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Re-examining the Past and Rethinking the Future at Mount Mulanje Forest Reserve, Malawi: New Directions for Local Engagement

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Re-examining the Past and Rethinking the Future at
Mount Mulanje Forest Reserve, Malawi:
New Directions for Local Engagement

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ABSTRACT

Since the 1980s, broad recognition has been given to the need for and the benefits of aligning the protection of biodiversity in threatened forest ecosystems with measures to address the needs and desires of people living near and depending on those ecosystems. With this research project I focus on one such ecosystem found at the Mulanje Mountain Forest Reserve (MMFR) in southern Malawi. Large amounts of money and time have been put forth by local, national, and international donors and conservation organizations to support the goals of biodiversity conservation and social development at MMFR. In order to explore how managers of MMFR have failed to successfully realize both of these overarching goals, I focus on inadequate and superficial engagement of forest managers with local populations and the effects of this deficient engagement on the health of the reserve. As part of the analysis I emphasize how certain local social contexts have been left unexamined in project design and how these neglected contexts translate into ineffective project implementation and outcomes. Furthermore I highlight how these unexamined contexts continuously reinforce the superficial nature of the connection between local community members and those charged with managing the reserve.

There are valuable lessons to be learned from this case study that can be extended not only to other areas surrounding MMFR, but also to the managers of protected areas worldwide who, in the face of changing global climates and associated policy

implications, are seeing the necessity for increasingly meaningful relationships with local communities and individuals.

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LIST OF ABBREVIATIONS

CBC.....	Community Based Conservation
CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resource Management
CEPF	Critical Ecosystem Partnership Fund
CI.....	Conservation International
FAO.....	United Nations Food and Agriculture Organization
FD	Forestry Department
GEF	Global Environment Facility
ICDPs	Integrated Conservation and Development Programs
IMF	International Monetary Fund
IUCN.....	International Union for Conservation of Nature
MAB	Man and Biosphere Program
MMCT	Mulanje Mountain Conservation Trust
MMFR.....	Mulanje Mountain Forest Reserve
MOBI+LISE	Mountain Biodiversity Increases Livelihood Security Program
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SPWFE.....	Society for the Preservation of the Wild Fauna of the Empire
TA	Traditional Authority
TFAP.....	Tropical Forestry Action Plan

UNESCO..... United Nations Educational Scientific and Cultural Organization
USAID United States Agency for International Development
VFAs Village Forest Areas
WCS..... Wildlife Conservation Society
WWF..... World Wildlife Fund

CHAPTER 1: INTRODUCTION

1.1 Trends for World Forests

Although overall worldwide trends in deforestation and total net loss of forests have decreased over the past ten years, many countries, especially in areas of Africa and South America, are experiencing alarming increases in the loss of their forests (FAO, 2010). Since 2000, Africa has seen an annual net loss of approximately 3.4 million hectares of forest (FAO, 2010). These forest losses can be attributed to many anthropogenic and natural sources, with the primary causes being conversion of land for agricultural purposes, commercial exploitation of timber, the harvesting of wood for fuel, fire, and natural disasters.

As deforestation trends have diverged between Global North and Global South, it has been increasingly acknowledged that forests are essential for a functioning global ecosystem and subsequently essential for the health and well-being of human populations. The Millennium Ecosystem Assessment, for example, highlights how forests provide critical ecosystem services for human well-being, including habitat for many terrestrial plant and animal species (half of these are thought to exist only in tropical forests), protection of freshwater resources, provision of timber and non-timber products for economic and subsistence usage, and valuable cultural, spiritual, and recreational roles (Millennium Assessment Volume 1, 2005: p587).

At present, amid growing concerns over the changing global climate and what that means for human populations, the most discussed ecosystem service provided by forests is carbon sequestration. Simply put, carbon sequestration occurs in forests when trees absorb carbon dioxide (CO₂) through photosynthesis. That carbon is stored in trunks, branches, foliage, and roots (EPA, 2010). It has been shown that tropical forests absorb approximately one fifth of CO₂ released by burning fossil fuels each year (Lewis et. al, 2009).

As one of the latest strategies aimed at mitigating global climate change, millions of dollars are currently being put toward various programs in support of Reducing Emissions from Deforestation and Degradation (REDD+). REDD+ programs stress conservation and sustainable management of existing forests, facilitated through equitable financial incentives for national governments and local communities. Although community engagement is central to the goals of these conservation strategies, they have been heavily criticized for, among other things, their often unstated assumption that local communities and their actions are primary drivers of deforestation. This assumption strips away considerations of broader socio-economic contexts, the apparent tendency of REDD+ programs toward recentralization of state control over forest resources, and their inability to break from traditional top-down constraints placed upon which people from local populations are allowed to participate in design of REDD+ initiatives and how (Phelps et al., 2010; Thompson et. al., 2011).

Thus, forest conservation remains an important issue, especially for the Global South, as it brings together the mitigation of climate change with other market and development initiatives. But this is only the most recent iteration of a long-standing focus

on the protection of forest resources in the Global South. Since the colonial era, various projects and programs have long sought to manage and preserve forest resources in the Global South. The impacts of populations in and around particular forest resources on ecosystem function have been part of this evolving discussion since its earliest days. In today's programs, we can hear the echoes of these earlier programs, and the ways in which they shape assumptions and practices at the core of contemporary conservation efforts. As popular as community engagement and participation may be in the contemporary discourse of forest conservation, many such programs are facing diverse challenges translating their community-focused strategies into successful conservation and social development. If we can better understand these challenges then we will be able to build on that knowledge to better inform a new generation of conservation and development programs moving forward. In this document, when I use the terminology "successful conservation" I am not making a normative statement about success, but rather I am speaking to the ability of conservation organizations, managers, and other practitioners to meet the terms and goals that they have set for themselves for any given conservation project or effort. This is unquestionably a limited definition of "success", as it is confined to the viewpoint of the conservation organization's practitioners and does not take into account non-conservation factors such as financial management of projects. Further, while this project focuses on how managers have engaged with local populations and how different groups of people within those populations may be affected differently by conservation of MMFR, it does not take up complex questions concerning the extent that the definition of successful conservation that people living near MMFR may hold aligns with that of the managers in place at the reserve at the time of this research. I have

focused this research in this particular way with conscious consideration that conservation organizations, especially those with a broad international focus (or those backed by the large internationally focused ones), wield considerable power and influence over sensitive ecosystems and the human and animal populations depending on them in multi-scalar contexts worldwide, and that this system and its accompanying power relationships are likely to persist into the foreseeable future. This is also an acknowledgement while there are numerous examples that exist of failed conservation projects, much of the work that these organizations have done up to this point has been instrumental in preserving and maintaining wild biodiversity in (often threatened) ecosystems across the globe. Therefore, for this project I am working from the perspective that the overall visions and aims of the majority of such organizations are valuable and legitimate and are therefore worth improving wherever possible. With this in mind, I strive in this dissertation to derive lessons on the social aspects of conservation projects that are able to be applied more broadly by various types of conservation oriented organizations while at the same time contributing to the broader academic and professional literature centered on such topics as outlined in more detail below.

The opportunity for this research came about through a grant received by Dr. John Kupfer and Dr. Edward Carr from the University of South Carolina Provost's Office Social Science Internal Grants Program in 2010. I worked as a research assistant on the *Connecting Livelihoods to the Biophysical Impacts of Forest Incursion* grant conducting fieldwork at the base of the Mt. Mulanje Forest Reserve in Malawi focusing on local livelihoods in several communities near the reserve, attempting to understand how the presence of the reserve and the restrictions it creates on the use of timber and non-timber

forest products impacts local livelihoods. I also walked transects within the forest reserve counting cut trees and branches in an attempt to identify human impacts on the area. This project highlighted the need for ground-truthing remotely sensed forest areas for more accurate assessments of incursion and degradation as the field data suggested variability in levels of use across the forest areas uphill from several local communities that would be hard to detect through remote sensing and other similar techniques. I was able to conduct the field research for the following dissertation in conjunction with the research for this grant program.

1.2 Contribution to Geographic Scholarship

This dissertation is broadly political ecological in character, in that it brings critical analysis to social contexts surrounding the ecological protection of natural resources. Within this very broad field, I engage with that part of political ecology engaged with conservation that explores protected areas as bounded and defined spaces where different actors operate at multiple scales and positions of power to negotiate access to natural resources in specific ways producing patterns and trends in conservation (Zimmerer and Bassett, 2003) (also see: Adger et al., 2001; Bryant, 1998; Escobar, 1999; Forsyth, 2013; Robbins, 2011; and Walker, 2005). Even more specifically, this project is informed by the work of feminist political ecologists who have brought a gendered lens to discussions of social aspects of environmental protection (see: Rocheleau, 1995; Reed, 1997; Schroeder, 1997; Agrawal and Gibson, 1999; Few, 2001; and Bandiak, 2008). These authors have deepened the study of how multiscale power relations are articulated in resource protection by focusing on the heterogeneity of communities impacted by conservation programs. The approach I took to the Mount Mulanje Forest Reserve

(MMFR), as a dynamic space encompassing competing narratives of conservation management, multi-scalar power relationships amongst involved actors including local residents, NGOs, governments, donors, and lending institutions, is deeply informed by this literature, as is my concern for the implications of the heterogeneity of groups that make up local communities for conservation initiatives in and around MMFR.

While political ecology and feminist political ecology serve as broad foundations for this project, my work engages with several related literatures with specific interests that pertain to different aspects of conservation and development. One body of geographic scholarship that I build upon in this research is that examining the impacts of protected areas on local populations. The literature on this topic also encompasses other social science and physical science disciplines such as ecology, anthropology, and history. Scholars working in this line of research explore different ways that local people benefit from or are negatively influenced by the creation and operation of protected areas near their homes (Brockington, Igoe, and Schmidt-Soltau, 2006; Brockington and Igoe, 2006; Brockington and Scholfield, 2010; Cernea and Schmidt-Soltau, 2003a, b, and c; Neumann, 1992, 1995, 2003; Bell, 1987; Grove, 1990). Many of these authors point out that local populations often bear a disproportionate amount of the burden created by protected areas through being alienated from important lands and resources. More specifically, my work resonates with that part of this literature concerning the impacts and effectiveness of fortress conservation, where people are excluded from protected areas, as a biodiversity protection strategy (Brandon, Redford, and Sanderson, 1998; Redford and Sanderson, 2000; Peres and Zimmerman, 2001; Southworth, Nagendra, and Munroe, 2006; Southworth, 2010). This literature focuses on what it means in peoples'

daily lives when they are marginalized from the resources on which they depend, whether it is through eviction from the lands upon which they live or through highly restrictive rules concerning resource access and use. This project complements this literature, illustrating how people living near MMFR are impacted by restrictions placed on resource extraction at the reserve and how these impacts manifest in their livelihoods strategies and activities.

Another body of work to which my project directly relates is the literature dealing with conservation efforts that include forms of community participation or community management of resources (for a sample of this extensive literature see: Agrawal and Gibson, 1999; Berkes, 1999 and 2000; Brosius et al., 2005; Chambers, 1983; Ghimire and Pimbert, 1997; Goldman, 2009 and 2011; Hackel, 1999; and Redford and Sanderson, 2000). This literature analyzes an array of current programs, coming under the rubrics of community based conservation (CBC), community based natural resource management (CBNRM), and integrated conservation and development programs (ICDPs), that focus on greater participation of local populations in the design, implementation, and administration of contemporary conservation initiatives with the aim of improving the lives of local communities in conjunction with biodiversity protection. Included in this work is the need for and value of information sharing between community members participating in natural resource conservation and scientists working toward biodiversity protection (Berkes, 2004; Olsson and Folke, 2004). Furthermore, some authors have begun to attempt to translate lessons learned from these community focused programs into bettering new REDD+ programs (Blom et al. 2010). In this analysis I extend this literature by examining how the translation of complex lessons of multiscalar

environmental processes to local community members is resulting in oversimplified and possibly highly problematic understandings of the forces shaping their lives that can misalign overall project goals and challenge the likelihood of their success.

Drawing from and building on the broad lessons provided in these bodies of work, I have developed a series of research questions that might be answered through my work at MMFR. The answers to these questions speak to one or more of these literatures, enhancing various aspects of our understanding of the intersection of conservation and development in the Global South.

1.3 Research Goals and Questions

Today, strictly controlled protected areas are increasingly utilized as strategy for preserving vital ecosystem services and natural resources for global populations. Despite increasing efforts to strengthen participation of local communities living near those resources in these protection strategies, there are numerous occasions where they continue to conflict with the established livelihood practices of local populations. These conflicts oftentimes result in grave outcomes regarding the well-being of local populations who find themselves alienated from vital resources and lands.

This dissertation centers on investigating how these contrary needs and desires are materialized at one protected area in Sub-Saharan Africa. I focus on the Mount Mulanje Forest Reserve (MMFR) in rural southern Malawi to explore why, despite millions of dollars in international funding from various donors, reconciling community development needs with biodiversity protection remains an elusive goal. Mount Mulanje Forest Reserve (MMFR) in rural southern Malawi. I will examine these issues by seeking answers to the following questions:

1. What are the primary conservation and development priorities of managers at MMFR today and how did they come to be this way?
 - 1.1 How have the actions and motivations of international organizations and institutions, national governing bodies, and local managers come together to produce the current management structure for the Mount Mulanje Forest Reserve?
 - 1.2 How have relationships between managers at MMFR and those living near the reserve changed over time?
2. What intricacies exist within multi-scalar political, economic, and social contexts at Mount Mulanje Forest Reserve that challenge the translation of millions of dollars of international funding into successful actualization of conservation and development outcomes on the ground?
 - 2.2 How have conventional conservation and development program designs at the reserve failed to account for the realities and perspectives of local residents? What does this lack of attention portend for the health of the reserve in the future?
 - 2.3 What complex power relationships exist among and within management agencies at Mt. Mulanje that could hinder the progress of conservation efforts?
3. What lessons can be drawn from the situation at MMFR that can be translated into improved strategies for engagement of local populations there and other protected areas worldwide?

1.4 Structure of the Dissertation

Throughout this dissertation I seek to gain a better understanding of what multiscalar social contexts have been unexamined or otherwise ignored that could bring us closer to more effective and equitable engagement of local populations in modern conservation and development planning and implementation. To that end, in chapter two I examine the progression and transformation of conservation and development efforts in Sub-Saharan Africa since colonial officials formalized the protected areas there in the early 1900s. I use this analysis to inform my subsequent inquiries into current actors involved in conservation at MMFR and the lineages of their motivations and understandings of ecosystem protection and social development.

In chapter three I lay out the specific history of conservation at MMFR dating back to its establishment by the British in 1927. I then move on to describe the current social and economic situations of people living in the Mulanje District of southern Malawi today and the unique ecosystem that makes up MMFR as well as the vital ecosystem services the mountain provides. These descriptions give readers a better understanding of the origins of the ecological and social situation in which current conservation and development efforts are playing out at MMFR.

Chapter four details the qualitative methods utilized in this study including descriptions of who in the local communities I talked to and how I compiled that information, which managers and other organization representatives gave input and how it was utilized, and the challenges I faced carrying out this research.

