Shadows from the Past: On the Institutional History, Constraints, and Failures of the National Parks System in Sub-Saharan Africa

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1. Introduction:

In the 1970s and 80s policymakers and the international community began to recognize the need to address the acceleration of climate change, species extinction, loss of natural resources, and biodiversity. This topic was first deeply explored in 1987, when the World Commission on Environment and Development led by Gro Harlem Brundtland of Norway, released its *Our Common Future* report. In this report, they coined the term sustainable development, which they defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987, 16). Since then, policymakers have debated how to make the vision of a sustainable world laid out in the WCED’s *Our Common Future* a reality.

One proposed solution has been to implement a broad sweep of neoliberal reforms.¹ In such a solution governance of common pool resources becomes decentralized and powers are devolved to local communities, which scholars posit will lead to more efficient regulation of common pool resources (Ostrom and Agrawal 2001, 495). Proponents of decentralization argue it empowers local stakeholders, giving them the autonomy to make their own decisions and leading to greater legitimacy in decision making and more creative policy design (Anderson and Gibson 2007, 100). However, implementation of decentralization policies is no guarantee of effective common pool resource management, and when local institutions are insufficiently empowered, decentralization often leads to unaccountable entities who seek personal profit over community sustainability (Unger and Mahkanjana 2016, 186; Hirons 2013, 29).

¹ I define neoliberalism as a “Useful concept which might be used to describe some recent demands for market deregulation, as well as the public-sector reforms which aim at making government agencies more similar to private companies.” (Thorsen 2011, 189).
When I sought a case study to examine these complex global forces in a localized, practical manner, I was drawn to the national parks systems of Sub-Saharan Africa. National parks’ struggle to preserve open-access resources make them a classic case of the Tragedy of the Commons described by Hardin, and because they have been shaped by the forces that rule so much of our society today: colonialism, globalization, and decentralization they represent an ideal case study. In light of the Tragedy of the Commons, Hardin believed privatization of common pool resources was the best solution to preserve the world’s dwindling resources, and I argue national parks are in many respects seem shaped with Hardin’s solution in mind (Hardin 1968, 1243-1248). Hardin’s argument would deeply influence the development of conservation efforts in the 1970s and 80s, and inspire the creation of barriers between wildlife and human society represented by national parks (Duffy 2006, 100).

However, I argue these policies of neoliberalism and decentralization often lead to inefficient conservation outcomes and paradoxically reduce the autonomy and control local communities have over policy. Throughout the research for this paper I discovered that national parks are inefficient in promoting positive conservation outcomes; they often promote conflictual relationships between protected wildlife and local communities, who feel the preservation of wildlife outweighs their own wellbeing (Daniels et al 2002, 489); and they rob decentralization of its greatest advantage, which is its ability to utilize the expertise of local citizens to efficiently manage natural resources (Anderson and Gibson 2007, 100).

Furthermore, I find a significant level of American influence on national parks system’s construction, and governance. Sub-Saharan Africa’s national parks were constructed under the “Yellowstone Model,” developed in early 20th century America. The Yellowstone Model is a system where preservation is predicated on clearing an area of human population and impacts,
often by any means necessary, and using this opportunity to generate tourism revenues (Kassam and Bashuna 2004, 194). In more recent years, the United States government has supported this unsustainable system by contributing hundreds of millions to international NGOs. These NGOs act as American soft power actors promoting American values, rather than finding innovative solutions to problems of conservation, economic development, and reducing human-wildlife conflict (Sachedina 2010, 618).

In my quest to test these theories, I sought to determine the extent to which the national parks systems in Tanzania, Mozambique, and Kenya are efficient vehicles of conservation, and whether they encourage local control of common pool resources. I worked chronologically, and topically to gain a thorough understanding of the institutional history and design of national parks in Sub-Saharan Africa. Throughout my three case studies I describe alterations in how locals view their natural habitat; the change in the concept of a national park over time and into the 21st century; and the efficiency of a national park in delivering positive wildlife outcomes and encouraging local control of resources.

I chose to measure conservation outcomes by measuring the levels of poaching of elephants within national parks, primarily the Savannah elephants because they were the only animal for which there was data available in all three countries. However, I also chose elephants because of their quixotic hold on the American and global imagination. Elephants have become in many respects, a symbol of conservation in Africa, and increasingly, a symbol for Africa itself. The fact data even existed for elephants as opposed to other animals is a more general sign of their privileged status within national parks, wildlife preservation, and our own imagination (Okello and D’Amour 2008, 2189).
2. Construction of Nature:

Early European conservationists, Africa pastoralists, or Asian forestry civilizations have held differing views on how human society should interact with their natural habitat. Yet colonialism, one of the central forces that has shaped the African continent, played a significant role in changing how local communities interacted with and perceived nature. Prior to colonialism the Western Serengeti and greater African continent was an interdependent ecosystem of hunters, herders, and farmers all of whom relied on each other for survival (Shetler 2007, 180). Though adversarial relationships with nature did exist prior to colonialism, they happened within this interdependent system in which no group gained a dominant role. However, over time colonial powers began to assert their authority and this interdependent system broke down under the weight of state regulation of the environment. Regulation that cordoned human populations away from their natural environment (Shetler 2007, 177).

Sunseri noted this imposed viewpoint in the regulation of mangrove systems in colonial Tanzania. In this instance, the Germans instituted ordinances designed to slowly alter how locals interacted with nature and sapped local populations of vital resources they had previously relied on for survival (Sunseri 2009, 28). In Kenya, the British instituted a total ban on hunting and criminalized the killing of any animals without permission from colonial authorities. A policy that remained even in the post-colonial era (Kassam and Bashuna 2004, 207). European colonial authorities regulated and criminalized hunting and natural conflicts between local communities and wildlife and in doing so they fundamentally altered these previously interdependent relationships that had characterized pre-colonial Africa for millennia (Knapp et al 2017, 31).

The ramifications of this disruption of interactions with nature have had profound impacts upon both conservation, and the livelihoods of local communities in Sub-Saharan Africa.
For example, the Maasai, a prominent ethnic group in Kenya and Tanzania, perceive lions as a nuisance as opposed to the symbol of manhood and strength they were in pre-colonial years (Hazzah et al 2009, 2435). Brennan and Kalsi (2015, 334) report a similar feeling from interviews conducted with Sub-Saharan populations that live around national parks, finding locals no longer saw the value of conservation projects, feeling unattached to the fate of local wildlife. The loss of belief in the value of conservation, and of wildlife itself robs decentralized conservation schemes from their most potent resource, the local communities themselves.

If communities in direct relation to national parks in Africa feel marginalized or separated from nature, then conservation schemes are unlikely to succeed. However, their feelings are not a simply byproduct of erroneous thinking. Instead, they are the result of deliberate decisions made without consent of local communities across Sub-Saharan Africa. In the minds of colonial powers in the late 19th and early 20th century, Africa’s wildlife was to be preserved and protected from locals who they felt could not be trusted to manage these resources (Shetler 2007, 183). Shetler dubbed this the “global conservation mindset,” a point of view in which it is argued biodiversity ought to be preserved for the good of the greater global community. A responsibility so great the people of Africa simply could not be trusted on their own. It is for this reason colonizers established game reserves and wardens (Sunseri 2009, 28); it is for this reason there were total bans on hunting in Kenya, criminalizing entire populations for subsistence hunting (Hazzah et al 2009, 2436); and it is for this reason the national parks systems was ultimately created. However, ironically, these decisions were made by some of the world’s early environmentalists. They did have a strong desire to preserve Africa’s biodiversity. It was as Shetler remarked, “The seeds of environmentalism, in fact, evolved hand in hand with imperialism as its negative impact on the tropics became apparent,” (Shetler 2007, 202).
3. What is a National Park?

