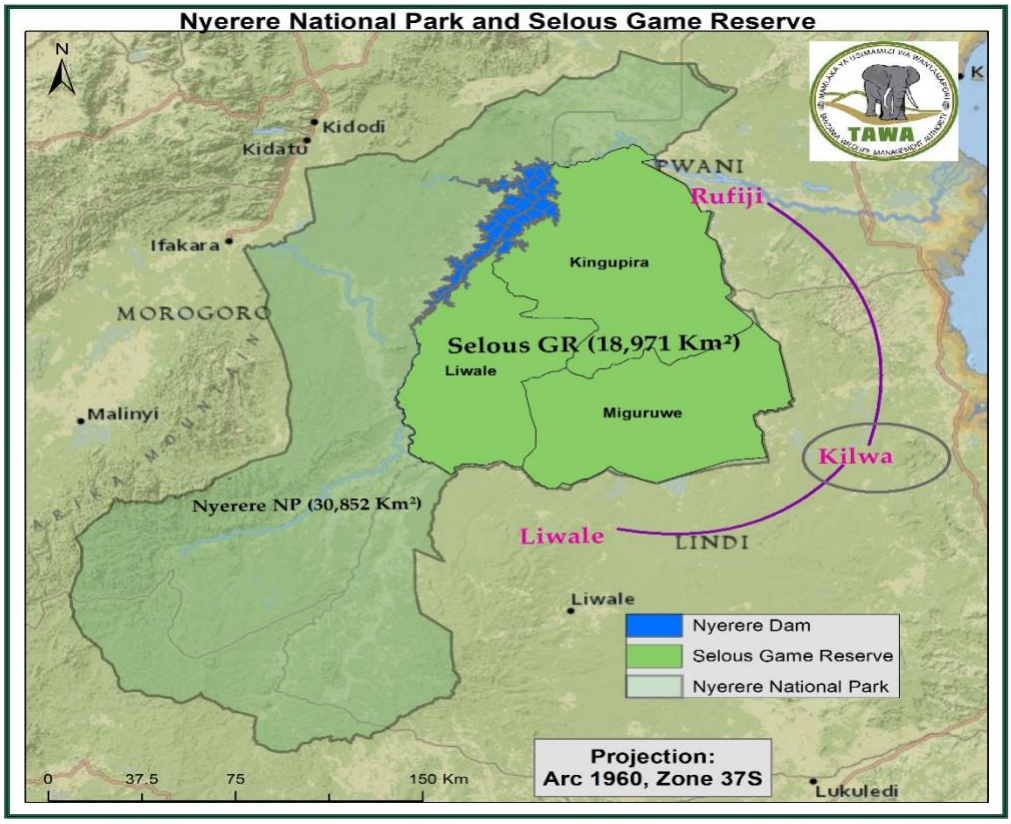

Figure XXIV: Nyerere National Park and the Selous Game Reserve – *Provided by an informant, this map is the best indication of the boundaries of the two new protected areas. Source: Personal Communications, 19-June-20.*

according to one informant, already cost TAWA a 20 percent drop in the authority's operating revenues. Additional costs are accruing to the authority through transferring staff to other game reserves across the country.[108] With its most lucrative photographic tourism landscape transferred to its counterparts, a continually declining hunting tourism sector, and the unknown–but likely dramatic–impacts on the tourism sector from the COVID-19 pandemic, it is fair to say that the future revenue sources of TAWA are in jeopardy. If early indications are correct, the COVID-19 pandemic may be the biggest concern, as such a dramatic decline in global tourism would be a significant blow, not just to TAWA, but to Tanzania more broadly, a country that, as I discuss in Chapter 4, derives significant economic benefit from the tourism sector. In a casual

[108] Personal communications, June 8, 2020

exchange, one TAWA informant recently suggested to me that in April, the authority had welcomed just 1 tourist to the Selous.[109] The question then becomes, how will this revenue gap be bridged? International donors will probably emerge but so too will the private sector, and if the boundaries of the Selous, and other protected areas, remain open for extractive industry investment, then the projections of many research participants that the extractive industries will become an even more powerful wildlife stakeholder in Tanzania may yet come true. It would seem that the conditions for the emergence of future conservation-extraction alliances are ripe.

Another important management shift with the arrival of TANAPA within and nearby the Selous is the authority's engagement with local communities. Those residing nearest the boundaries of the Selous have gotten quite used to seeing and engaging with new institutions and people over the access and control of their local resources and the enforcement of the country's wildlife laws. Before TAWA, it was the Wildlife Division, and now TANAPA has entered the region. Although TANAPA has a reasonable reputation for managing tourism revenues and spaces, its history with community engagement is far from unblemished. Violence, evictions, and conflictual relationships with Tanzanian communities is not just an issue of the past, but continues today as TANAPA too ventures down a path of increasingly (para)militarized forms of conservation law enforcement and anti-poaching (For recent examples see: Weldemichel, 2020). What will this mean for those facing increasing human-wildlife conflicts along the boundaries of NNP and/or for those concerned that the wildlife authorities are interested in expanding their boundaries further into village lands?

Finally, including the Likuyu Seka sector within the boundaries of NNP raises important questions about the restrictions attached to Tanzania's national park designation, the strongest

[109] Personal Communications June 8, 2020

legal restrictions in the country. It is important to recall here that the Mkuju River Project–Mantra Tanzania's prospective uranium mine–has only been degazetted from the boundaries of the Selous as a World Heritage Site. As the Wildlife Conservation Act 2009 allows for the exploration and extraction of uranium, oil and gas from within game reserves, Mantra already had the legal right to operate within the Selous. The degazettment from the World Heritage Site was effectively done to appease UNESCO. This is important for NNP because, from the current vantage point, it means that there is now a mandated uranium mine project under development within the boundaries of a Tanzanian national park, activities that are currently not allowed under Tanzanian law. This raises two central questions. First, has the Mkuju River Project area been degazetted from the newly established NNP? Early indications do not suggest this is the case, but to be fair, the data is limited at this point. Second, if the MRP has not been excluded from NNP, then to what extent are Tanzania's national park boundaries open for the exploration and extraction of these "strategic" resources and/or other lucrative resource deposits?