In chapter five I explain how current management structures at MMFR came to be. This involves a discussion of how international lending institutions, concerned

ecologists and mountain enthusiasts at Mt. Mulanje, the Malawian government, and foreign government donors all came together to decide the way forward for conservation at MMFR, with noticeable absences of the input of local populations. I also examine differences in opinions amongst current managing institutions at MMFR and how powerful local and regional outside actors have become a challenge to the successful conservation of MMFR and local social development schemes. Chapter six describes the importance of farming to the local population around MMFR and compares the farming practices of the two specific research sites in my study area. This chapter provides insights into complex social issues revolving around fertilizer subsidy programs in Malawi as well as challenges being faced in the area concerning the changing global climate.

In chapter seven I move on to describe how local populations have been represented by managers of MMFR. I then I transition into a discussion of forest-based livelihood strategies that people from my study sites participate in. I look at what the official rules are for use of forest resources and compare that with the ways that people say they actually utilize those resources. Also included in this chapter is a discussion of repercussions that can come about when forest resources are extracted illegally.

Chapter eight shifts to discuss non-forest based livelihoods activities being pursued by respondents in the study area. Here I explore what alternatives to forest resource extraction exist and for whom. This extracts a better understanding of the heterogeneity of the local population along with shedding light on local norms that shape what jobs are seen as socially acceptable for which particular people.

In chapter nine I go on to explore what types of initiatives local forest managers have attempted to implement that are aimed at providing alternatives to extractive livelihoods and therefore reduce pressure on the ecosystem of MMFR. Here I shed light on how current management efforts are failing to account for nuanced local social structures and political contexts at the expense of successful project implementation.

In chapter ten, I integrate the information and analyses found in chapters two through nine. I use this information to put forth conclusions on the way that overly-course views of local social contexts at MMFR combined with specific failures of managers at MMFR in engaging in meaningful exchanges of ideas with local community members is contributing to the failure of translating millions of dollars in international funding to bring about successful conservation and development objectives. I go on to illustrate how the lessons learned at MMFR can bring about helpful dialogue on the design of new conservation and development projects that are being developed within the context of a changing global climate and associated challenges and uncertainties.

Summary

Answering the aforementioned research questions will allow me to construct a detailed understanding of the sources of challenges faced in integrating community engagement with forest conservation, not only in MMFR specifically, but also in a more general manner that engages how we construct the idea of community engagement at the intersection of development and conservation. Such an understanding will assist donors, conservation managers, and development professionals at multiple scales in refining their strategies for protecting the Mt. Mulanje and other ecosystems, while more responsibly and effectively engaging local residents. This improved engagement and communication will help start new dialogue between these groups that will bring them closer to

addressing pressing needs within the communities. Furthermore, the deeper understandings gained here of the challenges in translating community-focused conservation and development strategies into successfully implemented projects will help inform contemporary program design for projects aimed at preserving forests and ensuring the well-being of local and global populations in the face of a changing global environment.

CHAPTER 2: LITERATURE REVIEW

In the following literature review I will examine the long and complex history behind current conservation and development strategies worldwide, and specifically in Sub-Saharan Africa. I will pay special attention to how policies and agendas regarding engagement with local populations living near these protected areas have changed over time. This review provides the historical precedent for the modern community focused conservation efforts we see today.

2.1 Early Protected Areas in Sub-Saharan Africa

Prior to the formal establishment of protected areas in British- controlled portions of Africa during colonization, concern had been growing over degradation of agricultural lands through soil erosion, loss of forests through largely unregulated cutting, and the steadily decreasing numbers of popular wild game species (Neumann, 2003: 242; Prendergast and Adams, 2003: 251). At this time, during the late 1800s, distinctly new forms of biological conservation were being developed in the United States. In 1872, Yellowstone National Park was created in the western United States and in 1891 Shoshone National Forest was established adjacent to Yellowstone (NPS, 2007; USFS a, 2010). The establishment of Yellowstone was the first reservation of “wild lands” for recreational use by the U.S. Government (Haines, 1974). These groundbreaking movements in conservation were followed by the establishment of the U.S. Forest Service in 1905 and the National Park Service in 1916 (NPS, 2010; USFS b, 2010). While setting precedents for wildlife and land conservation, these movements were also

setting worldwide precedents regarding participation of indigenous or non-European peoples in conservation. Specifically, the establishment of the new National Parks and National Forests called for the strict removal of all Native American habitations and cessation of their activities on those lands (NPS, 2007).

These newly established protected areas served to motivate and influence those concerned with the environmental degradation in Sub-Saharan Africa. While most government officials were primarily concerned with agricultural aspects of environmental protection, the London based Society for the Preservation of the Wild Fauna of the Empire (SPWFE), drawing in large part on the conservation policies of the U.S., became highly influential in shaping conservation strategies in British-run Africa. This society originated with the efforts of a number of individuals primarily concerned with the effects of unregulated hunting of large game species in the self-governed British territories in Southern, Central, and East Africa by colonial officers and officials, most hunting by local populations through traditional means had already been virtually shut down through restrictive colonial policies and what remained was not seen as a primary threat at the time (Neumann, 2003: 242; Prendergast and Adams, 2003: 251-252). Also of concern was increasing deforestation and the subsequent environmental effects that it caused, motivated by environmental degradation in British colonies in India and Southern Africa in particular (Prendergast and Adams, 2003: 252). The group, largely composed of sport-hunters, naturalists, and other scientists with varying experience in Sub-Saharan Africa, worked diligently to gain widespread influence with prominent politicians and government officials within the UK and internationally, and often made these select actors honorary members of the society. Likewise, the members of the group were quite

successful in gaining financial support for their efforts through lobbying colonial agencies and fundraising within elite circles (Prendergast and Adams, 2003: 254-256). Through these successful efforts the society was able to play a large role in the establishment and management of many protected areas and game reserves throughout British colonial Africa.

Perspectives held by the SPWFE for the most part portrayed local people living near these protected areas and game reserves as harmless, having lived in a type of coexistence with the wildlife and forests throughout time without causing irreversible losses. However, the SPWFE felt that the “natural” state of the interactions between local people and the environment and the wildlife therein should be actively maintained (Prendergast and Adams, 2003: 258). Therefore, the members of the society discouraged the state and colonial officials from transferring most modern weapons and some farming equipment to local people because they viewed these as a means of increasing environmental degradation. If local people did not comply with regulations prohibiting their use of these modern technologies then oftentimes they were barred from utilizing the protected areas altogether, such as happened at Serengeti National Park in present day Tanzania (Neumann, 2003: 248).

The fact that local populations were initially not seen as a threat to the success of the protected areas differs somewhat from the strategies employed in the U.S. national parks and forests, where local and indigenous people were (in most cases) forced off of the land at the outset of the creation of the reserves (NPS, 2007). Despite these differences however, like many U.S. parks and forests, most human activities in these early African parks and reserves were severely curtailed in the name of protecting or

preserving the key plant and animal species of interest to the colonizing government or the sportsmen and conservationists of the colonizing country and so they were therefore effectively evicted from these lands with regard to utilization or maintaining their own prerogatives for their lands. These colonial African parks and reserves were all created with the interests (economical, recreational, and aesthetic) of the colonizing country at their core. Therefore, any immediate value derived from these protected areas benefitted the colonizers alone, not the colonized. As we will see in the next chapter, in Malawi in the early 1900s the first forest reserves and national parks were demarcated by the British colonial government to ensure prime hunting privileges for white, European settlers and to protect commercially valuable timber species and water resources that were important for newly established European estates (Kamoto, Dorward, and Shepherd, 2008). These restrictions eventually transformed the tolerance of “natural” human-environment interactions into the many examples of conservation that exclude humans in the name of protecting biodiversity (oftentimes with exceptions for scientific research and tourism). Such efforts are commonly referred to as “fortress conservation” within Sub-Saharan Africa and elsewhere.

After independence, the governments of many African countries continued the colonial legacy of “fortress conservation” with forests and other resources being protected and managed for the benefit of the state (and often the governments and officials of those states) while the needs of local communities living near these resources remained largely ignored (Bell, 1987; Grove et al., 1990; and Neumann, 1992 and 2003). Where such exclusionary strategies are still pursued, the ability of governments to successfully enforce them has varied greatly from country to country and amongst

protected areas within countries. Likewise, the impacts of these policies on local communities have also differed from place to place. In some places governments have been largely successful at restricting human activities in these areas to a limited number of uses such as tourism, scientific research, or government licensed logging. In other places, however, inadequate government capacity has opened opportunities for nearby residents to gain access to resources of these protected areas in the form of timber, bush meat, and non-timber forest products (Thompson, 2008 unpublished MA thesis). Where fortress conservation has been enforced successfully, the local communities nearby have often suffered. As stated by Ghimire et al. “[The protected area system] has customarily led to extensive resource alienation and economic hardships for man rural social groups” (1997:2). For example, speaking on his work at Mt. Meru at Arusha National Park in Tanzania, Neumann reports that,

Since the arrival of the Germans, the pattern of natural resource management and access control on Mount Meru... has been one of increasing state intervention and a steady erosion of the Meru’s customary rights. Under the independent government , local control has been eroded even further (1998:120).

While there are many instances where fortress conservation has persisted as the norm for the development of protected areas, there are also numerous examples of more progressive strategies that attempt, in various ways, to address the needs of those living near protected areas or to transfer conservation authority to local communities outright. I will discuss these strategies along with their successes and failures below. First though, I want to turn to a description of how international economic and social development policies have become increasingly integrated with environmental protection efforts. The

combination of these conservation and development efforts give context to the more community oriented conservation strategies that we see in so many instances today.

2.2 Progression of International Development Strategies and Environmental Impacts

Several years after the World Bank and the International Monetary Fund (IMF) were established at the Bretton Woods Conference in 1944 as the reconstruction of Europe began to slow down in its intensity, a substantial portion of the focus of these institutions shifted from the reconstruction of postwar Europe to poor (Third World) countries (Peet, 2003). During this time (late 1940s through the 1960s), much development policy was underpinned by theories of development promoted by economists such as W.W. Rostow, famous for his work *The Stages of Economic Growth* (1959). These new development efforts placed a heavy emphasis on preparing the societies in poor countries to achieve first the “preconditions to take-off,” such as improved transport infrastructure, modernized agriculture, and increased foreign exchange. Such preconditions were expected to facilitate successive stages of increased economic growth until the countries achieved successful sustainable economies (Rostow, 1959; Easterly, 2006). Sustainability, in these early development schemes, had very little to do with the conservation of the natural environment. Indeed, the environment was mentioned largely as part of strategies that exploited natural resources such as mining and timber operations for economic gain or that promoted harnessing energy from the environment through the use of large dam building projects for hydropower production, irrigation, and flood control. Institutions such as the IMF and World Bank were joined in these efforts by other national aid agencies like the United States Agency for International Development (USAID). In the 1960s, such development efforts poured

immense amounts of money into less industrialized countries around the world, many of which were newly independent countries after colonialism. However, the infrastructure and modernization technologies purchased with these financial resources often did not succeed in achieving the returns expected of them, creating situations where poor countries found themselves burdened by staggering debts compounded by high interest rates on loans (Williams, 1994). In other countries, corrupt governments used the loans for their own personal gains instead of attempting to assist their populations or spur economic growth without fear of reprisals because of sensitivities toward political loyalties during the Cold War (Bhagwati, 2010; Goldsmith, 2001).

By the 1980s, general recognition of the ever-expanding debts of poor countries as a result of failed loan programs had prompted the IMF and the World Bank to shift their policies toward loan projects that were felt would be more controlled and therefore result in better returns on investments. Structural Adjustment Programs (SAPs), as these new policies were known, placed strict conditions on future loans or lowering interest rates on current loans from the IMF and World Bank. Underpinned by neo-liberal logic, these conditions usually involved reducing government intervention in the economy, increasing market competition, focusing on increased exports, and making significant cuts to social, health, and education programs so that economic growth would be the overarching goal (WHO, 2010; Williams, 1994). While significant economic growth did occur as a result of many of these projects (for example see Mercenier and de Souza, 1994; Przeworski and Vreeland, 2000; Thiele, 2003) benefits were often felt by a very small portion of the population while the immense costs often fell to already marginalized groups within society (Abouharb and Cingranelli, 2007). The urban and

rural poor felt the impacts of structural adjustment most acutely, with decreased wages, higher costs for healthcare and education, and higher food prices (Easterly, 2006; Gibbon, 1992; Mkandawire and Soludo, 1999; Williams, 1994). In some cases, these strategies often served to worsen the already unsolvable debt problems in the countries where they were enacted (Przeworski and Vreeland, 2000; Barro and Lee, 2002). In others, these programs are positively credited with triggering cycles of economic growth that persist to this day or at least for staving off conditions that would have, in some opinions, been far worse had structural adjustment not occurred. For example, Ghana is often heralded as a success story of structural adjustment with proponents citing improved economic growth rates during adjustment years over the non-adjustment years (Toye, 1991:155). However, whether or not this “success” is a realistic representation of overall improvement of the lives of those living in Ghana during and after structural adjustment is a point questioned by many authors, who point to persistent discontent of Ghanaian citizens from various sectors who have struggled to maintain their livelihoods under policies that have translated to massive layoffs, increased school fees, increased fees for any government services, restraints on credit for small business owners, the end of many subsidized goods and services, and lowered wages (Kraus, 1991). Others have questioned whether the praised economic growth in structural adjustment “success stories” such as Ghana and Uganda is a sanitized version of problematic growth trends. For example Easterly (2005) illustrates persistent inflation problems that remained an issue despite Ghana receiving 26 structural adjustment loans received up until 1999 (2005: 5-7).

During the early 1980s, discussions of environmental protection remained largely nonexistent in development policy and therefore a number of negative impacts developed as a result of structural adjustment policies. Several authors illustrate how, at times, these programs promoted large scale exploitation of natural resources for convenient and quick gains in capital while disregarding significant environmental costs and social impacts (George, 1988; Hogg, 1993; Owusu, 1998). Owusu (1998) discusses in detail how the structural adjustment policies put in place in Ghana in 1983 placed heavy emphasis on increasing timber exports, which led to widespread devastation of the country's remaining rainforests. Further, this prolific commercial logging opened up new areas for agricultural conversion by slash and burn farmers through the construction of new roads into previously inaccessible areas (Owusu, 1998: 431). Owusu also stresses how the large environmental costs that came about due to structural adjustment policies are rarely if ever discussed. Instead the programs are hailed as successful because of financial gains from the increased and efficient selling of timber (1998: 434).