At its most base level, a national park is a portion of territory designated either by a specific legislative act or by executive branch leadership, in which the preservation of wildlife is deemed to be of upmost priority. National parks are generally policed by a parks service that is recruited and trained at the regional or national level, park service officers have the power to enforce the country’s law and make arrests (National Parks Act 1959; Wildlife Conservation Act: Tanzania; Wildlife Conservation and Management Act of 1989). National parks also have a diverse set of institutional arrangements, which closely resemble other forms of decentralized common pool resource management. Most national parks I studied have a Board of Trustees or Directors who are empowered by the country’s executive branch of government to make independent decisions in regards to generating revenues, managing lands, and working with the local populace (National Parks Act 1959). National parks are also designed to function independently of the central government, oftentimes with the authority to redraw boundaries or recruit outside organizations or donors to help with parks programs (van der Bremer and Buscher 2011).

In the post-colonial era, parks have attempted to capitalize on tourism markets in Europe and North America to enhance countries’ national development programs (Lunstrum 2016, 417). Modern national parks do prioritize ecosystem protection, but they also recognize and seek to market parks as a dominant tourist attraction. Thus, national parks have invested millions in marketing directly to western tourists and expanding their ecotourism capacity (van der Bremer and Buscher 2011).

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2 The parks I discuss in this paper are: Limpopo National Park, Mozambique; Tsavo National Park, Kenya; the Selous Conservation Project, Tanzania; and Samburu Laikipia Elephant Reserve, Kenya
3.1 History of National Park Formation:
The formation of national parks in my three cases can be drawn in line with the spread of European attitudes on conservation, which in addition to the creation of the national parks systems, also fundamentally altered how locals interacted with their environment. German colonial powers in Tanzania created the first wildlife reserves in 1903. In doing so they centralized control of natural resources: choosing who could access the environment, what type of resources they could extract, and how violators would be punished (Sunseri 2007, 57). Over time, Africa’s game reserves would slowly form into the modern day post-colonial national parks system, and decisions around their design and governance would continue to be dominated by outside actors.

For example, in negotiations concerning the creation of Serengeti National Park, international conservation organizations objected to initial plans that would have allowed Maasai
communities to live in and use resources within the parks. It was their belief that local populations and wildlife must be separated from one another to properly preserve wildlife (Shetler 2007, 208-210). Though local groups disagreed with this assessment and attempted to argue their case to international actors, they were overruled. Serengeti National Park “was created through a contested process involving various levels and branches of the colonial government, international conservation organizations, the European public, and some natives in Sikuma and Maasai,” (Shetler 2007, 204).

This manner of contested process stripped local communities of their autonomy, and instituted a model of conservation built upon lack of consent from local communities. Furthermore, its institutional character and design was drawn in the image of European and North American ideas of preservation, and failed to account for the unique institutional arrangements in Sub-Saharan African communities. Early environmentalists in Europe, affected by the blind destruction of their natural resources in the Industrial Revolution, concluded society was incapable of managing scarce resources in an interdependent and sustainable fashion (Shetler 2007, 192). Much like Hardin, they saw privatization and separation of humanity from earth’s biodiversity as the only solution. They designed the parks systems with these motivations in mind, and did so without accounting for the input of local communities, or considering the applicability of their own models of conservation in a new continent with a differing conceptualization of nature and institutional design.

Their Eurocentric vision of national parks free from human impacts won out, and after much deliberation Serengeti National Park was established at the end of the colonial era, 1951, with surrounding communities having little control to no control over lands that had been in their possession for centuries. Today, Serengeti National Park is one of over 200 UNESCO World
Heritage sites deemed to be at critical risk from poaching and other illegal extractive activity (Katz 2017). The park is also home to lavish eco-tourism resorts designed to appeal to western tourists, and bring in additional revenues (Lovell 2017). Though, Serengeti National Park is considered one of the most famous parks in the world, at least from a western perspective. It is outward facing both in its institutional design, and the very worldviews that sparked its creation. A park created by dominant western interests and theories, deemed a success by dominant western interests and theories of conservation.

3.1.1 The Yellowstone Model

Throughout the process of creating the Serengeti National Park, colonial officials in London spoke of their desire to model new national parks in the “Yellowstone Model,” (Kassam and Bashuna 2004, 194). The Yellowstone Model is predicated upon the removal of all human impacts and populations from national parks to fulfill conservationists’ dream of an “unspoiled,” wilderness that would attract tourists and visitors (Kassam and Bashuna 2004, 194). The Yellowstone Model was also a key legacy of Teddy Roosevelt, a president most known for his creation of the American national parks system and his protection of the American west (Pearce 2010). However, the Yellowstone Model has a darker side. Namely, the proliferation of human-wildlife conflict, conflicts with indigenous populations, and negative conservation outcomes (Bautista 2017).

When the Yellowstone Model was first implemented it was described by Colchester (2004, 1) as having “denied indigenous peoples rights, evicted them from their homelands, and promoted long-term social conflict.” When the United States created its national parks system in the late 19th century and early 20th century it used tactics against Native Americans that mirrored many of the imperialist tendencies displayed by the Germans, the British, and the Portuguese in
Sub-Saharan Africa (Colchester 2004, 2). In order to found Yellowstone National Park in 1872 six different native groups: the Shoshone, Lakota, Crow, Bannock, Nez Perce, Flathead, and Blackfeet were all excluded from the decision-making process and hundreds were killed when they resisted the re-possession of their traditional lands by the U.S. Federal Government (Colchester 2004, 2). The creation of Yellowstone also mirrors that of Serengeti National Park, in that both processes ignored the knowledge of local communities, discounting their value to conservation efforts and failing to address specific local institutions (Adams 2005, 5).

These conservation decisions fit with actions throughout U.S. history in both the exploration and settlement of the west, and mirrors colonialist policies instituted in Kenya, Tanzania, and Mozambique. The Yellowstone Model has been exported around the world, and I argue the conservation results have been mixed and the impact on local communities severe. It is not just an ill-advised application of conservation policy in Africa, but a system that consistently produces results that hurt local communities regardless of their geography. In using the Yellowstone as their model of conservation in Sub-Saharan Africa, colonial officials and international conservation organizations in the mid-twentieth century created a system in which policy was made without consent of local communities, and without considering the unique institutional arrangements in Sub-Saharan communities. In subsequent sections, I describe how the use of this system has led to actions within the national parks systems in my three cases, particularly in how parks are marketed and used to attract tourism. I argue that because of American and European influences on national parks, it is far easier for parks in my three case countries to attract foreign tourists than domestic tourists (see section 5.3 and attachment 14).
4. Status of Species Protection: A GIS Analysis

The construction and mentality behind national parks in my three case countries, though useful, doesn’t shed light on the state of species protection within specific parks. Therefore, I performed a GIS analysis to measure poaching as a measure of species protection in national parks for my three case countries. To accomplish this, I utilized map and poaching data collected under the CITES agreement. The data, known as the Monitoring of the Illegal Killing of Elephants or MIKES datasets help keep track of elephant ranges and report incidences of poaching within national parks and game reserves. I joined and related datasets containing information on the elephant ranges within national parks in my three case countries with the number of total and illegal carcasses found in each national park.