It is worth considering that the beneficial relationship between TAWA and Mantra Tanzania discussed in-depth in Chapter 5 has now transferred to TANAPA. Will TANAPA also see partnerships with extractive industry as beneficial for the broader delivery of its mandate, particularly anti-poaching, as TAWA has done, and advocate for them to materialize further? If so, what might this mean for the future of Tanzania's National Parks, the legal power they have in curbing extractive industry development, and the future of people-park-corporation relations? At this point, there are more questions than I have answers, but one thing can be sure, the Selous and Nyerere National Park will remain a site of significant importance for grappling with the dynamics of global environmental governance, conservation-extraction relationships, and the broader struggles for access and control over territory.

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Appendices

Appendix A: Tanzania's Wildlife-related Research Permits

Granting Institution	Document Name	Process
Tanzania Wildlife Research Institute (TAWIRI)–Arusha	Introduction letter from TAWIRI	Included in COSTECH application but must be reviewed and approved by TAWIRI before research permit is approved by COSTECH
Commission for Science and Technology (COSTECH)	Research Permit	Receive permit from COSTECH and proceed to immigration for residency permit
Selous Game Reserve Project Manager–Dar es Salaam	Entrance Permit for Selous Game Reserve	Arrange meeting through assistant deputy and assistant to the project manager; after meeting to describe project, meet with research office to receive entrance permit. Vehicle registration is required for entrance permit along with a fee of $1,500 USD
Tanzania Wildlife Management Authority–Morogoro	Introductory letter from TAWA to Selous Game Reserve & WMAs	With TAWIRI & COSTECH approvals in hand, travel to Morogoro for visit with research officer. (May or may not be necessary)
District Commissioner–Namtumbo	Introduction letter to village chairperson	Meet with district commissioner's office to discuss project, review permits and receive a letter of approval/introduction from office
Village Chairperson–Respected villages	Verbal approval of project and presence in the community	Meet with village chairperson and representatives. Often asked to sign guestbook and/or check-in at incremental stages of research

Appendix B: The Karoo Supergroup

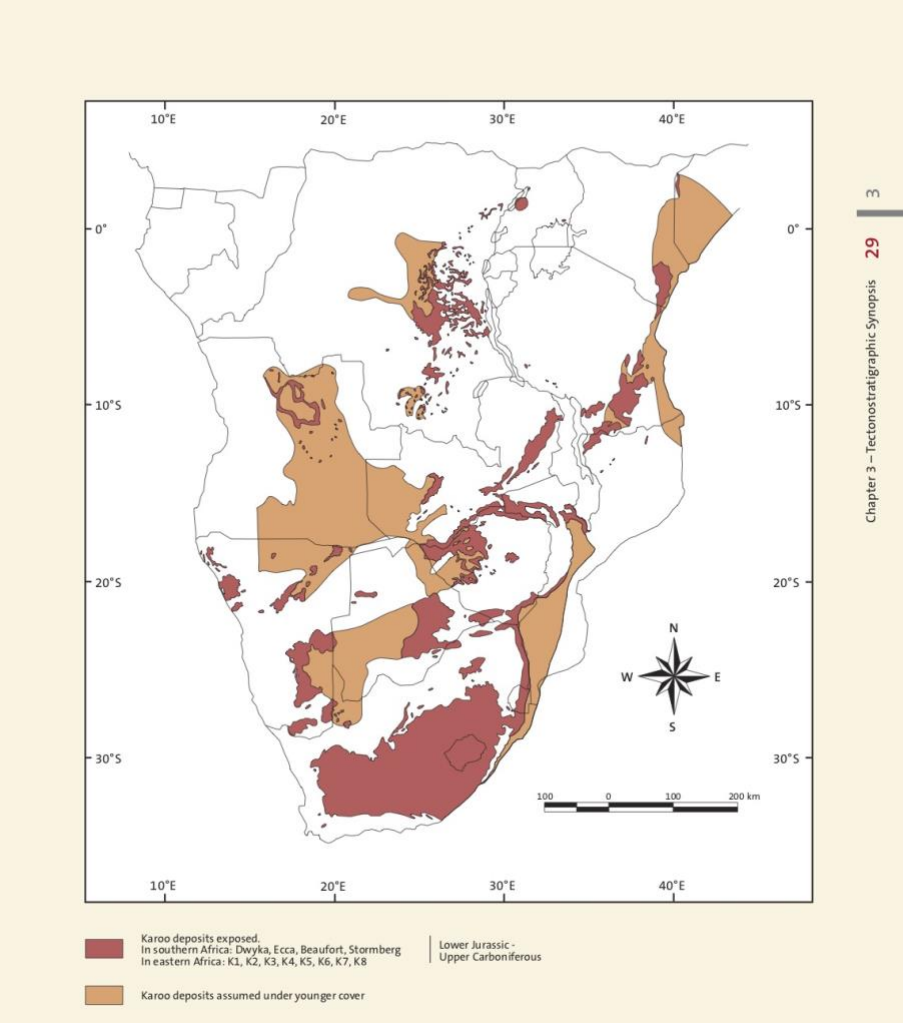

Figure XXV: Karoo geological deposits – *This map shows the extent of the Karoo geological deposits across Central, East, and Southern Africa, indicating a geological connectivity across the continent (Schlüter, 2008).*