The IMF and World Bank made 958 adjustment loans to indebted countries from 1989 to 1998 (International Encyclopedia of the Social Sciences, 2008). Easterly (2005) details how many countries received repeated adjustment loans, for example Ghana and Cote d'Ivoire both received 26 loans and Argentina received 30, and how despite this large number of interventions persistent problems remained and overall per-capita growth did not change substantially (2005: 6,7,20). He goes on to state that "Putting external conditions on governments' behavior through structural adjustment loans has not proven to be very effective in achieving widespread policy improvements or in raising growth potential" (Easterly, 2005:20). Due in large part to the grave criticisms structural

adjustment policies received from academic and policy circles, as well as from disappointed lenders who found that structural adjustment policies most often failed to bring about the transformational economic changes for which they were intended throughout the late 1980s and 90s (for example see Easterly, 2005; International Encyclopedia of the Social Sciences, 2008; Babb, 2005), revised approaches to development policy began circulating within the World Bank, IMF, and other development agencies. These new (or modified) strategies began to emphasize (at least on paper) participation of civil society and eventually of local people involved or affected by development projects in project planning, design, and implementation. These strategies have been implemented at all scales, for example the utilization of Poverty Reduction Strategy Papers (PRSPs) at the national level that present an ongoing effort to bring more participation from governments and civil society to the rigid frameworks of structural adjustment, and at the local level the practice of using methods like Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA) that involved multiple ways of incorporating the needs and perspectives of local people while maintaining efficient time schedules for large scale development projects (Chambers, 1997 and 2008). While in some instances these strategies seem to have brought forms of legitimate involvement to civil society and local peoples (for example see Mpepo and Seshamani, 2005) in other cases critics have accused such approaches of not doing enough to break away from old structural adjustment policies that do not bring about actual change in the level of engagement of people affected most by development programs (among many others are Richards, 1995; Holmes and Scoones, 2001; Shiverenje, 2005; Mosse et al., 2008).

Along with evolving frameworks and ideologies within development practice, new attention and concern was also being placed on the importance and fragility of ecosystems worldwide. Spurred by the growing popularity of the environmental movement in the United States, renewed focus began to be placed on the inextricable linkages between human well-being and the health of the natural environment. While much of this attention was placed on issues of air and water pollution and the impacts of synthetic chemicals on humans and animals (for example, the implementation of the Clean Water Act in 1972, and the Clean Air Act in 1963 and its amendment in 1970), additional attention was also being placed on protecting plants, wildlife, and their habitats (for example, the implementation of the Endangered Species Act, 1973). New groups of powerful actors were brought together at this time in the form of national and international environmental NGOs such as The Nature Conservancy (TNC), The Wildlife Conservation Society (WCS), the Sierra Club, Conservation International (CI), and World Wildlife Fund (WWF). These various organizations focus primarily on the protection, preservation, or management of biodiversity worldwide, with special emphasis on rare, threatened, or endangered species. Within these conservation-based organizations, just as in international development policy circles, the incorporation of participatory programs that involve local communities in efforts to conserve biodiversity have steadily increased since the 1990s.

In the late 1980s, the introduction of the exceptionally influential set of ideas, collectively comprised under the title of “sustainable development”, brought the two unique but related projects of international development and environmental protection together. Sustainable development was a term popularized in 1987 by the Brundtland

Commission. The commission had been convened by the United Nations (UN) in 1983 with the purpose of "... [achieving] common and mutually supportive objectives that take account of the interrelationships between people, resources, environment, and development" (UN, 1987). Sustainable development was defined in this report as policies and projects that "meet the needs of the present without compromising the ability of future generations to meet their needs" (UN, 1987). Since that time, this terminology has been integrated into a profusion of strategies, policies and programs including such seminal collaborations as Agenda 21, a product of the United Nations Conference on Environment and Development (UNCED) or Earth Summit, that sought to address combined problems of development and environmental degradation. Additional examples of the proliferation of sustainable development dialogues include the creation of the United Nations Commission on Sustainable Development (UNCSD), principle 4 of the Rio Declaration on Environment and Development that brought more focused attention to the role of the environment in development, and more recently the attention to this subject in the United Nations Millennium Declaration and the World Summit on Sustainable Development (WSSD) in 2002.

Today there are substantial debates about whether or not programs coming under the heading of sustainable development truly address the challenges of merging economic development and environmental protection for present and future generations or are simply re-inventions of past top-down development schemes (Hart, 1997; Shiva, 1991; Esteva and Prakash, 1992, 1998). Some critics argue that sustainable development is only a collection of efforts aimed at portraying established free-market economic practices as more ecologically sensitive so that they are more acceptable to stakeholders and policy

makers and can continue virtually uninterrupted, while actual ecological and social challenges go largely unaddressed (Escobar, 1995: 195-196). Others view sustainable development as a means of extending and facilitating colonial relations of power into the present day through narrow (primarily Western) centric definitions of nature, extension of Western economic systems into developing countries, and the potential for altering the cultures and livelihoods of local peoples (Banjeree, 2003: 147-148) .

2.3 Current Collaborations: Conservation and Development

Today, more than 20 years after the formal introduction of sustainable development, closer collaborations are occurring between traditional economic actors such as the World Bank and IMF, and traditional conservation actors including NGOs such as CI or WWF. Here I explore these broad collaborations, illustrating how they have recently contributed to more focused approaches that are aimed at increased community and civil society involvement in conservation. These broad collaborations commonly come in the form of conservation finance, financial agreements between lenders, states, and NGOs and at times unique organizations that specialize in facilitating such interactions. These financial mechanisms take several different forms and most international conservation organizations have special teams devoted to coordinating the efforts of powerful actors and organizations toward the implementation of these programs. Among the different types of conservation funding made available by CI, for example, is the Critical Ecosystem Partnership Fund (CEPF) that brings together partners such as the French Development Agency, GEF, the Government of Japan, the John D. and Catherine T. MacArthur Foundation, and the World Bank (CI, 2010 a). The CEPF, having committed over \$94 million in grants since 2001 for over 1,200 programs, focuses

on funding for NGOS and private organizations located where their conservation efforts will benefit global biodiversity hotspots, areas that have been judged to be particularly vulnerable to biodiversity loss (CI, 2010 b). WWF is another example of an extremely influential international conservation organization that has utilized various forms of conservation finance to support their conservation goals across the world. Having garnered over \$400 million in funding for conservation programs since the 1980s, WWF focus their attention on approximately six different types of conservation finance efforts (WWF, 2010 a). Among the most notable of the forms of financial mechanisms used by WWF and other organizations are conservation trust funds and debt-for-nature swaps. Conservation trust funds are established with the purpose of providing conservation funding over many years in countries that have been found to hold valuable types and levels of biodiversity but that have limited protection capabilities due to economic reasons (WWF, 2010 b). These funds may take approximately seven different forms, including for example endowments, sinking funds, and park management funds, and incorporate a wide variety of funders (i.e. the World Bank and GEF), national governments, and civil society or NGO actors at the local level (WWF, 2010 b). Debt-for-nature swaps are an additional financial mechanism (often times used in conjunction with other mechanisms like conservation trust funds) that have been employed by a number of different organizations such as WWF, CI, TNC, the World Bank, USAID, GEF, and others. These swaps can take several different forms but usually involve a third party (such as an NGO or one of the other aforementioned organizations) purchasing a portion of a developing country's national debt at a discounted rate from either a commercial bank or another foreign government, that portion of the debt owed is

then in effect forgiven or canceled in return for the establishment of protected areas or other types of conservation efforts to be financed in the local currency, or alternatively debt payments can continue to be made by the indebted country but with the payments going into a conservation trust fund within that country to finance long-term conservation efforts (Resor, 1997; TNC, 2010; WWF, 2010 c).

One organization that plays an active role in mediating or contributing to many (but certainly not all) of these agreements is the Global Environment Facility (GEF). Established in 1991 as a pilot program within the World Bank, today the GEF is a joint effort between 182 governments and numerous international institutions (such as the World Bank, United Nations Development Program (UNDP), United Nations Environment Program (UNEP), United Nations Food and Agriculture Organization (FAO), United Nations Industrial Development Program (UNIDO), African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank, and the International Fund for Agricultural Development, NGOs, and civil society organizations that work together to address environmental problems (GEF, 2010). According to the GEF, their programs work by “[providing] grants to developing countries and countries with economies in transition for projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and persistent organic pollutants” (2010). To date the GEF has “allocated \$8.8 billion, supplemented by more than \$38.7 billion in co-financing, for more than 2,400 projects in more than 165 developing countries and countries with economies in transition” (GEF, 2010). Biodiversity projects account for approximately 36% of the

work of the GEF, with one major focus being on increasing the sustainability of protected area systems (GEF, 2010).

In addition to providing grants, the GEF also serves as the financial mechanism for several international conventions concerning environmental protection including the Convention on Biological Diversity (CBD), the UN Framework Convention on Climate Change (UNFCCC), the Stockholm Convention on Persistent Organic Pollutants (POPs), and the UN Convention to Combat Desertification (UNCCD) (GEF, 2010). Clearly, the GEF has become one of the most influential mediators between governments of developing countries, conservation NGOs, and global financial lenders. While these conservation funding mechanisms are primarily aimed at biodiversity conservation in some of the world's most ecologically vulnerable areas, there is broad acceptance and recognition by these organizations of the need for participation from governments, civil society, and local stakeholders in order to come closer to achieving their goals for protection of resources in these places. Framings of sustainable development founded on neoliberal ideals of devolution of blanket government control of the environment and economy in favor of greater emphasis on personal responsibility can be found throughout the various mission statements and directives of these collaborators. In other words, these collaborators generally see widespread government control over conservation and development interventions as a bad thing and instead wish to see increased decentralization in order to open up these programs to broader markets while increasing the incentives for local actors to take responsibilities for the environments on which they depend. For example, CI's mission is stated as "Building upon a strong foundation of science, partnership and field demonstration, CI empowers societies to responsibly and

sustainably care for nature, our global biodiversity, for the well-being of humanity” (CI, 2010 c). Likewise, WWF’s vision combines sentiments for human beings and the non-human environment stating, “Reconciling the needs of human beings and the needs of others that share the Earth, ... We seek to instill in people everywhere a discriminating, yet unabashed, reverence for nature and to balance that reverence with a profound belief in human possibilities” (WWF, 2010 d).

As well respected and established as many international conservation organizations operating in Africa and elsewhere may be, they have come under increasing scrutiny and criticism by some in the academic and policy communities. These critics accuse these environmental advocacy organizations of misleadingly promoting types of crisis narratives portraying African landscapes as teetering on the edge of irreparable environmental devastation which they often cite as being caused, for example, by exploding local population numbers or unsustainable farming practices, classic tragedy of the commons scenarios (Leach and Mearns, 1996; Broch-Due and Schroeder, 2000). These authors cite how viewing landscapes in this manner provides impetus and justification for intense intervention both by national governments and by “outside” experts who are tasked with developing solutions to these problems, often with the assistance of immense financial resources provided by large private support bases in their home countries. Such actions have prompted criticism from some scholars that the motivations of some of these organizations have become more profit driven than responses to true environmental challenges. These authors acknowledge that there are very real environmental issues being faced in many areas within Sub-Saharan Africa, but question whether or not contemporary strategies for addressing those issues have been

carried out in the right way and for the most appropriate reasons (McCann, 1999).

Additionally, skepticism has been raised concerning the ethics of some funding strategies of some of these large conservation and development organizations, where partnerships have been formed in some cases with private companies known for practices that result in large amounts of environmental degradation.

2.4 Focusing on Communities

Since the late 1980s and early 1990s most conservation programs initiated or supported by major conservation and development organizations have emphasized the participation of local communities that live near the threatened resource. Collectively, projects these community-focused projects are often referred to as participatory conservation, community based natural resource management (CBNRM), community based conservation (CBC), and more recently indigenous and community conserved areas (ICCAs). These efforts are a recent interpretation of sustainable conservation and development programs and are aimed at simultaneously achieving environmental conservation goals and human economic and social development goals through engaging local community members in differing capacities and extents in the design and implementation of environmental protection efforts or in some cases completely entrusting local communities with all aspects of an area's environmental protection and management.

CI is a good example of a large conservation organization that is putting a lot of resources toward community focused programs. CI lists ten “Key Successes” on their website where they highlight CI programs across the world that they believe personify successful integration of local communities and environmental protection (CI, 2013). For

example, in Brazil, CI is involved with a local indigenous peoples group known as the Kayapó and is supporting the members of this community with training, technology, transportation, and fuel for monitoring nearby sections of the Amazon rainforest, as well as offering support for small business and enterprise creation (CI, 2013). Another organization focusing on community based conservation is the U.S. based WCS that is also mentioned previously in this section. WCS extols the successes of their community based conservation programs which they have operating on three different continents (WCS, 2013 a). In Zambia, WCS established the Community Markets for Conservation Co-op (COMACO) program to promote alternative livelihoods in the Luangwa Valley where large tracts of land are protected for wildlife conservation (WCS, 2013 b). In this same area WCS has been cooperating with local villagers to end poaching of animals through snares and have even engaged the local communities in turning former snare wires into items of jewelry to sell locally and to tourists visiting the area on safaris (WCS, 2013 b). In India, UNDP is working with national and local governments and other institutions at promoting CBNRM that emphasizes preservation of traditional knowledge of natural resources, decentralizing control of natural resources to local community groups, and engaging communities in biodiversity mapping among other initiatives (UNDP, 2013 b). Along with these examples there are a host of other programs all over the world facilitated or supported by a plethora of organizations including TNC, WB, WWF, African Wildlife Foundation (AWF), the Natural Resources Defense Council (NRDC), and a wide variety of state institutions such as USAID, the Norwegian Agency for Development Cooperation (Norad), the British Department for International Development (DFID), and many more.

To date, a sizeable body of critical literature has been developed concerning community-based conservation and otherwise integrated community focused social development and conservation programs in their various forms. Various critiques have been put forward regarding such programs that highlight how, in many instances, complex and dynamic concepts such as “community” and “environment” are grossly oversimplified leading to unrealistic expectations and misguided efforts. In these cases, the critics point out, communities have been portrayed as homogeneous and friendly groups of people that hold corresponding goals, desires, challenges, and access and command over resources (Agrawal and Gibson, 1999 and 2001; Lane and McDonald, 2005). These critics highlight that no meaningful exploration of power relations within those communities have been undertaken (Berkes, 2004; Twyman, 2000). These authors further point out that this examination of power relations should also be extended to managing agencies and organizations, state actors, and other practitioners instead of portraying their interactions with local people as occurring on fully level playing fields. Other critiques have been aimed at the oversimplification of the natural environment in many community focused conservation programs. These writers identify instances where, in certain programs, the environment in some areas is characterized as a linear system that will automatically respond within a set of known and specific ways to interventions by conservationists and community members, instead of being portrayed as active, dynamic, and variable systems that are far more unpredictable than many scientists traditionally thought (Berkes, 2004; Leach et al., 1999; Levin, 1999; Gunderson and Holling, 2002).

Leach, Mearns, and Scoones (1999) built upon these more broad critiques of oversimplification to develop new type of analysis for these social and environment systems involved in community based conservation. This type of analysis, referred to as extended entitlements analysis, provides a way of describing and considering the environment in terms of the numerous different resources and services it provides to people and animals and to the planet in general (Leach et al., 1999: 231). Similarly, the concept of “community” is disaggregated to take account of what resources people have access to or that they own, whether people have control over the use of those resources they own or can access, and what institutions (described by the authors as regularized patterns of behavior among groups and individuals) inform and shape the daily interactions between individual community members, managing constituencies, and other involved organizations (Leach et al. 1999). Furthermore, how society-environment interactions are continuously mediated over space and time through these various dynamic institutions (Leach et al. 1999: 225). I will revisit this publication later in this dissertation to draw from and build upon their concepts of endowments, entitlements, and institutions as useful means along with analysis of livelihoods to translate realities of complex human-environment systems into practical project implementation strategies.