There have been previous GIS analyses of poaching and the African elephant within existing literature, however, based on searches performed my analysis appears to be the first analysis of the MIKES dataset using a GIS application. Previous GIS analyses on similar conservation topics show woodland areas in national parks in Kenya have decreased by as much as 20% and have been replaced by scrub and grassland (Western 2007, 308). This indicates a lack of suitable habitats within national parks and limits vital ecosystem services provided by elephants, which is that they pull down forests for pastoralists and grazing animals so that they can eat the lower levels of vegetation (Western 2007, 308). Lack of free-ranging conditions has also hurt the giraffe species, which has lost vital food supplies that come from these forests (Brenneman et al 2009, 17). Furthermore, Kyale (et al 2014, 230) found elephants are at risk for poaching near rivers, and that this risk increases during the dry season when water becomes more scarce and elephant patterns and watering holes become more predictable. Due to data limitations, I am unable to repeat much of these GIS experiments. Yet there are some unique, if
limited conclusions that can be drawn from my GIS analysis of the national parks’ systems in these three countries.

In addition, to solidify my conclusions on poaching, I took stock of what the current populations of elephants in my three case countries were. A 2016 press release from the CITES Monitoring on the Illegal Killing of Elephants program indicated that at the global level, elephant poaching reached its apex in 2006, and has fallen since 2011, though poaching has not fallen below the natural growth rates of elephant populations (2016, “African Elephants Still in Decline Due to High Levels of Poaching”). However, country level estimates of elephant populations were not provided in this release. American billionaire and former Microsoft executive Paul Allen set out to change this, and he funded aerial surveys of 18 Sub-Saharan African countries to generate population estimates (Steyn 2016). His team of researchers conducted the largest wildlife census in history, and what they found was sobering. Elephant populations fell 53% in Tanzania against prior estimates, and Mozambique experienced a similar fall of 48% (Steyn 2016). The team’s full report generated estimates of elephant populations for 15 of the 18 countries they studied, most of which reported significant losses in elephant populations. They would later estimate 26,000 elephants lived in Kenya; 43,000 in Tanzania; and 10,000 in Mozambique (Chase et al 2016). These population estimates provide a key unit of comparison to data collected under the CITES treaty, and help answer the question of whether national parks are efficient at preserving wildlife.

For my first analysis, I mapped the number of total carcasses in all three countries and displayed the most killings with a darker shade of red, and the parks with lower rates of killings as being lighter shades of red. What this analysis revealed was Tsavo National Park, located on the border of Tanzania and Kenya, and Samburu Laikipia located in central Kenya have the
highest levels of poaching (see attachment 12). Both parks are expansive, and both are near the capital city of Nairobi, suggesting that incidences of higher human population may lead to greater levels of poaching. This analysis also suggested a relationship between poaching and distance to the coast. Parks closest to the coast of East Africa exemplify higher levels of poaching, and parks further to the west present with fewer cases of reported poaching. One explanation for this could be data collection biases, and that because Nairobi and Dar es Salaam are closer to the coast, research and data collection from those areas is superior due to proximity to capital cities. Another explanation could be it is easier to smuggle ivory out of the country near coastal areas than across rough terrain, and given that demand for ivory comes from Asian markets, ivory must travel either by air or sea to arrive in Beijing or Seoul (Sudworth 2017).

While my first maps analyzed the total killings discovered in these parks, they did not account for the park’s size and thus larger parks had higher incidences of poaching. Therefore, I normalized my data to adjust for the total area of the park, and my perceptions of the data changed as a result. Tanzania, which had high levels of poaching in my first analysis, definitively outperformed Kenya. The Selous Conservation Area in Tanzania had previously been a low performer in my first analysis, but once I adjusted for the size of the park it was revealed to be one of the best performers. However, the high-performance of the Selous Conservation Area when normalized brings little to celebrate. A recent estimate by the World Wildlife Fund (WWF) predicted Selous’ elephant populations could vanish by as early as 2022 without significant intervention, and if we take both their and my analyses as true then it suggests elephant

\[3\] A similar trend presented in the case of Niassa, Mozambique, which was one of the largest parks I studied.
preservation in all three countries is significantly worse than expected (World Wildlife Fund 2016).

One result that did not change when I normalized the data was Samuburu Laikipia Reserve in Kenya continued to have the highest incidences of elephant poaching (see attachments 5 and 8). Samuburu Laikipia Reserve has anywhere from 6,000 to 9,000 elephants that travel through its borders, with scholars estimating elephants spend approximately 47% of their time in the reserve (Hamilton et al 2005, 160-163). What I gathered from my analysis, is that for the thousands of elephants who spend time in the Samuburu Laikipia Reserve, risk of poaching must be incredibly pronounced. And given that anywhere from 35 to 40% of Kenya’s elephants call the reserve home (Chase et al 2016), an inability to prevent poaching within just this park’s borders presents a profound threat to the continued existence of elephants in all of Kenya.

Furthermore, under my second analysis East Tsavo National Park, Kenya continued to perform exceptionally poorly. However, when I observed more closely I saw that the part of the elephant range that crosses the border from Kenya to Tanzania into Mkomazi National Park, Tanzania showed a marked improvement (see attachment 5). Given that these areas are geographically contiguous, and almost certainly have elephants that traverse national borders into the bordering park. This result suggests Tanzania does a superior job of preventing poaching than Kenya. However, without a more comprehensive understanding of situation on the ground it is difficult to understand what factors might explain Tanzania’s superior performance.

One possible explanation for my both of my first two results could lie in the data provided to the MIKES dataset under the CITES agreement. Kenya provides more data each year than Tanzania and Mozambique, who often have years they provide no data on poaching, and
Kenya’s poor performance could be a function of their more consistent reporting mechanisms. Existing research into the precipitous fall of elephant populations in Mozambique and Tanzania (Chase et al 2016) supports the idea that poor data collection and reporting is hiding poor outcomes in Tanzania and Mozambique. However, more detailed analysis and comparison between estimates would need to be carried to gain more certainty about the data.

Another consistent finding in both GIS analyses and within the survey literature is the high amount of human wildlife conflict in communities bordering national parks (Knapp 2012, 439; Lunstrum 2016, 413; Owino et al 2012, 389; Hazzah et al 2009, 2435). To account for this, I added a population density base map from ArcGisOnline, and placed it over my normalized measures of poaching. What I found was mixed. Mt. Elgon National Park in Kenya and Uganda is surrounded by intense concentrations of human population, as is Tsavo National Park in Kenya (Attachment 9 and 1). The populations around Lake Victoria Kenya are the densest displayed on the base map, and they interpose themselves between Samburu Laikipia and Tsavo National Park, which could be cutting off elephants’ who travel from park to park. These results suggested human wildlife conflict could explain higher levels of elephant poaching in Kenya, as the parks with the most poaching are surrounded by intense human population. However, the analyses I ran cannot reveal a causal connection between high human population and greater incidences of poaching.