Further critiques have centered on how many current community based conservation efforts throughout the world are continuously replicating and repeating problematic top-down, structured conservation strategies, only changing the wording and rhetoric to fit more modern times (Berkes, 2006; Cooke and Kothari, 2001; Escobar, 1995; Kelsall and Mercer, 2003; and Ribot, 1999). These authors highlight the fact that at the same time that community participation is being advocated for, local populations are

often pointed to as the primary reason for destruction or degradation to a protected area through resource misuse or encroachment, without giving more critical attention to broader contexts informing this use (Pimbert and Pretty, 1995).

In her extensive work with the Maasai of Tanzania, Goldman (2003; 2011) illustrates how time and again, despite attractive language used by international organizations and local governing bodies that celebrates community participation, engagement, and at times community ownership in a number of conservation areas business as usual, top-down conservation strategies persist (Goldman, 2011). She describes her recent work at Manyara Ranch in northern Tanzania as a conservation opportunity lost and explains her view that excluding local people, not only physically from certain high-priority conservation areas, but by refusing them the ability to participate in “decision making processes regarding land and other resources that directly impact their livelihoods” is depriving those people of a basic human right (Goldman, 2011: 68). Goldman makes no claims in her works that increased community participation in any given instance will automatically equate to greater conservation outcomes in the form of increased biodiversity or otherwise, she instead describes how at first wildlife numbers were up on the Manyara Ranch after its establishment as a conservation trust protected area (Goldman, 2011:71-72). However, she goes on to explain how what first appeared as gains for conservation and biodiversity protection, later showed signs of losing traction as disheartened and disappointed local hunters began killing increased numbers of lions and other animals because of the perceived lack of respect for their traditions from the managers of the ranch (Goldman, 2011: 75-76). I will draw on Goldman’s work for this project regarding how perceptions of ownership in

conservation and development projects can impact program outcomes. And further I will build on her analysis of the persistent failure of contemporary conservation and development projects to meaningfully engage the perspectives and opinions of non-expert local community members alongside expert scientist inputs to the detriment of the overall projects.

Recently, several contemporary critiques have begun to focus largely on the way that some organizations have portrayed global climate change and its effects on African environments. Relating to the theme of community focused conservation there are a plethora of new interventions proposed by organizations such as the World Bank and the United Nations among others to promote programs such as Reducing Emissions from Deforestation and Forest Degradation (REDD+). Proponents of these efforts insist that financial incentives offered to countries in exchange for the protection of large areas of forest create favorable situations for both local communities (to whom the financial incentives are supposed to benefit) and vulnerable ecosystems (UN-REDD, 2009; FCPF, 2013; Conservation International, 2013). Critics meanwhile are giving extensive discussion to instances of inadequate consultation and participation of local peoples and insufficient alternative options for local communities that have been dependent on resources that are now being legally protected and made off-limits (Lang, 2010; Luttrell et al., 2011; Angelsen et al., 2012; Moser et al., 2013). Such critics also voice their concern that REDD+ programs create an atmosphere where those responsible for creating the most pollution contributing to global climate change (including those consuming the most resources) are allowed to continue their unsustainable practices unhindered if enough forested areas are put under protection . This type of atmosphere, these critics

feel, leads to an uneven amount of burden being shouldered by local communities who have traditionally depended on forms of resource extraction, reiterating that the promised financial benefits of the REDD+ programs have failed to materialize in sufficient ways in many cases so far (Tauli-Corpuz et al., 2009:59). Despite these criticisms, REDD+ strategies remain highly respected and well supported, with trends showing consistently larger amounts of money being put into conservation efforts along with the expansion of protected areas worldwide (Zimmerer, 2004). Furthermore, the expanding focus on protecting ecosystem services like carbon sequestration is providing renewed energy (and funding) to many of these programs.

Despite that the critiques of community based conservation efforts have made considerable progress towards addressing a lot of problematic issues within these types of programs, there remain some scientists and practitioners who cling to the notion that community based conservation or CBNRM is an impossible goal. For example, Salafsky (2011) states that, “project teams ultimately have to select either conservation or development goals or risk achieving neither...” (2011: 973). Salafsky and similar authors (for example: Redford and Sanderson, 2004) do not discount the need for social development near protected areas, however they do see active human involvement in sensitive priority conservation areas and programs as mutually exclusive to biodiversity conservation. Another group of authors seems to echo his point in part when they discuss their view that ,

It is generally accepted in the literature on participatory processes that no actor or organization with its own well-defined goals and preferences—and for most conservation organizations this is still the protection of biodiversity—can act as the legitimate convener of a process designed to reconcile competing goals (McShane et al., 2011: 969)

These authors, in their article regarding making hard choices between conservation and development do not give any misconception that they do not see the need for social development programs near protected areas. However, they do express their view that win-win scenarios where both social development goals and conservation goals are successfully attained are highly unlikely if not impossible.

2.5 Theoretical Foundations

In order to apply the lessons present in this extensive body of literature to the situation at MMFR I will primarily draw from feminist post-structuralism, which emphasizes a focus on heterogeneity among social groups, issues of inequality, human rights, social justice, and socially constructed power relationships. Post-structural critiques have been employed in several instances to question the way that the power and authority of particular groups have combined with certain socially constructed meanings associated with the natural environment and resource protection that have been perpetuated and reinvented in particular ways to result in modern day conservation contexts (Conz, 2008; Peet and Watts, 2004). Historical geographies have played a role in these critiques helping to illustrate, for example, perceived notions of the capabilities of local or indigenous peoples living near some of the earliest protected areas in places like colonial East Africa and the United States (Neumann, 2003). To carry out these critiques social scientists have used techniques such as discourse analysis, participant observation, and analysis of qualitative interview responses to analyze the power-laden framings that are circulated current protected area management strategies, and what this means for both local peoples and for the accomplishment of conservation goals. Post-structural approaches are not only concerned with the dominant discourses found within

conservation dialogue and literature but also with the way that heterogeneous communities utilize their own capabilities in different ways to make the most of modern conservation strategies (with varying degrees of success) (Cameron and Gibson, 2005; Sundberg, 2003).

Feminist post-structuralism becomes very helpful at establishing how involvement in conservation strategies can affect different people within communities in different ways by focusing on the heterogeneity within groups of people (Forsyth, 2008; Rocheleau and Edmunds, 1997; Carr and Thompson, Forthcoming). Broadly concerning gender and development, feminist post-structural approaches to gender call into question the validity of simply dividing any social group by such homogeneous categories as “man” and “woman” (for example, Goheen 1991; Grigsby 2004; Jackson 1998; Pankhurst 1991; Pearson and Jackson 1998; Wangari, Thomas-Slayter, and Rocheleau 1996; Bigombe Logo and Bikie 2003; Carr 2008a; Kandioti 1998; Lawson 1995; S. Razavi and Miller 1995; C. Doss 2001). Instead, these authors call for a framing of gender not as a stand-alone marker of social difference, but as “a social category that gains meaning through its time- and place-specific interplay with other social markers of difference” (Carr and Thompson, forthcoming). Therefore utilizing this theoretical foundation opens up a way to go beyond homogenous simplifications of communities, and even beyond uncritical usage of social categorizations found in many contemporary programs focused exclusively on man/woman gender binaries instead of exploring which men and which women are affected by different conservation and development strategies in different ways.

Summary

This chapter traces the emergence of modern thinking on conservation and development in Africa from its colonial roots. Influenced by the first national parks and national forests in the U.S., the needs and desires of local communities around African conservation areas were effectively ignored in favor of forest and game policies that benefitted the new European settlers. These types of conservation resulted in people either being physically evicted from the lands on which they depended or having their use of those lands and forests so severely curtailed that they could rarely continue to depend on it for their livelihoods needs. These policies and laws governing natural resource use and protected areas, and their related attitudes toward the populations in and around these resources, were largely continued after independence in many African countries. This led to widespread acceptance of fortress conservation as the norm for biodiversity conservation on the continent with negative impacts on many communities along with questionable outcomes for natural resources and biodiversity.

Engagement with local populations near protected area was paid little attention until the early 1980s when with the emergence of ideas of sustainable development. These ideas had developed out of dissatisfaction with large scale development projects and structural adjustment policies that had heavily damaged the natural environments of many impoverished countries and had not improved the quality of life for many people affected by these programs, but had in fact made things worse. Sustainable development, introduced by the Brundtland Commission in the 1980s had the aim of reconciling the advancement of people, resources, the environment, and development.

The idea of sustainable development transformed the conservation landscape again, laying the groundwork for modern day conservation finance collaborations that aim to both protect the environment and increase community and civil society involvement in conservation. These types of collaborations have set the stage for modern applications of community focused conservation approaches such as community based conservation and community based natural resource management. However, as laid out in the chapter above, being motivated to or having objectives to include community participation or to engage local populations does not always equate to actually seeing that engagement through to fruition.

CHAPTER 3: RESEARCH SETTING

3.1 Malawi

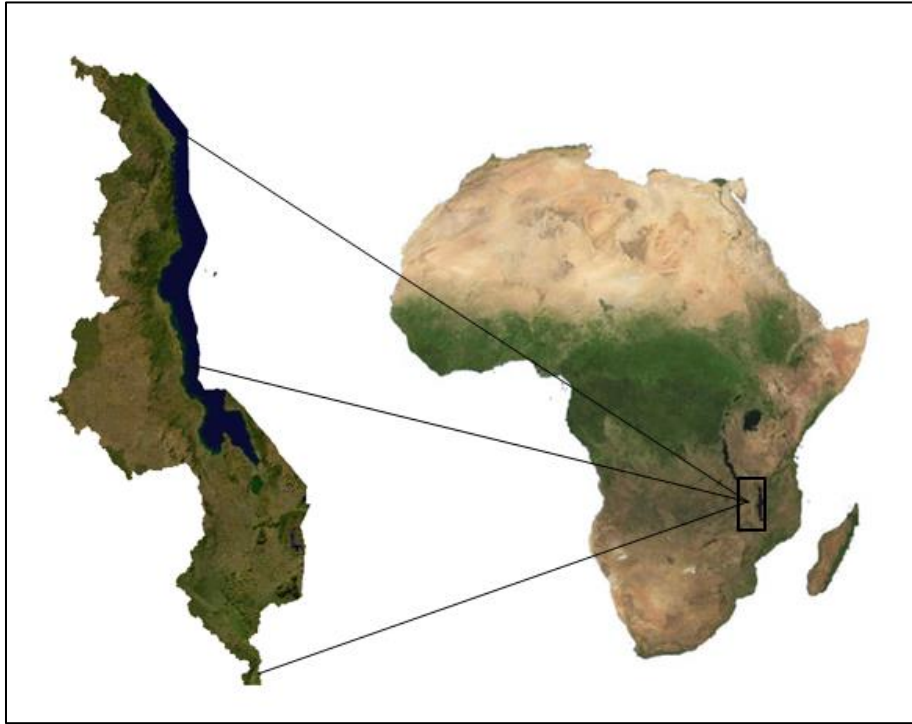


Figure 3.1: The Republic of Malawi

Malawi occupies 118,484 sq km in the Great Rift Valley of southern East Africa. It is bordered by Mozambique in the south, Tanzania in the Northeast, and Zambia in the Northwest. Freshwater Lake Malawi takes up roughly five percent of this area and is the world's ninth and Africa's third largest lake (UN Malawi, 2010). Approximately 95% of Lake Malawi's fish species are endemic to the lake, making it a highly popular research site among evolutionary biologists and other scientists. With a sub-tropical climate over

most of its area, Malawi has a rainy season that runs from November to April and is primarily dry from May to October (UNESCO, 2013 b).

Prior to colonization, the area constituting present-day Malawi was part of the Maravi Confederacy (sometimes referred to as the Maravi Empire), a centralized system of government that also covered areas in present day Zambia and Mozambique (McKenna, 2011:21). The confederacy was ruled by a central figure known as the Karonga, whose authority was translated to the population through local clan leaders (McKenna, 2011:21). During the 17th century Portuguese explorers arrived on the eastern coast of the empire. This paved the way for the opening of trading between Europeans and Swahili-Arab slave traders with clan leaders in ivory, slaves, and iron (McKenna, 2011:21). Over time, this increasing trade destabilized the control of the Karonga and the confederacy split into several different factions (McKenna, 2011:21). The Chewa and Nyanja peoples of present day Malawi are descendants of the Maravi Confederacy (McKenna, 2011:21). During the late 1700s and early 1800s the Swahili-Arab slave trade increased heavily, with traders moving further into the interior of the continent (including into areas in present day Malawi) to bring slaves to East African slave markets (UNESCO, 2013 a).

It was during this time that Scottish missionary Dr. David Livingstone traveled extensively through the area in search of the headwaters of the Nile River (UNESCO, 2013 a). During his travels Dr. Livingstone became horrified by the slave trading operations that he witnessed in some of the areas around present day Lake Malawi, the Shire River, and Lake Chilwa, an attitude that would influence later British colonizers (UNESCO, 2013 a). The peoples living in areas surrounding Mt. Mulanje were ravaged

during the slave trade, with the pass between Mt. Mulanje and Michesi Hill (currently known as Fort Lister Gap) in the present day Phalombe District representing one of the more prominent slave trade routes that was controlled by Yao chiefs in the 1800s (UNESCO, 2013 a). The Yao had begun migrating to the area of present day Malawi in the 1790s from northern Mozambique and their presence in the Mulanje area increased through the early 1800s (McCracken, 2012: 27-28). Their established trade relationships from the eastern coast of the continent that brought them wealth and resources, along with their successful fighting tactics led to their dominance in the region around the time that Livingstone arrived (McCracken, 2012: 27-28). Another highly active route went through the southern part of Mt. Mulanje and was also controlled by Yao chiefs.

Livingstone witnessed burning of villages looted by slave traders in this area in 1859 (UNESCO, 2013 a). Livingstone's travels greatly opened up the area for European missionaries, traders, and explorers, and in particular his speeches in Britain concerning the need to bring Christianity and commerce to Africa held wide sway (UNESCO, 2013 a). To Livingstone, increased British involvement (to him meaning therefore "civilized" and Christian involvement) in the area in the form of commerce in raw natural resources was the answer to ending the violent slave trade and bringing the peoples of the region into the global economy (McCracken, 2012: 38-39).

Increased interventions of missionary groups in the form of schools, commerce and actions against slave traders, coupled with British military interventions against slave traders and introduction of more formal commerce institutions (like the establishment of the African Lakes Company (ALC) in 1878) set the stage for British political involvement in the area. In 1889, Cecil John Rhodes, a British multimillionaire who had

gained his fortune in diamond mining and speculation, was granted a charter from the British government to establish the British South Africa Company (BSAC), this was under the condition that the BSAC (a powerful and financially stable company) would extend their operations to the areas that were under control of the less powerful ALC (and would do this through gaining a controlling stock in the ALC and utilizing their existing infrastructure and resources) (McCracken,2012: 57 ; Kalinga,2012:33). This arrangement was attractive to the British government because it allowed for the powerful BSAC to forestall Portuguese dominance in an area that the ALC had been unable to control (Kalinga, 2012: 33).