In comparison, when I looked at parks in Tanzania I observed less concentration of human population. The Selous Game Reserve, Ruaha National Park, and Arusha National Park (see attachment 10) form a triangle in which there is moderate concentration of human population between the three; however, Ruaha National Park has what I observed to be the least amount of human population surrounding but it has the highest rate of poaching amongst the
three parks. These differing results between countries could have to do with the precise amount of population density. Because Kenya is more densely populated than Tanzania it is possible only certain densities of human population lead to increases in poaching.

I recommend further study be dedicated to more fully answer the question of how human population density impacts incidences of poaching. The literature indicates human populations come into conflict with wildlife; yet what seems to be unknown is what concentration of human or wildlife populations leads to human wildlife conflict in the form of illegal killing of elephants. Another recommendation I have is that more resources be dedicated to tracking where animals exist within parks. The MIKES Dataset does not track precisely where animals congregate within parks, and without an understanding of where elephants and other species or located, it is hard to ascertain to what extent population density impacts poaching.

In performing my GIS analysis, I found high levels of elephant poaching in Kenya, and a lesser though not insignificant amount of poaching in Tanzania and Mozambique. Normalizing my data revealed parks in Kenya had amongst the highest level of poaching and that higher levels of poaching did not seem to coincide with proximity to the coast or to capital cities. However, when I compared my GIS analyses with estimates of elephant populations by country, I found that elephant populations are decreasing at a pace more rapid than I originally hypothesized. Lastly, when I looked at the maps with a base map representing population density I saw high levels of human population surrounding parks with higher incidences of poaching in Kenya, but this effect was less pronounced in Tanzania and Mozambique. Due to lack of data on where wildlife is found within parks I can only draw limited conclusions in regards to the effect of human population; however, based upon what can be observed in the western portion of Kenya I feel confident this is an avenue worthy of additional data collection and study.
5. Explaining the Analysis: Why Conservation Outcomes Are Inefficient

My GIS analysis of conservation outcomes in Tanzania, Mozambique, and Kenya indicate negative elephant conservation outcomes. However, my GIS analysis doesn’t explain why these conservation outcomes are inefficient. In the latter half of this paper, I argue that a preponderance of special interests in the form of the central government, commercial and capital interests, and large U.S. based conservation NGOs have inhibited local control and hurt conservation outcomes.

I organized the remainder of my research by defining and explaining critical interests and stakeholders within national parks: how they work in the independent, decentralized context of national parks, and why elephant conservation outcomes have not protected the species from near-extinction. The government represents a principal stakeholder in this process, and I describe how power is distributed within the system to determine how the government affects local communities. Next, I examine the perceptions, cooperation, and feelings within communities who live in proximity to national parks. I describe the outward facing, commercial nature of national parks; and lastly, I examine the role international conservation organizations and the United States government have played in conservation schemes in national parks in Kenya, Tanzania, and Mozambique.

5.1 How Power is Distributed in the System:
Decentralization is oftentimes a difficult process and the way such policies are designed and executed determines whether local communities are empowered, or overpowered by powerful interests (Unger and Mahkanjana 2016, 186). Weak decentralization can leave local

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4 I define decentralization as “Any political act in which a central government formally cedes powers to actors and institutions at lower levels in a political administrative and territorial hierarchy,” (Agrawal and Ribot 2006, 1865).
governments and communities undermined, lacking the power to enforce their mandates, which often means the central government steps in and recentralizes authority (Hirons 2013, 29). Furthermore, heavy top-down punishments mandated by the central government often characterize less effective decentralized systems (Hartter and Ryan 2010, 824). In cases of natural resources, scholars find that decentralized, Community Based Natural Resource Management (CBNRM) schemes lead to stronger public institutions, lower levels of corruption, and higher levels of efficiency than centralized schemes (Nelson and Agrawal 2008, 585). However, successful CBNRM is contingent on a prudent institutional design, a design in which central and local authorities work together with local stakeholders to accomplish their targets (Nelson and Agrawal 2008, 587).

With these ideas in mind I analyzed my three case studies. The institutional arrangements in all three case countries resemble a complex network of central, local, and financial interests in which power is generally concentrated at the national level. For example, broad powers are given to the Board of Trustees in individual parks in Tanzania. The board can use its powers to solicit donations abroad, raise revenues from entry fees, and even redraw borders and enforce poaching laws (National Parks Act 1959). Tanzania’s board is appointed by the President of Tanzania, who retains the power to name any area a national park or game reserve regardless of who owns the land (National Parks Act 1959). Furthermore, all wildlife in Tanzania is owned and regulated directly by the President (National Parks Act of 1959) who appoints a Park Director for each park to act in his stead. The Park Director also has a wide range of powers to alter both the boundaries of a national park as well as the enforcement mandates of park rangers (National Parks Act of 1959).
Reviews of legislation and literature in Tanzania reveal a country unwilling to decentralize environmental policy (Benjaminson et al 2014, 1088) and in fact the central government has slowly recentralized control of national parks and wildlife management areas, much to the chagrin of local communities. Furthermore, a 2009 amendment to existing legislation further centralized authority by strengthening the Tanzanian Wildlife Division and giving them more ability to intervene in lands directly owned or otherwise designated to local communities (Benjaminson et al 2014, 1089). In short, the legal landscape of national parks in Tanzania provides little authority to local communities, and in many cases the government continues to design policies that inhibit local policy changes.

In Kenya, the Kenyan Wildlife Service (KWS) is responsible for the design and implementation of conservation policy within the country’s national parks, reserves, and local communities. It advises the government, answers to the President and the Board of Trustees of the Kenyan Wildlife Trust Fund, and enforces the country’s anti-poaching laws (Wildlife Conservation and Management Act of 1989). The KWS carries a broader mandate than Tanzania’s Wildlife Division, because it has the power to act in all national parks, and a policy change implemented by the KWS applies to all parks within the country. Also of interest is the Kenyan Wildlife Trust Fund. The Kenyan Wildlife Trust Fund can solicit fund from a variety of international investors, and make strategic investments designed to boost conservation outcomes (Wildlife Conservation and Management Act of 1989). However, the design and implementation of their programs are designed to work at the national level and the Trust doesn’t seem to work with hand-in-hand with local communities (“A Guide to the Wildlife Act of Kenya,” 2013).

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5 Tanzania’s Wildlife Division is charged with enforcing the borders, and laws that govern the country’s national parks
There is one mechanism in Kenya for local input on policy, which is the Wildlife Conservation and Compensation Committees (“A Guide to the Wildlife Act of Kenya” 2013). The committee’s responsibility is to hear wildlife related damages claims from citizens, and though a portion of this committee is comprised of community leaders, a simple majority of members are appointed by the central government (“A Guide to the Wildlife Act of Kenya” 2013). This effectively prevents the creation of any local policy that would differ from central government views. Although the central government claims it encourages local control it has takes steps to ensure it has sufficient numbers to prevent local communities from departing from centralized mandates (“A Guide to the Wildlife Act of Kenya” 2013).

In prohibiting local communities from having greater levels of autonomy both Kenya and Tanzania inhibit the development of diverse institutions designed to solve problems within local communities (Mkumbukwa 2008, 590). One of the specific pitfalls of policy design and analysis in regards to open-access problems is the use of a single prescriptive measure for all problems (Ostrom 1999, 26). Broader latitude given to local communities could lead to institutional arrangements that rely on the expertise of those tasked with conservation, local communities; and lead to policy that is more contextualized to the specific set of circumstances in each national park or bordering community (Ostrom 1999, 26). While Kenya and Tanzania created their national parks systems with the goal of having them function independently of one another and the central government, they have tightly held to their powers, refusing to create more decentralized institutions (Akama 1998, 112; “A Guide to the Wildlife Act of Kenya” 2013; Mikumbukwa 2008 596). My examination of the laws that govern conservation reveal institutional arrangements that are stiff, centrally controlled, and dominated by prescriptive
measures that are unlikely to account for the diverse institutional arrangements of communities in national parks.

In Mozambique, there are more policies designed to decentralize control to local communities than in Kenya and Tanzania. Though local communities in Mozambique are barred from owning properties within or bordering national parks, they can be granted a certificate of occupancy to remain on traditional lands (Lunstrum 2016, 342). This mechanism comes from a 1997 land tenure law, which semi-privatized much of Mozambique’s public land to ensure equal consideration of land rights for the poor and rights of extraction for local companies and multinational corporations (Lunstrum 2008, 351). Local communities in Mozambique do feel a sense of security as result, but this policy of semi-privatization reserves the right to evict communities and restricts what local communities can do with the land agriculturally (Lunstrum 2016, 344).

In Limpopo National Park, Mozambique community leaders lack the freedom to intensify crop and livestock production, which they blame on rigid regulation from the central government (Lunstrum 2016, 343). Locals are barred from retaliating against animals who encroach upon or damage their crops or lands, and instead are forced to rely upon overworked and understaffed park or wildlife service officials (Witter 2013, 410). Massé describes this, remarking “increases in human wildlife conflict and intensification in losses of crops and livestock are the direct result of political decisions aimed at creating a specific type of conservation landscape,” (2016, 108). Communities in Mozambique have few legal or policy mechanisms with which to improve their situation. They can use their land, but only in certain limited circumstances. They cannot handle conflict with wildlife, and instead must call to local authorities for assistance produces limited results. Local autonomy in this system from a legal perspective is limited, and just as in Kenya
and Tanzania the application of single prescriptive solutions without accounting for the diverse set of institutional arrangements in question is the dominant model of policy formation.

5.2 Perceptions of Local Communities:
Conservation requires the work of local communities to be successful. Local communities interact with the animals who live in national parks each day, and any conservation scheme requires stakeholder participation to succeed. Community based natural resource management has become recognized as capable of engendering sustainable resource management, but it requires appropriate institutional design that empowers local communities (Fischer and Agrawal 2009, 2924). In a survey of local farmers in Kenya, Owino et al (2012, 388) found high levels of human-wildlife conflict, which is consistent with findings in the literature (Owino et al 2012, 389; Okello and D’Amour 2008, 2189; Haazah et al 2009, 2435; Lunstrum 2016, 146). Local communities suffer consistent encroachment by wildlife onto their land, and because animals are prioritized in conservation policy, local communities are prohibited from fencing or protecting their lands from wildlife and often feel as though preservation of wildlife exceeds the need for human wellbeing (Haazah et al 2009, 2436).

This manner of distrust and lack of ownership over specific policy decisions reduces the effectiveness of conservation policy. Local communities’ land is threatened by wildlife who do not observe the boundaries of national parks and encroach onto their land to kill cattle and trample gardens. Meanwhile, even extraction of firewood or livestock grazing can be punished with steep fines or even prison (Owino 2012, 389). However, simply erecting fences or other centrally conceptualized solutions won’t assuage community concerns. The problem is not just in the solution, but in the lack of involvement local communities have in developing and implementing new policy. This violates a key tenet of common pool resource management identified by renowned scholar Elinor Ostrom, Ostrom discovered that “policy analysts who
would recommend a single prescriptive for commons problems have paid little attention to how diverse institutional arrangements operate in practice (Ostrom 1999, 26).

One example of applying a single prescription to a complex problem can be seen in the case of Amboseli National Park, Kenya. In Amboseli, the government implemented a robust fencing program to protect local communities and prevent conflict with wildlife (Okello and D’Amour 2008, 2189). However, these fences were constructed without consultation with local communities, and after they were constructed, competition for water between farmers and then farmers and elephants reached a new high (Okello and D’Amour 2008, 2189). One problem was that the new fences blocked migration paths between Amboseli and Tsavo West national parks, and bottlenecked animals in areas with nowhere to go (Okello and D’Amour 2008, 2189). This problem could have been alleviated by involving local community leaders in the decision-making process, as local communities often have knowledge superior to that of the central government (Anderson and Gibson 2007, 100). They understand micro-ecosystems and patterns of animal behavior unique to that specific area, and use of this knowledge could have likely prevented this mistake in Amboseli National Park. The lesson here is that the involvement of local communities in policy decisions is not purely an ethical one. Local communities’ involvement can help tailor policy to specific institutional arrangements, and improve conservation outcomes by helping to avoid some of the pitfalls identified by Ostrom.

5.2.1 Ostracized by the System:
Local participation in conservation schemes is also inhibited by deep frustration, and in some cases fear of the system as currently constructed. Knapp (2012, 436) found 28% of residents outside Serengeti National Park in Tanzania fear anti-poaching rangers. In interviews with local poachers many reported having escaped anti-poaching patrols an average of 9.7 times, and they chose to carry out their traps for bushmeat by cover of night as a result (Knapp 2012,
Kenya has also taken an even more extreme approach to enforcement. In May 2013, Kenyan MPs approved a motion to amend the Wildlife Act to raise penalties for killing endangered wildlife up to 15 years in jail and a 2500% increase on fines for poaching (Kahumbo 2013). The use of these types of top-down penalties violate key tenets of effective common pool resource management, and can often exacerbate tensions between local communities (Hirons 2013).

Because penalties are so high trust between local communities and central authorities erode, and it becomes more difficult to achieve policy goals that may require help from local communities. And when local communities perceive themselves as being in opposition with not just conservation schemes, but the very apparatus of the state itself, any hope of effective common pool resource management dims completely. Many local communities mistrust national parks leadership, and feel as though their loyalties are to preservation of wildlife above human wellbeing (Daniels et al 2002, 489). This feeling is incredibly dangerous to conservation efforts, because local communities are often called upon to implement different policy changes. Locals feeling disregarded hurts conservation outcomes, and until this rift has been ameliorated the collective wisdom and powers of local communities will remain an untapped resource in conservation efforts.

5.3 The Outward Facing Nature of National Parks:
National parks and game reserves take their origin from European and North American colonial powers, and thus national parks tend to be outward facing in their focus. However, in the post-colonial era there has been an effort to reverse this trend by turning national parks into vehicles of human development and economic power (Newmark and Hough 2000, 585). Yet this new focus fails to pass muster when examined in more detail. Africa’s national parks are billed as efficient vehicles of conservation and economic development wrapped in a blanket of
neoliberal thinking, but they continue to focus on attracting tourists from North America and Western Europe. Tourists who are often in search of a wilderness adventure with little regard for the effects this can have on wildlife or human wellbeing.