Britain formally established the Protectorate of Nyasaland in 1891. In 1893 the name was changed to the British Central African Protectorate and white settlers were offered large areas of fertile land for plantation agriculture for low costs. New taxation laws forced many Africans to find work on these plantations (USAID, 2010). In 1907, the British Central African Protectorate became the colony of Nyasaland. Opposition to British rule grew throughout the early and mid-1900s and in 1944 opposition groups formed the Nyasaland African Congress (NAC). In 1953, despite strong opposition by the NAC along with many like-minded white settlers, Britain combined the colony of Nyasaland with the Federation of Southern and Northern Rhodesia (areas now occupied by Zambia and Zimbabwe). There was widespread opposition to this union due to fears that Nyasaland would be dominated by more economically powerful white settlers in Southern Rhodesia and increasingly violent protests and clashes between the colonial government and opposition groups (Kavalski and Żółkoś, 2008: 48). In 1961, elections were held to form a new Legislative Assembly and the Malawi Congress Party, headed

by Dr. Hastings Kamuzu Banda, won by a landslide (Kalinga, 1998). In 1963, Nyasaland was granted self-government and Banda was appointed prime minister. The following year Nyasaland declared independence as the state of Malawi. In 1966, Banda became president of Malawi. Banda the “Life President” held the presidency over the then one-party Malawi until 1994, with allegations of human rights abuses and strict and highly violent suppressions of opposition occurring throughout his presidency (Kalinga, 1998; Sturges, 1998). In 1994 Bakili Muluzi became president and held the office until being defeated by Bingu Wa Mutharika in 2004. President Mutharika was still in office at the time of this research project in 2010/2011 (though he has since died, and been replaced with his vice-president, Joyce Banda).

Today, Malawi is one of the most densely populated countries in Sub-Saharan Africa, with a population of approximately 14.8 million people and a population growth rate of 2.8 percent per year (World Bank, 2010). Predictions show that the total population of Malawi will likely grow to 26 million by 2030, up from 13.1 million in 2008 (Population Reference Bureau, 2012).

Agriculture makes up 80 percent of the country’s export earnings and is the foundation of the livelihoods of 85 percent of the population (World Bank, 2010). Unmanufactured tobacco, tea, sugar, and dry peas are the leading exports of the country and unmanufactured tobacco (buyers in Malawi import tobacco from surrounding countries, process the tobacco in Malawi, and re-export to global markets), wheat, and soybeans the top imports (FAO, 2012 a; Geist et al., 2008). Malawi has a GNI of \$320 USD, ranking 150th out of 190 countries measured in 2012 (FAO, 2012 a and World Bank, 2012).

Within the last five years the economic growth rate of Malawi has slowed considerably, from around 9.7% in 2008 to less than 3% today (World Bank, 2012). Shortages in foreign currency, fuel, and electricity serve as hindrances to business development and growth and the cost of living and inflation are continuously rising (World Bank, 2012). In the years leading up to 2012, then president Bingu Wa Mutharika had become exceedingly unpopular, being critiqued for economic mismanagement and wrecking ties with foreign donors. Just after I left Malawi in May of 2011, the President faced growing public pressure to step down and there were numerous public demonstrations and riots within the larger cities in the country. President Mutharika then passed away unexpectedly while in office in April of 2012 and vice president Joyce Banda took over the office of president. Since that time President Banda's government has been enacting strict reforms like devaluing the currency by nearly 50% in the hopes of reversing the downward economic growth (World Bank, 2012). In addition, an 18-month Economic Recovery Plan has been implemented by the new government, seeking to quickly boost economic growth and development while strengthening and safeguarding social protection programs and re-establishing relationships with donor countries that had gone sour during Mutharika's presidency (World Bank, 2012).

Currently, over 50% of the population of Malawi lives below the poverty line and around 25% of the population is considered ultra-poor (World Bank, 2012). "Poor" and "ultra-poor" poverty are measured at the levels of MK16,165 and MK10,029 per capita per annum respectively (equivalent to US\$575 and US\$357) (IFPRI, 2011:2). In people's daily lives this poverty translates to higher food insecurity and increased vulnerability to stressors and shocks, particularly climatic shocks, price volatility

(especially of maize, tobacco, and fertilizer), animal and plant diseases, and human sicknesses (IFPRI, 2011: 2).

These sicknesses include significant health concerns such as malaria and HIV/AIDS. The HIV/AIDS prevalence rate in Malawi among people aged 15-49 has decreased from 12% in 2004 to 10.6% in 2010 (Malawi Government, 2012). However, roughly 910,000 people are presently living with HIV in Malawi, and 170,000 of those are children (UNAIDS, 2011). In 2011 there were also approximately 610,000 orphans due to AIDS aged 0-17 living in Malawi (UNAIDS, 2011). Malawi has been proactive of late in its efforts at combating HIV/AIDS, instituting a comprehensive National HIV Prevention Strategy in 2009 as well as putting forth key documents such as the proposed HIV and AIDS Policy, and a National HIV and AIDS Strategic Plan in 2011 (Malawi Government, 2012).

Forestry Protection in Malawi

Before formal British colonization came to the region, the area around Mt. Mulanje was occupied by the Mang'anja people and then later by invading Yao (McCracken, 2012: 28). Later in the 1890s after Europeans had come to the area, Lomwe people from Mozambique began to migrate to and settle in the area (McCracken, 2012: 312). European settlement in the area came in the late 1800s with the establishment of the first tea and tobacco plantations (the first tea was planted at the Lauderdale Estate at Mulanje) as well as with an influx of Scottish missionaries (McCracken, 2012:167). The expansion of the estate agriculture in the area grew rapidly after 1891, when vast tracts of land were granted to European settlers by the new British government.

The first conservation ordinances in Nyasaland had little to do with species protection for the sake of biodiversity and more to do with reserving the hunting of prime game animals for European settlers through the implementation of expensive game licenses that only Europeans could afford (Morris, 2001: 358). The first of these ordinances that relates to forest areas and game protection came in 1911 (Kamoto, Dorward, and Shepherd, 2008: 3). These forest reserves were aimed at controlling soil erosion on slopes and river bank areas, curbing deforestation from shifting cultivation, controlling bush fires, protecting water resources, and protecting valuable timber species for use by the British authorities (Kamoto, Dorward, and Shepherd, 2008:3). At the same time that the aforementioned aims were being carried out, local communities were being alienated from utilizing large areas of forests on top of the alienation they were already experiencing from prime agricultural lands due to the expansion of estate agriculture (Kamoto, Dorward, and Shepherd, 2008:3). In 1926, a game and forest ordinance was passed that increased penalties for breaking forestry laws. At the same time, outside of the reserves all hunting by traditional methods such as trapping or communal hunts with dogs became illegal, effectively shutting off all options of subsistence hunting to non-Europeans (Morris, 2001: 360). The 1926 ordinance also introduced the creation of Village Forest Areas (VFAs) (Kamoto, Dorward, and Shepherd, 2008:3; Mauambeta et al., 2010:1). These VFAs were areas within villages that were deemed relatively unsuitable for agriculture that were put under the control of local TAs to be used for villagers to extract forest resources for their own use (Kamoto, Dorward, and Shepherd, 2008: 1). This policy marks the first effort toward community based forest management in southern Africa. However, while VFAs provided a resource for local villagers to

obtain important forest products like firewood and building materials, it also served to safeguard other more valuable areas and resources for Europeans. The Forestry Department was established in 1942 under the British colonial government system. This new department provided technical support to the VFAs and Forest Guards from the local population were appointed to each TA to help regulate the extraction of certain species of timber. Revenues from this extraction went primarily to local councils and secondarily to the central government (Kamoto, Dorward, and Shepherd, 2008: 3; Muaumbeta et al., 2010:1).

These programs increased in scope up until independence in Malawi. At that time a shift occurred in the direction of forestry policy to government-controlled forest plantations. Forestry guards were withdrawn from the VFAs and placed at the forest reserves. Forestry extension officers were replaced with agricultural extension officers who knew little of forestry and were much more concerned with non-forest agricultural development (Muaumbeta et al. 2008:2). These changes initiated the virtual collapse of the VFA system. The period between 1964 and 1985 saw the loss of 3,800 VFAs in the face of increasing population and conversion to agriculture (Muaumbeta, 2008:2). This brought on a wood energy crisis for local communities and so, during the 1970s, amidst pressure from increasingly popular international organizations such as FAO and IUCN, a National Tree Planting day was implemented. This program has since grown into a week, then month, and now a National Tree Planting season (Chiotha and Kayambazinthu, 2013:8).

Increasingly, the international community concerned with conservation and development became focused more on the participation of local and indigenous peoples.

During the early 1990s Malawi signed on to be a part of FAOs Tropical Forestry Action Plan (TFAP), aimed at consolidating agendas concerning forestry in land use, forest-based industrial development, fuelwood and energy, conservation of tropical ecosystems, and removing institutional constraints to conservation (FAO, 2000). Actions relating to the National Forestry Action Programme which came out of the TFAP were stalled between 1993 and 1994 as much foreign support to Malawi was halted for its resistance to becoming a multi-party state. However, in 1995, various government departments, NGOs, and donors and consultants from international agencies produced a draft National Forest Policy. No local communities or their representatives were included in this process (Kamoto, Dorward, and Shepherd, 2008: 6). The policy was approved in 1996. In order to give legislative force to the new Forest Policy, a Forest Act was needed and readily encouraged by many international conservation and development organizations such as FAO, UNEP, and USAID that were becoming more and more focused on ensuring enforcement of conservation laws and initiatives worldwide (Kamoto, Dorward, and Shepherd, 2008:6-7). The draft process for the Forest Act 1997 had a greater amount of public participation than had the Forest Policy process. However, even though TAs were included in the discussions of the development of the bill, their comments and views did not make it to the final draft because the proceedings of the workshops were lost (Kamoto, Dorward, and Shepherd, 2008: 7). Therefore, as TAs were supposed to provide input to the process as representatives for broader local communities within Malawi, and the TAs' input was not incorporated, there was no community input whatsoever. Similarly, although the director of the Wildlife and Environment Society of Malawi reported that it was agreed in one of the public workshops held in Lilongwe that

NGOs would participate in law enforcement activities concerning forestry, this information did not make it into the final draft of the act (Kamoto, Dorward, and Shepherd, 2008:7). The loss of the input of the TAs and the lack of a formal mechanism to incorporate agreements from public workshops into the final Forestry Act illustrate the lack of attention paid to public engagement by those in charge of drafting the legislation. This occurred despite the fact that many principles within the Forest Policy and the Forest Act are focused on community engagement and participation. There have since been several amendments to these documents, some of which have centered on furthering community participation, however the amendments have largely been authored by foreign consultants with no mention of educating the public on the content or meaning of the amendments (Kamoto, Dorward, and Shepherd, 2008: 10).

The Forestry Act 1997 revived the former program of VFAs. The new VFA program allows for the Director of Forestry to advise village headmen to demarcate VFAs within their villages (Kamoto, Dorward, and Shepherd, 2008:10). The Act does allow for village headmen to allocate customary land under their jurisdiction to agriculture or settlement as they see fit. Village Natural Resource Management Committees (VNRMCs) were also recognized under the 1997 Act (Kamoto, Dorward, and Shepherd, 2008: 12). These VNRMCs are charged with managing and utilizing VFAs. The process has faced some tension due to village heads being undermined by the committees in decisions concerning forest management. Kamoto, Dorward, and Shepherd (1998) state that,

In theory, VNRMCs are democratically elected community level committees that represent local communities in VFA management. However the electoral process was in some cases engineered by forest department staff and in others by village heads since the Act did not

provide guidelines for VNRMC formation and did not specify how and who should elect the VNRMC (p. 13)

These issues, and the continuous lack of meaningful engagement with local communities in the planning processes concerning natural resource management, are having tangible effects on how natural resource management and conservation is playing out in communities around MMFR today.

3.2 Mulanje District

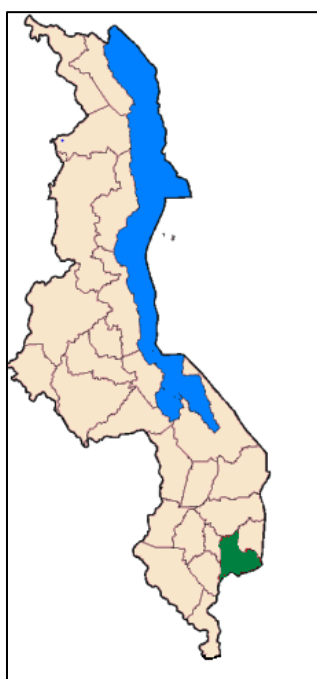


Figure 3.2: Mulanje District in southern Malawi

Malawi is divided into three administrative regions Northern, Central, and Southern and 28 districts. The Southern region has 13 districts, among which is Mulanje district, named as such because the town of Mulanje is the district capital. Further administrative subdivisions found in Mulanje include the Traditional Authorities of Chikumbu, Juma, Lasto Njema, Mabuka, Nkanda, and Nthiramanja the Mulanje Boma

(town of Mulanje), and MMFR. The Mount Mulanje Forest Reserve (MMFR) covers 25 percent of the 2,056 km² Mulanje District Malawi. Approximately 525,429 people live within the boundaries of the district, working out to a population density of about 255 people per square kilometer of arable land, not the restricted land of the MMFR (National Statistics Office, 2008:9). Most of these people make their living through a combination of subsistence agriculture, temporary employment on tobacco and tea plantations that are found at the foot of MMFR, and tourism ventures. As the population increases, pressure on the resources found within MMFR increase as well, especially with increasing needs for energy in the form of wood fuel and charcoal, not only in Mulanje District, but also for sale in nearby cities like Blantyre where electricity is at times expensive and unreliable (Hecht, 2008).

3.3 Mount Mulanje

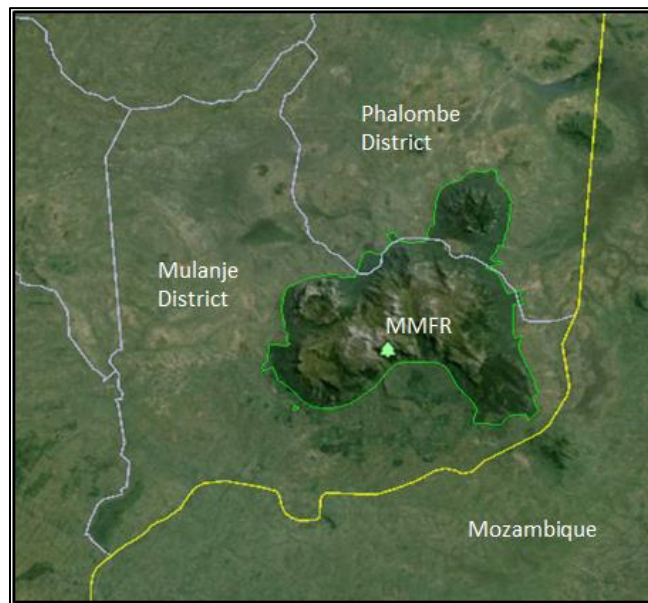


Figure 3.3: Mount Mulanje Forest Reserve

The Mulanje Massif, or Mount Mulanje as it is more commonly called, is a granite inselberg located in southern Malawi within the southern portion of the Great Rift Valley. The massif covers an area of 650 km² and is made up of a congregation of high plateaus and basins capped by 20 rocky peaks that average around 2,500 m in elevation (WWF, 2013). Included in this massif is Saptiwa Peak, the highest point in South-Central Africa, rising to 3,002 m (WWF, 2013). The igneous rock forming Mt. Mulanje dates back roughly 130 million and has become exposed as the softer rock around it eroded over time (WWF, 2013).