National parks in Kenya, Tanzania, and Mozambique all prioritize acquiring tourism revenues from tourism, and I find they deliberately market their parks to appeal to tourists in Europe and North America. The website for Tanzania’s ministry of tourism emphasizes the economic power of the national parks for cultural and biodiversity tourism, bearing the slogan “Sustainable Conservation for Development,” which slyly promises tourists an opportunity to participate in revenue generating activities for both conservation and economic development. This melding of national parks and development narratives is a common tactic, and community based ecotourism has become a panacea for both conservation and development in Sub-Saharan Africa (Newmark and Hough 2000, 586). However, ecotourism enterprises are often low paying and require unskilled labor (Wishitemi et al 2015, 312). Furthermore, it can take anywhere from 18 months to 10 years for ecotourism to become profitable (Wishitemi et al 2015, 312). An investment of both time and money local communities generally cannot afford. Thus, local communities or individuals who participate in ecotourism projects around national parks often find themselves participating in a business akin to an extractive industry, where labor is cheap and profits return to investors who live in urban centers or outside the continent altogether (Wishitemi et al 2015, 313).

National parks’ attempts to spur ecotourism also perpetuate alterations in the view of nature imposed upon local communities in the colonial era. Parks boost their revenues by selling tourists the idea of a wilderness that human society has no place in, an opportunity to see “the wild” for the first time. Gorongosa National Park, Mozambique exemplifies this, bearing
headings and advertisements on its website such as “Ecotourism in Gorongosa;” “Creatures from Another World;” “Plan Your Adventure;” and “Human Development in Gorongosa, Redefining What It Means to Be a National Park” (“Human Development in Gorongosa”). I observed similar patterns in Tanzania’s parks, where tourists are offered personalized wildlife tours, guided camping trips, and even authentic “bush meals” (“Katavi National Park”). These slogans promise tourists not just an opportunity to see the world’s precious biodiversity, but also to experience something surreal. It appears more akin to a theme park than anything else. This further entrenches the notion that wildlife within parks, while worthy of preservation and viewing, are incompatible with our own human society. A notion I believe poisons many conservation schemes.

These services marketed by national parks are not chosen without careful consideration. They are designed, just as national parks themselves were, to appeal to international conservation organizations and foreign tourists. A review of tourist visitors in 2012-2013 to Tanzania’s national parks indicates tourists from out of country consistently outnumber the number of domestic park visitors (see attachment 14). I argue this is a result of intentional marketing decisions made by Tanzania’s tourism bureaus and the parks themselves. When parks continue to build lavish resorts that exceed the means of domestic tourists (Lovell 2017), and market activities like camping trips and bush meals that appeal directly to a western audience it is unsurprising many Tanzanians choose not to visit their own parks. As I mentioned above, parks in my three cases were not designed to appeal to citizens within the country. They are based upon the Yellowstone Model. A model that appeals to American and European nature enthusiasts, not native Tanzanians or Kenyans.
However, given that I argue many of Africa’s parks are based upon the “Yellowstone Model,” and that they were designed to appeal to western tourists, what is the breakdown of visitors who come into U.S. national parks? Do parks in my three case countries differ from their American forbearers? Or do national parks anywhere attract more foreign tourists. Surveys of Yosemite National Park indicate there does seem to be something different about parks in the United States vs those in Sub-Saharan Africa.\(^6\) While total foreign tourists make up approximately 60% of all visitors into Tanzania’s parks (see attachment 14), 91% of visitors into Yosemite National Park are U.S. residents and 89% of U.S. residents are exclusively from the state of California (Yosemite National Park Visitor Study: 2008). This supports my argument that there are specific decisions made in how parks in my three case countries advertise themselves that appeals directly to foreign tourists, whilst implicitly discouraging nationals from entering.

The Yellowstone Model has not discouraged domestic tourism in the United States. However, due to the outward facing conception of Sub-Saharan parks it seems to have done so in my three case countries. This is, along with inefficient conservation outcomes from my GIS analysis, the result of a system created without the consent of local communities. National parks in these three countries may be engines of tourism or development for their countries, but they do so by appealing to interests outside their own borders. They lack contextualization, promote a dangerous view of wildlife themselves, and often fail to deliver the economic development they promise.

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\(^6\) Yellowstone national park does not publish demographic data on its visitors
5.3.1 Ecosystem Consequences of Revenue Driven Conservation

The high emphasis placed on ecotourism within national parks has also led to greater protection for animals deemed “high revenue,” resulting in ecosystem imbalances within national parks and surrounding areas. National parks’ websites portray lions and elephants as must-see attractions, promising tourists the opportunity to see these species in unspoiled wilderness. Because of this, these animals are prioritized in conservation goals and plans, and in Amboseli National Park elephant viewing contributes half of the park’s revenue (Okello et al 2008, 758). This creates a powerful incentive to protect these animals, but also to prevent them from observing their normal migration patterns. A factor that also causes great harm to ecosystems.

For example, in Amboseli National Park, Kenya woodlands have decreased in size from 30% of the park to just 10% in just a few years, as elephants are under such strict supervision they are unable to move from park to park as part of natural migration patterns (Western 2007, 308). Thus, local ecosystems are pushed past their limits and become dominated by scrub and other vegetation unsuitable for elephants. Elephants naturally reduce wooded areas, which creates grassland; however, in Amboseli National Park they have worn down wooded areas and are now struggling to find traditional food sources (Western and Maitumo 121). Meanwhile pastoralists lack grazing lands, and are barred from grazing their herds on the abundance of grassland, a vital ecosystem service they provide. In the end, the results are elephants desperate to move to new habitats, and pastoralists who lack the grasslands to sustain their herds. This development proves, that just as in other cases, promoting an imposed view of nature is not only unethical, but has deleterious effects upon wildlife. Because national parks’ profits are so dependent on individual species like the elephants, the effect is actions that can hurt both their ecosystems and the livelihoods by their surrounding communities. By infringing upon the natural
movements of elephants, national parks defeat their own purpose by hurting the animals they seek to preserve and stressing local ecosystems and communities.

5.3.2 Conclusion:

In the post-colonial era, many countries have sought to turn their national parks’ systems into areas of high-stakes economic development. They have largely done this by designing their parks to appeal to tourists, specifically international ones. Parks advertise “Creatures from Another World,” on their websites, selling a vision of Africa and themselves designed specifically to appeal to western tourists. Furthermore, they promote privileged status for “high revenue” animals such as the elephant or lion. In prioritizing these animals, overall ecosystem preservation can become confused, and the ecosystem is deprived of vital services that maintain its biodiversity (Western 2007, 308). These results do not characterize the American national parks system. Unlike Tanzanian parks, the overwhelming majority of visitors to American national parks are American residents (Yosemite National Park Visitor Study: 2008). This, I argue, is a consequence of American and European models of conservation being implemented on the African continent. It seems natural a system designed by Americans and Europeans would appeal directly those groups, and that parks’ specific advertising strategies would perpetuate this power dynamic, leading to more tourists from those areas as well as inefficient conservation outcomes for specific animals and entire ecosystems.

5.4 Presence of International Actors and U.S. Development Aid:

Though colonialism came to an end in the middle of the twentieth century, post-colonial countries have found ways to maintain their influence in former colonial territories. This can be seen in the very formation of the national parks system in the three case countries where western powers vetoed schemes that would have delegated more rights and responsibilities to local communities (Shetler 2007, 202; Sunseri 2009, 28). However, in the modern era the use of
international non-governmental organizations, national development agencies, and a neoliberal conceptualization of conservation to influence conservation policy in and around national parks has called into question the extent to which locals have control of their natural resources, and their own livelihoods.