Figure 3.4: View of Mt. Mulanje looking southeast from the Phalombe Rd.

The mountain has been under formal government protection since being designated as a forest reserve in 1927 by the colonial British government. The reasons for the establishment of the reserve centered on protection of species of trees viewed as valuable by the colonial government as well as the protection of the important water catchment and the desire to prevent widespread soil erosion. After independence, the protection of the reserve remained virtually unchanged under the new government of Malawi.

Due to its altitude and structure the massif has a unique climate that results in high levels of rain between November and April and mists that form at high latitudes that condense along trees and keep the forest floor there moist long after surrounding areas have begun to dry out (WWF, 2013; UNESCO,2013). The high levels of rainfall on the mountain, combined with its unique rock structure, result in Mount Mulanje being an incredibly important freshwater catchment area that serves as a source for nine rivers and streams that supply water to surrounding districts (UNESCO, 2010). Most people in the areas surrounding the mountain receive their drinking water directly from the rivers of the protected area through gravity-fed piping systems.



Figure 3.5: Water pipes on Mt. Mulanje in rains



Figure 3.6: Waterfalls on Mt. Mulanje in rains

In addition to invaluable water resources, the mountain and its forests and grasslands on the plateaus provide a variety of other resources to the surrounding communities. Five vegetation types occur on Mt. Mulanje, including miombo woodland, lowland forest, Afromontane forest, plateau grassland, and high altitude vegetation of the peaks (Chapman 1962). The resources utilized by local communities include fuel wood, building materials such as bamboo poles, timber, and thatch grass, traditional medicines,

and foodstuffs such as fruits and mushrooms. The mountain is also home to a host of unique plant and animal species, some of which are found nowhere else in the world. Today, the reserve is managed through collaboration between the Malawi Department of Forestry and the Mulanje Mountain Conservation Trust (MMCT), an environmental endowment trust originally funded by the GEF through the World Bank. The mountain has been recognized as one of 64 UNESCO Man and Biosphere Reserves on the continent of Africa, one of two in Malawi, with the other being the Lake Chilwa Wetland (UNESCO, 2013 b).



Figure 3.7: Grasslands, cliffs, and valleys of Mt. Mulanje

Worldwide there are 621 Biosphere Reserves in 117 countries, including 12 transboundary sites (UNESCO, 2013 b). The Man and Biosphere Programme (MAB) is described by UNESCO as “an Intergovernmental Scientific Programme aiming to set a scientific basis for the improvement of the relationships between people and their environment globally” (UNESCO, 2013 b). MAB began in the 1970s and seeks to work through its network of Biosphere Reserves to “reconcile conservation of biological and cultural diversity and economic and social development through partnerships between people and nature... to test and demonstrate innovative approaches to sustainable development from local to international scales” (UNESCO, 2013 b). Mt. Mulanje was designated as part of the MAB program in 2000 due to its unique climate, flora, and fauna as well as its immense importance to local communities regarding water and other

resources. The mountain is also on a tentative list to become a UNESCO World Heritage Site.

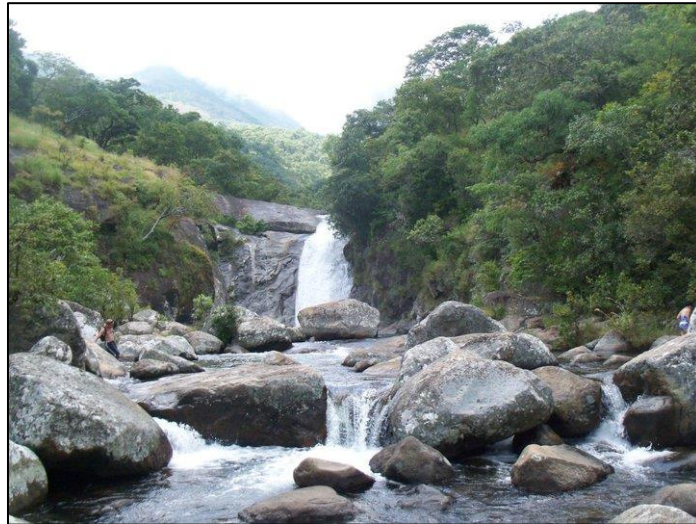


Figure 3.8: Waterfall at Mt. Mulanje

Concerning unique fauna on the mountain, two species of dwarf chameleon, two geckos, one skink, one lizard, one frog subspecies, one squeaker frog, and one ridged frog are strictly endemic to Mount Mulanje (WWF, 2001). Several other species of reptiles including numerous snake species and additional gecko species are considered near-endemic as are two mammal species the greater hamster rat and a subspecies of blue monkey (WWF, 2001). Many rare birds are also found in the area, including one endangered thrush, the Thyolo alethe, the threatened spotted ground thrush (*Zoothera guttata*), white-winged apalis (*Apalis chariessa*) and blue swallow (*Hirundo atrocaerulea*, VU), as well as a subspecies of the olive-flanked robin-chat (*Cossypha anomala macclouniei*) that is endemic to Mount Mulanje (Keith et al., 1982; Hilton-Taylor 2000; WWF, 2001).

Several species of monkeys can be found at Mt. Mulanje including vervet monkeys (*Chlorocebus aethiops*) and blue monkeys (*Cercopithecus mitis* and a near-endemic sub-

species *Cercopithecus mitis nyasae*) (WWF, 2001). Hamadryas baboons (*Papio hamadryas*) are also regularly seen in the forest and cause problems to adjacent farmers by looting their fields.



Figure 3.9: Vervet Monkey at Mt. Mulanje

Large herds of large mammals like eland and sable have been hunted to extinction in the areas of Mt. Mulanje, however some rarely spotted antelope species do still exist there like bushbuck (*Tragelaphus scriptus*), red duiker (*Cephalophus natalensis*), and klipspringer (*Oreotragus oreotragus*) (WWF, 2001). Rock hyraxes (*Heterohyrax brucei manningi*) and (*Procavia capensis johnstoni*) are also commonly seen and heard in the forest (WWF, 2001). A few remaining leopards (*Panthera pardus*) prey on these mammals, as do other predators like small spotted genets (*Genetta genetta*), serval cats (*Felis serval*), civits (*Civettictis civetta*), and spotted hyenas (*Crocuta crocuta*) (WWF, 2001). All of the animals are protected from being hunted by local populations or outside poachers by law as directed by the Forest Act of 1997 which states,

66. Subject to the provisions of this Act. Any person who-----
(a) pursues, kills, hunts, molests, captures or injury any animal, bird, fish, or reptile;

(b) collects eggs or spawns from a forest reserve, a protected forest area or a village area,
Shall be guilty of an offence and liable upon conviction to a fine of K10,000 and to imprisonment for a term of five years (GOM, 1997).

Concerning flora, Mount Mulanje is home to a high level of diversity with many species and subspecies only being found in this area (for comprehensive documentation of Mulanje's vegetation see Brass, 1953; Chapman, 1962; and Dowsett-Lemaire 1988 and 1990). Out of 1,330 vascular plant species found on the mountain, 70 of these are endemic (Strugnell, 2002). Examples of these endemic plants include *Helichrysum whyteanum*, *Erica milanjana*, *Phyllica tropica*, *Aloe arborescens*, *Alloeochara oreogena*, and the most famous, *Widdringtonia nodiflora* and *W. whytei* (the Mulanje cedar found in the Afromontane forest areas) (WWF, 2001; Bayliss et. al, 2007: 64). Since first being described by Whyte in 1893 and named by Rendle in 1894, the Mulanje cedar has become an extremely commercially and culturally important species for Malawi, being named the national tree of the country in 1984 by late President Dr. Hastings Banda (Bayliss et. al, 2007: 64). Currently the Mulanje cedar, as well as the other species found on Mount Mulanje, are facing several threats including natural and human-induced fires, illegal logging in remote portions of the reserve, removal of trees for fuelwood, removal of trees for charcoal production, illegal hunting, introduced invasive species, aphid attacks on the Mulanje cedar, and potential habitat loss as a result of a proposed bauxite mining operation (Bayliss et. al, 2007: 64 and 65; Hecht, 2006). It is predicted that if current loss and mortality rates of the Mulanje cedar do not change this tree type will disappear from Mount Mulanje in the next eight years (Bayliss et. al, 2007: 67). Mt. Mulanje is often referred to as "The Island in the Sky" and this nickname is particularly relevant in describing the precarious future of the unique species there. Given the

endemic nature of many plants and animals on the mountain, their ability to successfully adapt and adjust to a changing or variable climate, as well as to man-made stressors is highly uncertain.

Several programs have been instituted by MMCT, the Malawi Department of Forestry, international conservation organizations, and foreign aid agencies including USAID (through their COMPASS II program) to curb deforestation, forest degradation, and mismanagement of water resources within MMFR by engaging local communities in various ways. Included among these programs is the creation of Mulanje cedar nurseries on traditional lands adjacent to the reserve, improved irrigation and water management strategies, and environmental education programs for local communities (Malawi Department of Forestry, 1996; Water and Development Alliance, 2008).

3.4 Specific Research Sites

For the purpose of trying to learn more about how local people utilize the resources of Mt. Mulanje and how they perceive the ecosystem and its legal protections my research concentrates on qualitative information collected in two different villages near the reserve. The number of villages is limited to two due to the amount of time it takes to establish relationships and interact with people living and working in these locations. Furthermore, two villages also provides enough spatial variation to illuminate differences in the interaction between people and the reserve at locations directly adjacent to the reserve boundary and the interaction between people and the reserve at sites further away from MMFR. This focus on distance from the reserve is important, as only focusing on people living directly adjacent to the reserve could conceivably over- represent the magnitude of problematic forest resource use or other issues.

I chose these sites with the help of a local forestry department extension worker who has provided assistance on research projects with Dr. Carr and Dr. McCusker in the past, Duncan Chikwita. The first of these is Muhiyo, a village located just north of the Likhubula trading center on the MMFR's western side.

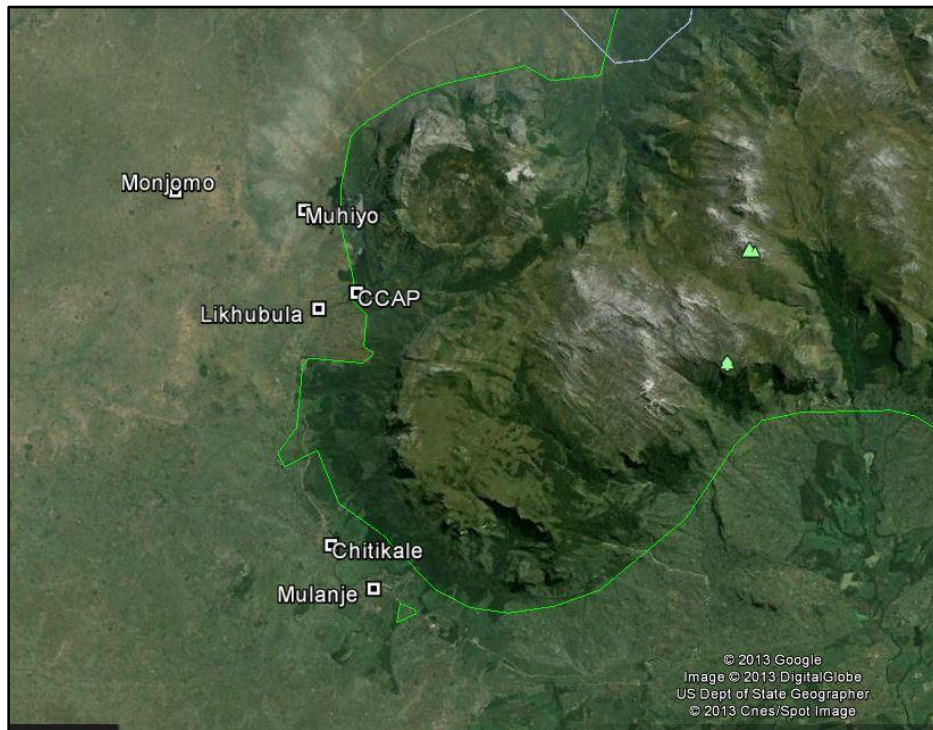


Figure 3.10: Locations of specific sites in the research area

Muhiyo is split into two sections by the Phalombe road, an unpaved road that runs approximately 43 km from Mulanje Boma to Phalombe Boma (Boma is the term signifying the main town center of each district in Malawi). In Mulanje Boma you can find a mid-sized market, bus terminal, the post office, police station, and the government offices of the Mulanje district. Most people from Muhiyo travel infrequently to Mulanje Boma for market needs however, as there are larger markets that operate regularly nearby. The eastern portion of Muhiyo abuts the MMFR's western border. You can reach

Muhiyo by foot, vehicle, or bicycle by the main road and then you can reach homes within the village by either bicycle or walking on the dirt footpaths.

Muhiyo

In Muhiyo I interviewed 100 people, 63 women and 37 men. Many men were away working as sawyers in the north or otherwise being occupied and so we found more women at home available for interviews. The residents of Muhiyo are by and large subsistence farmers growing a variety of crops including maize, pigeon peas, sorghum, rice, cassava, ground nuts, beans, sweet potatoes, and sugar cane.

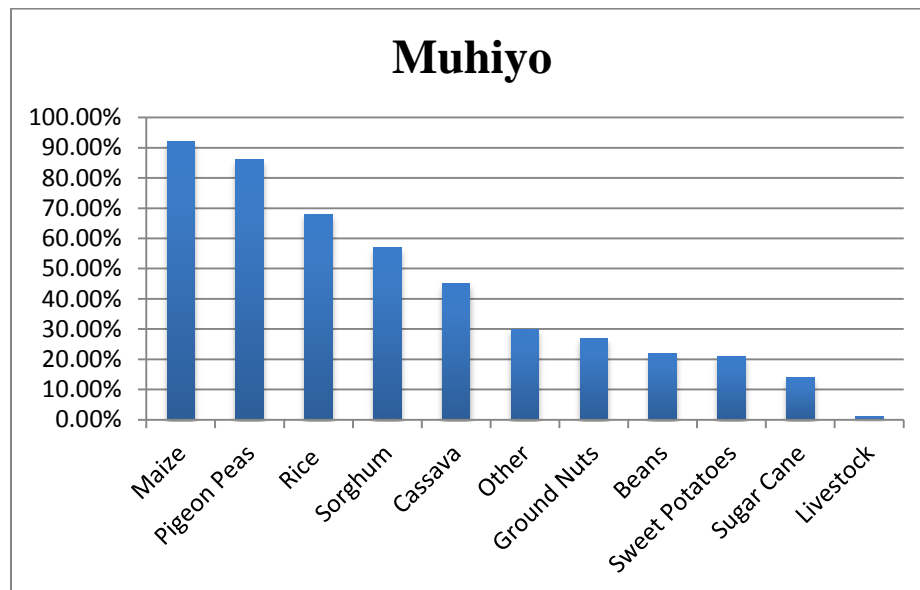


Figure 3.11: Crops grown at Muhiyo Village

As far as livelihoods are concerned, subsistence farming is reported by all respondents in Muhiyo. Many men participate in supplemental employment as bicycle mechanics, masons, timber sawyers, teachers, and a few working for the Forestry Department or MMCT. The majority of women in the village are farmers and some sell firewood. Both men and women participate in ganu (contract farm work on the farms of others) for

wages. Selling of produce is also commonly practiced by families to make money for school fees, doctor visits, seed, fertilizer, and other expenses.

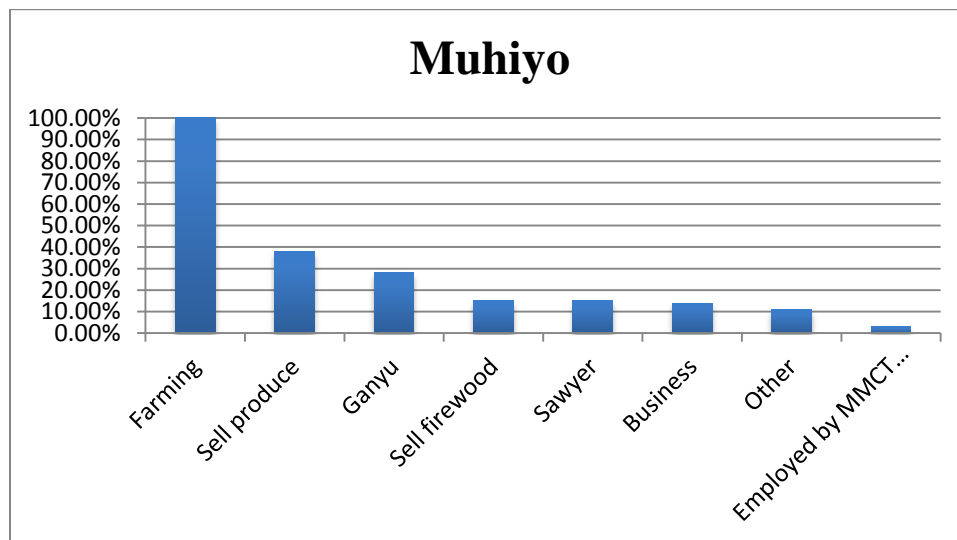


Figure 3.12: Livelihoods at Muhiyo Village

The second research site is Monjomo, a large village located roughly 3.2-4 kilometers from the western border of the reserve, partially bordering the western edge of Muhiyo village. You can reach Monjomo by vehicle by going west off of the Mulanje-Phalombe road at the Chambe trading center or you can reach it by bicycle using footpaths that veer off of the main road prior to reaching the Chambe trading center. The road leading from the Phalombe road to a popular local market runs through a portion of Monjomo, this road is often used to transport timber harvested from MMFR according to several respondents. Information acquired at Monjomo provides insight into how distance from the reserve affects the way that people utilize resources from MMFR and the intensity of that use.

Monjomo

In Monjomo I interviewed 92 residents, 34 men and 58 women. Farmers in Monjomo grow several different crops including maize, pigeon peas, sorghum, rice, cassava, ground nuts, beans, and sweet potatoes. Unlike in Muhiyo, tobacco is grown in Monjomo, and is economically important for those who grow it.

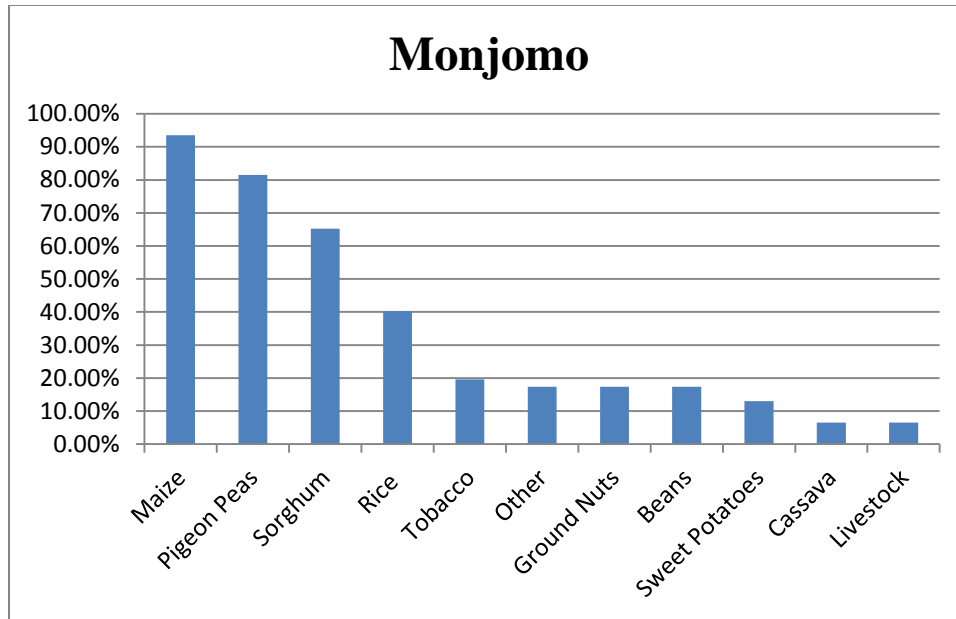


Figure 3.13: Crops grown at Monjomo Village

Just as in Muhiyo, nearly all respondents in Monjomo report being subsistence farmers as a main part of their livelihoods. In Monjomo more people participate in business than in Muhiyo. Furthermore, in Monjomo no women report selling firewood as part of a livelihoods strategy and far fewer men report participating in sawyer activities.

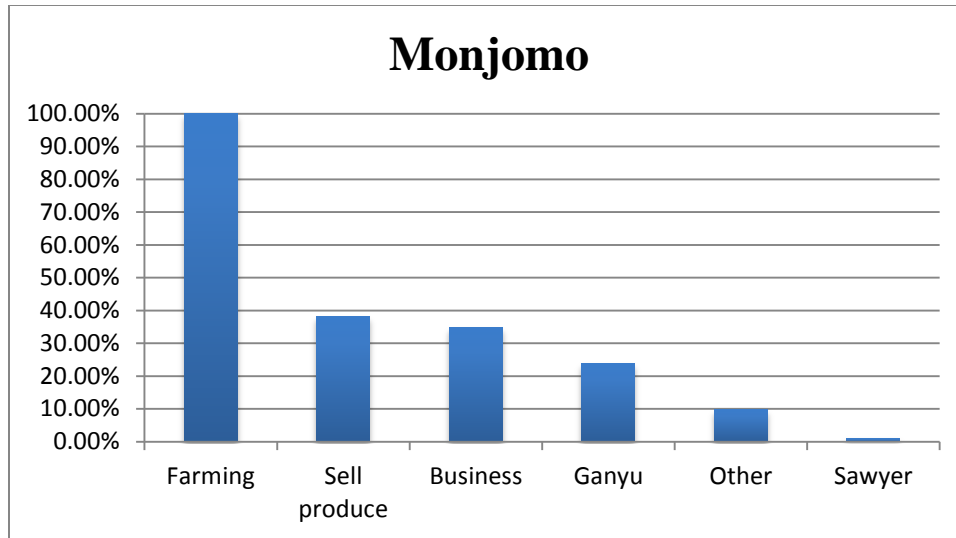


Figure 3.14: Livelihoods at Monjomo Village

In addition to Muhiyo and Monjomo villages I also conducted interviews and had conversations with management officials from the Forestry Department, MMCT, and development workers with The Mountain Biodiversity Increases Livelihoods Security (MOBI+LISE). The MOBI+LISE project is a USAID-funded 3 year project aimed at promoting alternative livelihood strategies in local communities surrounding the MMFR to further greater social and economic health in the region while maintaining the integrity of the Mt. Mulanje ecosystem.

In the next chapter I will detail the methods used to carry out this research project, including the specific interview questions asked. In the following chapters more detailed information will also be provided about the Forestry Department, MMCT and the MOBI+LISE project and their operations.

CHAPTER 4: METHODS

The interviews discussed in this dissertation were conducted with two different groups of people, residents of two villages near the MMFR and a set of relevant actors from managing agencies and organizations. The goals for interviews with local residents in Muhiyo and Monjomo villages centered around gaining a better understanding of how they make a living and feed their families, what interactions they have had with Mt. Mulanje in the past and today, their knowledge of the management agencies operating in the area, what interactions they have had with those agencies, and how they perceived the future of MMFR and the surrounding communities. Interviews with officers and officials at management agencies and other related programs were aimed at learning more about official management strategies at the reserve, how these strategies were funded, actual and perceived roles that local people play in the management of the reserve, and what challenges were being faced that challenge the attainment of management goals.

4.1 Institutional Review Board Approval

The Institutional Review Board (IRB) of the University of South Carolina had to approve this research, as it involved human subjects. Privacy was important in this project because sensitive topics, such as illegal extraction of resources and illegal charcoal burning, were being discussed. Furthermore since questions were being asked of the respondents that involved the actions of local forest managers and law enforcement

officers, it was necessary to take steps to ensure that specific responses could not be linked back to specific people so as to avoid any repercussions against these people if their responses were found unfavorable by those in positions of authority. The privacy of the respondents was maintained by using signifiers in the form of numbers to mask their identities in all notes or writings that are a product of the research and only I have access to these in my personal notes, computer, and hard drive which is either in my presence or locked up and/or password protected at all times. I have identified several of the higher level MMCT and FD employees in this document by name so that it would be clear that I was communicating with those in positions of authority or expertise, however, I have not identified the names of any lower ranking workers with these organizations so as to avoid any potential repercussions for those people for talking with me. Although, the instances of anyone affiliated with these organizations sharing any information that would potentially lead to repercussions is exceedingly low.

4.2 Interpreters

While Malawi's official language is English, in most rural areas and villages surrounding MMFR few people speak English fluently. Chichewa is the lingua franca for most residents in this part of Malawi, though the Lomwe language is also spoken, more infrequently and primarily by older residents. For these reasons, the use of interpreters for interviewing was essential. For all interviews with local residents I drew on the assistance of one of two interpreters: Mrs. Eallubie Chikwita and Mr. Watson Willie. Mrs. Chikwita has worked in the past for Dr. Carr, Dr. McCusker, and Dr. Fisher as an interpreter and survey proctor for research on land use and livelihoods around the MMFR. Mr. Willie has worked with Dr. Fisher recording GPS data and was recommended for his excellent

English language skills. I chose to employ a man and a woman as an interpretation team as this provided me with flexibility in culturally sensitive situations where women are at times more comfortable communicating with me through another woman, and likewise men are more comfortable speaking to a man. Both Mrs. Chikwita and Mr. Willie resided in Mbewa village just to the south of Likhubula trading center, approximately a 30-45minute bicycle ride to each village of Muhiyo and Monjomo. It is difficult to determine whether having interpreters from an outside (though close by) village affected the project positively or negatively. A small number of the interview respondents were previously acquainted with one or both of the interpreters but none of the respondents ever voiced an opinion on the fact that they were not from Muhiyo or Monjomo. It is possible that having interpreters from outside of Muhiyo and Monjomo could have made the respondents less comfortable in sharing sensitive information (or any information for that matter) as they could have been suspicious of our possible affiliation with MMCT or FD. However, the reverse could also be true in that people may have been more willing to share their experiences or stories of others' experiences concerning illegal or legal resource use and extraction with someone who is not from their village, and would therefore not be likely to tell others in the village of what was said.

4.3 Living Arrangements

Muhiyo and Monjomo Villages

As discussed in the Research Setting section above, I chose Muhiyo and Monjomo villages with the assistance of a Forestry Department extension worker Mr. Duncan Chikwita (who is also Mrs. Eallubie Chikwita's husband) who had worked as a research assistant in the past with Dr. Carr, Dr. McCusker, and Dr. Fisher. The criteria

that I provided for selecting these locations included the desire to examine the importance of distance from the reserve on people's perceptions and livelihoods, as well as the need for my two interpreters to be able to reach the villages within a reasonable amount of time by bicycle. Mr. Chikwita suggested Muhiyo and Monjomo villages due to their fitting the distance requirements, being large enough for an appropriate number of interviews, and because he is acquainted with the chiefs of these villages and therefore would be in a better position to introduce me to them than if he had approached another village chief as a stranger.

During this time I was staying at the Church of Central Africa, Presbyterian (CCAP) Likhubula guest house. This placed me about a 25-30 minute walk uphill from the Likhubula trading center, a 10 minute walk from the Likhubula District Forestry Office, and approximately a 30 minute bicycle ride from Muhiyo. I first traveled to Muhiyo in October with Mr. Chikwita on his motorbike and we arranged a meeting with the chief. During this meeting we expressed my desire to begin my project in Muhiyo and to live in or near the village for the time I would be conducting interviews there. After a series of attempts it was determined that no suitable accommodation was to be found at that time within Muhiyo, therefore Mr. Chikwita and I decided that I should stay for the time at the CCAP Likhubula House. What at the time was a temporary decision turned out to be a permanent one in the end as I remained living at the Likhubula House and using it as my base for the remainder of my trip. There were several reasons why I ultimately chose to live at CCAP as opposed to within the villages themselves. One reason was that there was no person available living within the villages that was going to be able to serve as an interpreter for me when my hired interpreters were at their own

homes, so that it would have been extremely difficult to successfully communicate with others in the village outside of the hours spent doing interviews. I likely could have overcome that challenge but my decision was based on that combined with several other concerns. For example, those living in both villages do not have access to electricity or running water. While this in and of itself is not a problem, I felt that I would be devoting large amounts of time to everyday tasks like fetching water and gathering firewood that could be spent working on my research. I could have chosen to pay others to perform these tasks but I felt that would have placed me in a position where many of those people who I was attempting to interview or observe would view me as a potential income source. Such a relationship had the potential to alter responses to my interview questions to where respondents would try to tell me what they thought I was wishing to hear. Lastly, it became apparent to me how much of an obstacle interpersonal relationships within the village might be for successfully gaining the information I desired. Jealousy and favoritism are real concerns for many here, and I realized that living near and being in close contact/friendship with the chiefs in these villages (which would have been relatively unavoidable due to proper etiquette) could influence how others within the village viewed me and my intentions with my research. One respondent later told me “It would have been too much for us to have a white lady living in the village, it is better that you did not stay in the village”. I think this woman was expressing that she thought if I had stayed within the village some of the focus would have been taken away from the actual research goals I was seeking to explore, that it would have become more about who I was talking with and associating with the most and what that meant to others.

Therefore, I decided to reside at Likhubula House located up the mountain between Mbewa and Nkonyo villages and commute by bicycle with my interpreters to Muhiyo and Monjomo on a daily basis, often taking weekends to travel to town for groceries and other items or to take care of household chores. Approximately every two weeks I would travel six hours round trip to the nearest city of Blantyre to stock up on groceries not available in the local markets and any other items needed. I also had to visit the immigration office in Blantyre once a month to renew my visa in order to remain in the country legally.