Conservation became big business in the 1970s and then the 1980s when conservation organizations began to lobby in Washington D.C. for development funds to work on a variety of conservation projects. One of the first examples of this was the World Wildlife Fund’s involvement in the Lake Nakuru Conservation and Development Project in 1972 (Daniels et al 2002, 483). Over time these concentrated lobbying efforts blossomed into the United States Agency for International Development (USAID) funding over 2 billion dollars of community based eco-tourism (Daniels et al 2002, 483). There has been an explosive growth in these types of public-private-partnerships across the globe, and the USAID has facilitated 50 public-private-partnerships in Kenya; 20 in Mozambique; and 46 in Tanzania from 2001 to 2014 (Ingram and Biau 2014, 7). These projects have often been carried out with NGOs acting as intermediaries, which I argue creates a power dynamic that makes it difficult for local communities to voice and achieve their own desires.

To gain an understanding of the effects development projects have upon local communities I turned to the work of James Ferguson, a renowned development anthropologist. In his book, the *Anti-Politics Machine*, Ferguson describes how a sudden influx of development assistance into Lesotho became a vehicle for recentralizing state power away from local communities. In his research Ferguson also found development projects in Lesotho were rarely, if ever, successful in achieving their goal of enhancing development, yet nearly always led to recentralization of authority (Ferguson 1994, 252-255). He dubbed this phenomenon the “Anti-
Politics Machine,” which was the use of development projects to further entrench the power of central governments and defeat efforts at local control (Ferguson 1994, 255-256). He wrote “by making the intentional blueprints for development so highly visible, a development project can end up performing extremely sensitive political operations involving the entrenchment and expansion of institutional state power almost invisibly, under cover of a neutral, technical mission to which no one can object,” (Ferguson 1994, 256).

Patterns similar to Ferguson’s Anti-Politics Machine can be observed in Limpopo National Park, which is part of the Transfrontier Conservation Area between Mozambique, South Africa, and Swaziland (Duffy 2006, 96). Limpopo National Park is legally managed by the government of Mozambique; however, the project is overseen by the Peace Parks Foundation in South Africa and is funded by the German development bank KfW (Witter 2013, 409). The Peace Parks Foundation is a group founded by former employees of the World-Wide Fund for Nature International and draws extensive funding from the World Bank, the United States Government, and a variety of other development assistance agencies. They have also come under deep scrutiny for their actions within Limpopo National Park, Mozambique in recent years.

In Limpopo National Park the Peace Parks Foundation has been accused of prioritizing the profitability of the park over the livelihoods of the residents there, and have advocated for approximately 7,000 locals to be evicted due to wildlife encroachment (Lunstrum 2016, 145). Mozambique’s park officials and Peace Park Foundation professionals deemed predation from carnivores and the spreading of bovine disease to be of too high a risk, but coincidentally, the villagers they sought to evict lived near key sources of water within the park, areas that could likely become tourist hotspots (Lunstrum 2016, 146). Locals have little ability to change their circumstances in this matter writes Lunstrum, “The power of LNP managers is unevenly
distributed and it should not be overstated, but the power of their narrative is enhanced through state authority, international funding…” (Lunstrum 2016, 417). In short, the presence of the Peace Park Foundations, a German Development Bank, and other unknown international influences has created a power dynamic locals cannot hope to deal with on even footing. As described by Ferguson in the case of Lesotho, the power of these international groups overmatches those on the ground and the goals and interests of the central government begin to sap the autonomy of local communities (Ferguson 1994, 252).

Limpopo National Park also has American influences on its management via the Limpopo Heartland Conservation Program funded by USAID and implemented by the African Wildlife Foundation (Lunstrum 2008, 347). The African Wildlife Foundation (AWF) strongly resembles the Peace Parks Foundation and it draws its roots in the streets of Africa and North America’s urban centers as opposed to more localized efforts within Sub-Saharan Africa (Sachedina 2010, 607). The African Wildlife Foundation manages all three of the USAID funded Heartland Conservation Programs: one in Samburu Laikipia in Kenya; one in Arusha National Park, Tanzania; and the previously discussed Heartlands project in Limpopo national park (Sachedina 2010 603-614). However, these projects have been limited in their effectiveness and call into question the objectivity of the AWF.

However, when viewed closely I observe the African Wildlife Foundation to more closely resemble a soft-power instrument of the United States than it does an independent, diverse conservation agency. AWF Tanzania draws 74% of its budget from grants via the USAID, and 78% of its discretionary spending across the organization (Sachedina 2010, 608). This preponderance of U.S. influence in the form of funding is a trend that can be seen in other conservation NGOs like the Peace Parks Foundation, and many and have been assessed as
having per diem expenses that are often 10x higher than local African NGOs yet there is no corresponding increase in effectiveness (Duffy 2006, 101).

Often time these large NGOs engage in sloppy work that lacks both local involvement, and is characterized by waste, fraud, and abuse. The Peace Parks Foundation neglected to consult with local communities in a mapping project and utilized a consultancy group—a group that would later be exposed as a fraud—to draw up plans for the expansion the Trans-Frontier Conservation Area between Mozambique, South Africa, and Swaziland. They would later discover the maps the group generated placed local communities in the middle of a designated wildlife corridor, which would have disastrous effects on crops and increase human-wildlife conflict (Duffy 2006, 101). This type of sloppy work is not exclusive to the PPF. The aforementioned “Heartlands” programs, implemented by the AWF, “were staffed with only one or two ‘community conservation officers,’ usually junior in hierarchy and disempowered,” (Sachedina 2010, 612). Instead of investing in on the ground programs, large conservation NGOs like these two groups have chosen to be outward facing in their focus, building themselves opulent offices in urban centers designed to attract donors while taking only variant trips into the communities they claim to serve (Sachedina 2010, 619; Duffy 2006, 102). This reduces their effectiveness, calls their objectivity into question, and saps the institutional strength of local communities.

Those who defend these large international organizations generally point to the large volumes of revenue generated, like in the case of the Selous Conservation Project, which saw increases in travel after it was declared a UNESCO World Heritage Site in 1982 (Mbomiga et al 2000, 14). Or, they say funding from development agencies give organizations like the African Wildlife Foundation the freedom to experiment and make mistakes in conservation enterprise
development (Wijk et al 2015, 120). However, they fail to acknowledge the differing power dynamics between development agencies, the central government, international conservation organizations, and the communities they desire to serve. Nthiga (2015, 408) described the AWF as a third and neutral partner to promote a fair deal between communities, private investors, and local communities yet it is hard to imagine an organization that draws so much of its funding from the United States government as being impartial. The communities now in the path of a wildlife corridor or facing eviction due to the commercial value of their lands lack the local control they were promised by their governments, and thus both wildlife and local communities suffer (Duffy 2006, 96).

Ferguson modeled his “Anti-Politics Machine” after the anti-gravity machine from a science fiction novel, likening how a previously decentralized resource or community returns state power to more centralized and less democratic places through the narrative of development, and in the cases I have examined this proves true (Ferguson 1994, 256). When faced with their central government, U.S development agencies, and big international non-governmental organizations local communities have little choice but to accede to their wishes. In this way, economic development and conservation flip the control of these resources from local communities to central or international figures. The results are often tepid attempts at conservation, but consistent loss of autonomy by local communities. Much like the effects of an anti-gravity machine.

5.4.1 Impact of Budget Cuts to U.S. Development Programs

One interesting development in U.S. domestic policy that could impact the state of wildlife preservation in my three case countries is budget cuts to traditional U.S. international development and soft power tools. In February 2017, President Trump proposed cuts as high as
37% to the U.S. Department of State and specifically, the United States Agency for International Development (Toosi and Everett 2017). Where these cuts would take place, and whom they would affect remains largely unknown. However, the passage of such cuts would likely have large-scale deleterious effects upon groups such as the Peace Parks Foundation and African Wildlife Foundation.

One might think such cuts would prove disastrous to wildlife preservation in my three cases and Sub-Saharan Africa more broadly; however, my research indicates there could be a silver lining in the passage of these deep cuts. The United States and European stakeholders exported their Yellowstone Model of conservation to the African continent, and I argue they have propped this system up using development assistance funds apportioned to large conservation NGOs. Budget reductions could threaten the validity of the Yellowstone Model, and require Sub-Saharan governments to consider alternative conservation methods. Furthermore, with less development funds available to mete out, it may become possible to avoid the recentralization of state power and loss of local control described by Ferguson. Without intervening conservation NGOs, organizations whose loyalties are not exclusive to local communities, it may become possible for local communities and the central governments to work together. In this new system, central governments will either be forced to choose between increasing their own spending within local communities, spending that previously came from the NGO sector, to maintain their re-centralized authority; or, they will have to work with local communities to accomplish their goal of preserving wildlife and boosting revenues. Either way, the Yellowstone Model of preservation will see a loss of financial support, and ideas more independent of western notions of preservation will have room to grow. While many U.S.
citizens listen to these budget cuts with dread they may prove helpful improving local control in Sub-Saharan Africa. A useful, if unintended side effect of fiscal conservatism.

6. Conclusion:

In the 1970s and 80s the global community turned its attention towards its environment, seeking to better understand how to manage its common pool resources. It was also during this time that neoliberal arguments in favor of privatized, market based systems to solve the Tragedy of the Commons began to grow in popularity (Duffy 2006, 100; Hardin 1968, 1243-1248). The result was a rush of decentralization and privatization of the world’s most essential resources: rivers, pastures, fisheries, forests (Agrawal and Ribot 2006, 1865).

In Sub-Saharan Africa, the concept of national parks presented, in my eyes, a perfect opportunity to study such a diverse set of concepts. National parks, particularly those in Sub-Saharan Africa, represent the confluence of these concepts and phenomena. National parks take their origins in the game reserves implemented during the colonial era (Shetler 2007, 180); they were then transformed into areas designed for sport, and represented an imposition of the European conceptualization of a divide between nature and human civilization (Pearce 2010); in the post-colonial era they transformed into engines of economic development, seeking tourist revenues from abroad (Newmark and Hough 2000, 585); and lastly, they represent the belief in decentralized, multi-stakeholder governance that comes from the neoliberal age of the 1980s and 90s (Mkumbukwa 2008, 596). However, these concepts, both in this paper and in extant literature, have not always held up to detailed analysis.

I theorized national parks in Tanzania, Kenya, and Mozambique would have relatively high levels of poaching, and performed a Geographic Information Systems analysis of the Monitoring of the Illegal Killing of Elephants Datasets to test this. My results were mixed and
my sample size was small. However, what I found was that Kenya has lacked success in reducing poaching, as its parks had higher incidences of poaching with a smaller elephant population than parks in Tanzania and Mozambique. Levels of poaching in Tanzania and Mozambique, though superior to Kenya in my GIS analysis, still occur above the rate of population replacement (Steyn 2016). Elephant populations in the Selous Conservation Area, one of the top performers in my analysis, are predicted to be absent from the park by 2022 per the World Wildlife Fund. And if we accept both analyses as true, then the state of conservation in all three case countries is far graver than I originally theorized.

My second argument was that control of national parks would be centralized in nature, with limited rights, roles, and responsibilities devolved to local communities. I find robust support for this within the critical analysis of the literature that I performed. National parks are often described as decentralized in nature, but I find the opposite. Punishments for poachers and violators are carried out in a top-down system with little local involvement (Hirons 2013, 29) and appointment of key officials to national parks and local councils are made by centralized government officials whose agendas greatly differ from that of local communities (Akama 1998, 112; Kahumbu 2013; Mikumbukwa 2008, 596). Because of this, conservation outcomes have been unsuccessful, largely due to a lack of accounting for the unique sets of institutional arrangements within local communities (Ostrom 1999, 26). Furthermore, stakeholders are frustrated with and often distrust their local officials: they are subjected to forced eviction, they lack representation in decision-making processes, and they are plagued high levels of human-wildlife conflict that they are bound by law to ignore (Owino et al 2012, 389; Haazah et al 2009, 2435). However, the most glaring observation is the outward facing nature of the national parks systems in the three countries I analyzed. Advertisements on websites of national parks paint a
picture designed to appeal to American or European tourists, and the prevalence of community based eco-tourism stands to benefit tourists first, residents later.

Lastly, these national parks have become projections of soft power for many nations, the United States in particular. As described by Sachedina (2010, 618) “As an American NGO, African Wildlife Foundation became a preferential grantee for US government funding and a tool for exporting US models of democracy and enterprise to rural Africa.” Organizations such as the Peace Parks Foundation and African Wildlife Foundation lack local contextualization, and because they are focused on maintaining their privileged status with the United States government it becomes difficult to see whose interests they represent. I argued earlier that the use of these development assistance funds has maintained the flawed Yellowstone Model of conservation. I find support for this argument, as much of U.S. development assistance continues to fund projects that evict local communities and promote conflict with wildlife. The Yellowstone Model has a history of promoting conflict with local communities in both Africa and the United States. Furthermore, it is a model of conservation that lacks local contextualization and struggles to address both increased levels of elephant poaching in all three case countries.

Whether it comes in the form of budget cuts from the new Republican administration, or another source, I argue a rethink of wildlife conservation policy is necessary in all three case countries and Sub-Saharan Africa more broadly. Rights, roles, and responsibilities have become re-centralized in their conception despite efforts to describe them as interdependent and autonomous. Conservation policies lack proper appreciation for the diverse sets of institutional arrangements that govern individual national parks, and both wildlife and local communities struggle as a result. This all occurs as populations of elephants and other species continue to
dwindle below sustainable levels. What is occurring in the national parks systems in Tanzania, Kenya, and Mozambique is a crisis. It is a crisis in regards to the continued loss of population for the African elephant, and it is a crisis in the continued enacting of localized policies and projects without proper local consent or input. These parks, and the communities that live in or near them need a conceptual re-think. However, in this case, we, the experts on this topic, would do well to listen more than we talk. To listen, more than we invest. To listen before we act. Our solutions have all too often exacerbated if not caused problems, and if we do not find a new way forward I fear our next white papers will be the autopsy of the African elephant and of their empty national parks.
Attachments:

Figure 1: World population (normalized)
Figure 2: Whole map (normalized)

Figure 3: Tanzania, Kenya (normalized)
Figure 4: World population, base map (normalized) (Tanzania)

Figure 5: Tanzania (normalized)
Figure 6: Mozambique, Tanzania, World population (normalized)

Figure 7: Mozambique (normalized)
Figure 8: Kenya (normalized)

Figure 9: Kenya, world population (normalized)
Figure 10: whole map, world population (normalized)

Figure 11: Tanzania (un-normalized)
Figure 12: Whole map (un-normalized)

Figure 13: Whole map 2 (un-normalized)
Attachment 14:

1. Parks arrivals highlights

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