4.4 Permits and Permissions

The first step for conducting interviews in Malawi was to obtain a research permit from the Mulanje District Commissioner in Mulanje boma (the town of Mulanje where administrative offices are located). This permit was obtained through the assistance of a letter of reference from Dr. James B. Chimphamba who has worked with Dr. Carr and Dr. McCusker on past projects and whose university, the University of Malawi's Chancellor College, has a Memorandum of Understanding covering research interests with the University of South Carolina. This permit is the only official one needed for the type of research I was doing in the Mulanje district.

Permissions from the chiefs of Muhiyo and Monjomo villages were also obtained before beginning interviews in each of those respective villages. These permissions came in the form of verbal agreements and welcome meetings were held for me in both villages prior to the beginning of interviews in order to introduce me to the communities. Villagers were notified a day or two prior to the introductory meetings and all gathered at the chief's home, or a site nearby. During these meetings my interpreters and I explained that

I was a student from the United States working toward my doctorate in geography studying how large populations of people live near protected conservation areas and trying to better understand strategies for managing protected areas that are able to benefit both the natural environment and local communities. We explained that for this project we would be in their communities, either Muhiyo or Monjomo, for approximately three months conducting interviews. The interviews, we said, would involve me asking questions about how they make their living and questions about the MMFR and its management. I made it a point to clearly express that I was not employed by MMCT or the Forestry Department, and while I might talk with them from time to time, I would at no point discuss with these managers what was said during interviews with residents. I also expressed that since I am a student with limited resources that I would not be able to compensate respondents for their time being interviewed. (At the end of the project, however, I did give some gifts of soap and set up a stove making tutorial as explained below). Therefore, my interpreters and I explained, the interviews would be voluntary and no one was required to participate. As we moved through the villages seeking interviews with people after these initial meetings, we reiterated that the interviews were voluntary, and some people did choose not to participate.

4.5 Documentary Research

Initial work on this project involved searches for current and historical documentation of MMFR. This documentation takes the form of World Bank reports, Department of Forestry documents, and online descriptions of management priorities provided by MMCT. Additional economic and environmental surveys were also found such as the USAID funded *Valuing the Resources of Mulanje Mountain* by Joy Hecht

(2006), *Household Welfare and Forest Dependence in Southern Malawi* by Dr. Monica Fisher (2004), *Do Forests Help Rural Households Adapt to Climate Change? Evidence from Southern Malawi* by Dr. Monica Fisher, Dr. Moushumi Chaudhury, and Dr. Brent McCusker (2010), and *Saving the Island in the Sky: the plight of the Mount Mulanje cedar Widdringtonia whytei in Malawi* by Dr. Julian Bayliss (2007) among others. This documentation assists in identifying mainstream conservation and development discourses from the past and present that have informed the management strategies of Mount Mulanje Forest Reserve as well as providing textual accounts of how those strategies have been carried out.

This search for documentation was extended on the ground in Malawi where I was able to access further materials from MMCT and MOBI+LISE that are not currently available online. From MMCT these include the *Mulanje Mountain Biodiversity Conservation Project Mid-Term Review for the Norwegian Government* by Poul Wisborg and Charles B. L. Jumbe, and a description of the Forestry Act of 1997. And from MOBI+LISE these documents include detailed assessments of the bee, tourism, plantation, and agriculture sectors as well as several documents describing the Mkhumba Project that was a predecessor to the MOBI+LISE project. These documents help to provide context for observations made on the ground and allow for comparison between information provided during interviews around MMFR and that provided by managing agencies in official reports.

4.6 Identifying the Interview Sample within Muhiyo and Monjomo Villages

Beginning on October 26, 2010, my interpreters and I began interviews in Muhiyo village. Starting with homes near the chief's house, since we had stopped by there that

morning to greet the chief and inform her that we were beginning the project, we went house to house seeking persons 18 years and older to interview. If no one was at home at a house we came back to it at a later time, or if a resident of the home wished to be interviewed but was busy at the time we made arrangements to come back at their convenience. At the beginning of the project some women wished to be interviewed with their husbands and so we counted these joint interviews as one. After a few days of seeing us around the village the women became more comfortable with our requests to interview them separately from their husbands. We also explained our interest in how their knowledge and everyday duties were different from their husbands', which meant they would have different perspectives to express that might be helpful. For the later data analysis I chose to eliminate a very small number of those early interviews from the data set because, being combined information from husbands and wives, it differed from the rest of the data being gathered from only men or women by themselves. Though it occurred rarely, there were instances where potential interviewees declined to participate due to being too busy or because of illness. Only one potential respondent declined with no explanation, a female in Monjomo village. A small number respondents were never home during our visits to the village or were busy every time and so they did not participate in the interviews.

4.7 Interview techniques: Muhiyo and Monjomo villages

For the research undertaken at Muhiyo and Monjomo I utilized semi-structured interviews. All of the interviews that I conducted were carried out in relatively short periods of time (approximately 30-45 minutes each, sometimes longer if the situation allowed). Names were not discussed nor recorded in order to preserve the safety and

security of the respondents. Each interview was given a number for the purpose of later analysis. A set of pre-written questions were administered orally during each interview and then supplemented with additional questions if the respondent offered new information or greater detail about a particular topic. The strategy for this interview method is based in Grounded Theory, specifically with regard to theoretical saturation (Pandit, 1996). Following this approach, as the interviews progressed I would begin with the semi-structured questions, then when new information was offered by a respondent that related to the main themes of this research I would pursue that line of inquiry further with that and future respondents until I felt that the answers had saturated within each social group I was talking with and therefore the topic had been sufficiently explored for the purpose of answering my main research questions (for further discussion of Grounded Theory and theoretical saturation please see Glaser and Strauss, 1967; Morse, 2004). In a certain few instances I would go back to previous respondents to follow up on newly introduced information but this was not common. As noted in contemporary literature concerning theoretical saturation, in nonprobability sampling there is no clear consensus on how many interviews are enough (Guest et al., 2006). For this project, working within the time constraints that existed, (just over three months to carry out interviews in Muhiyo (100 interviews) and three months in Monjomo (92 interviews), I cannot claim that no new information would have been captured that could have altered my results in some way had I been able to carry out more interviews over a longer period of time. However, as the goal was not to compose an exhaustive list of activities and perceptions of *all* people interacting with MMFR, but to capture major differences between groups, this method of sampling proved sufficient at encompassing those major differences as

answers within each of these groups saturated with only small differences as more interviews were conducted and compiled.

During the interviews, I voiced the questions and then they were interpreted into Chichewa by my interpreters and the answers were then translated back to me in English. I recorded the date for each interview in my notebook and gave a number to each respondent. Here, and for the other groups below, I list the pre-written interview questions that I began with for each set of interviews. As we move through the rest of the discussion chapters later in the document I will give further examination to new information that was initiated by respondents out of these pre-written questions and that subsequently furthered the goals of the project.

Included in the pre-written set of questions were:

- What is your age? (I also noted with the response to this question whether or not the respondent was a man or woman)
- How many are in your family?
- Were you born in this village? If not where are you from originally and how long have you lived here?
- How do you make your living?
- What do you grow? (The response to question four was overwhelmingly farming and so question five builds on this)
- Do you make money from any other activities?
- Do you use firewood or charcoal in your home? Or both?
- Do you make charcoal or know of others who do?
- Do you go into the forest reserve?

- What do you go to the reserve for?
- (For women who have responded that they go for fetching wood)
 - How often do you go to the reserve to fetch wood?
 - How long does it take you?
 - How much do you pay for taking firewood down from the mountain?
 - Is taking green wood allowed? If not, why do you think it is not allowed?
- Have you ever gone hunting?
- Have you ever heard of MMCT?
- What do you think the role of MMCT is, what do you think they do?
- Have you heard of the Forestry Department?
- What do you think the role of the Forestry Department is?
- Have MMCT or the Forestry Department ever come to talk about the forest reserve with the community?
- Has the chief ever called a meeting to discuss the forest reserve with the community?
- Have MMCT or the Forestry Department or any other organization started any programs here in your community? (examples are beekeeping, tree planting, food for orphans, etc)
- What are the greatest challenges for you and those living in your village?
- How do you see the future of the MMFR and the surrounding villages?

Again, these questions formed the basis for gaining information that led me to ask any additional questions concerning, for example, what happens if people are caught taking green wood or illegally harvesting cedar, deeper concerns over challenges like fertilizer

subsidies, and success or failure of different programs started by local or outside organizations in the community.

These interviews always took place outside the respondent's home or a home that they were visiting at the time as it is not customary in the villages to ask visitors to come inside the house. Even during rain storms we would sit on the shallow porches of the houses. Chairs or a thatched mat would often be brought out by a female member of the house or children and we would sit and conduct the interviews.

At the end of my three months doing interviews in Muhiyo, my interpreters and I held a closing meeting along with the chief to say thank you for the support and participation of the community and to explain the next phases of the project to them. We explained that we would be moving on to Monjomo village to continue the research but that I would be in touch from time to time and come back and visit throughout my stay, which I did. I held a similar meeting with the residents of Monjomo at the end of that portion of the project. When the overall project reached its end in May, 2011 I was able to use my remaining funds to provide gifts for the respondents in each village in the form of bars of soap that were distributed during final goodbye meetings. I chose to give these gifts primarily because I had the financial resources to do so and I knew that many people in the villages could not afford soap. Since I gave the gifts after the completion of the research, and did not inform the respondents that I would be giving anything in return for their responses, I did not feel that expectations of a gift would impact the responses given during the interviews. I realize that it is possible that the giving of soap to the respondents could be perceived as creating expectation from future researchers, but I felt that it was a small enough token that would benefit many households and so that outweighed my

apprehensions. Monjomo is a much larger village than Muhiyo and so the amount of money I spent on soap for Monjomo was more than I spent at Muhiyo.

Because I spent more money on soap for Monjomo, I wanted to do something further for the respondents from Muhiyo that would account for that difference. After giving a lot of thought about what I could do that would have more of a lasting beneficial impact for the community and the reserve I arranged for a woman who worked at Likhubula House who knows how to make a particular type of clay stove that uses fewer sticks of firewood than the traditional method to be paid to come to Muhiyo and teach the women there how to make these stoves for their own use. Very few women in Muhiyo had these stoves, but those who do benefit from not having to collect or buy firewood as frequently and the stoves remain hot for longer periods of time allowing for example a woman to cook dinner and still have heat left to warm water afterwards. Monjomo already has a woman in residence there who knows how to make such stoves and so I did not try to bring the project there for fear that it would negatively impact her business. I put my interpreter Eallubie in charge of overseeing this project after I left Malawi and have received positive feedback of its success in Muhiyo. My interpreter Mrs. Chikwita wrote in an email,

Muhiyo people are appreciating for the stove program which they are able to using few firewood by using these stoves. Muhiyo people are thanking you for a good decision you made to them and are encouraging and asking you to continue thinking good things to them.

It was a nice day when Muhiyo people especially those who took part in stove project, shared one stove per person, neighboring villages were also invited on that occasion. I myself am thinking you too because of having best wishes to people of Muhiyo hopefully less sticks will be used for their cooking, they themselves named the project Mary's mbaula project (Mary's stove project) now they have the chance of continuing making some more stoves on their own because they learn (email correspondence 12/17/11).

4.8 Identifying the Interview Sample and Interview Techniques : MMCT, Forestry Department, and MOBI+LISE

Forestry Department

Through my initial contacts introduced to me by Dr. Carr, Dr. McCusker, and Dr. Fisher I was able to learn who the pertinent Forestry Department officials were who would have knowledge of the overall management strategies for the reserve and of relations with other involved organizations. These officials were the District Forestry Officer (DFO) and two Assistant District Forestry Officers. Because of other obligations of the DFO I spoke primarily with the assistant DFO's. Similar to my interview techniques in the villages, I began with a set of pre-written questions, however with these interviews the questions often evolved into more conversation-like discussions. Some of the starting questions included:

- When was the MMFR established?
- Did the management of the reserve change significantly after independence?
- Why did MMCT come to have a role in the reserve's management?
- How does the interaction between MMCT and the Forestry Department work?
- How would you describe the relationship between MMCT and the Forestry Department?
- What are the main objectives of the Forestry Department?
- What are the main challenges facing the MMFR?
- Where are guards monitoring the reserve?
- How are communities involved in the management of MMFR?

- Are consequences the same for those that poach cedar as they are for those that poach other species of trees?
- Is charcoal making a large problem in this area?

All of the discussions with Forestry Department personnel took place at the offices of the Likhubula Forestry Station. FD personnel, while cooperative, tended to be quite formal during the interviews and did not initiate many new lines of inquiry. These respondents were open to answering my questions as best they were able, although their answers concerning the relationship between FD and MMCT were quite brief and polite (i.e. “things used to be not so good but now they are better”).

MMCT

Through the documentary research I conducted prior to traveling to Malawi I was able to identify key persons working for the Mulanje Mountain Conservation Trust that I wished to speak to further. My primary goal was to meet with Carl Bruessow, the director of MMCT, who has had previous dealings with Dr. Carr, Dr. McCusker, and Dr. Fisher. When I first came to the offices of MMCT in October of 2011 to introduce myself and my project, Mr. Bruessow was not available and so I was directed to speak with two other officials there, Mr. David Nangoma, the Biodiversity and Conservation Research and Monitoring Specialist at MMCT, and Mr. Moffat Kayembe, a program officer with MMCT. When hearing of my intention to conduct research with local communities around the mountain, Mr. Kayembe voiced concerns with past projects that had taken place in the area, stating that data that had been collected during those projects and their results had not been readily shared with MMCT. He made it clear that he was skeptical

about becoming overly involved with another research project, but was still willing to talk with me.

After speaking with Mr. Kayembe, I was directed to Mr. Nangoma to discuss my intended project further. During this meeting, I explained what I would be doing for this project including interviews with local residents and hopefully accompanying women to the forest on paths they use to fetch firewood, talking with MMCT, the Forestry Department, and other local agencies. Mr. Nangoma informed me that in order to conduct this research that I would need to apply for another permit from the national research council in Malawi, that the permit signed by the District Commissioner was no longer sufficient for me to be allowed to carry out the work. He uploaded some files for me onto my portable hard drive to look at for documents outlining the applications I would need to submit. When I looked at the files on my computer, however, I found that only research involving the collection of genetic (wildlife or botanical) specimens, or those projects seeking small research grants from MMCT were required to have any additional approvals from the national research council. My findings were confirmed by my initial Malawian contact Dr. James Chimphamba who explained that the authority of the District Commissioner was the highest in the region and that MMCT had no authority to postpone my research or require additional permits. The next time I spoke to Mr. Nangoma was when he phoned to inquire about how I was progressing, I explained that I had found that I would only need additional permits if I was collecting genetic material and so I was carrying on with my research as planned and that I looked forward to talking with him in the future.

After this initial contact the only meetings with MMCT that I attempted to hold were with Mr. Bruessow, as I felt I could gain the most direct answers from him regarding my research questions. The issue of additional permissions came up again in February, 2011 when I met with Mr. Bruessow and Mr. Nangoma (at Mr. Bruessow's suggestion). I was informed that there had been a recent meeting of a research sub-committee of MMCT that meets occasionally to discuss primarily the natural science research being conducted at Mt. Mulanje. One of the attendees of this meeting was a representative from the National Research Committee. Mr. Bruessow and Mr. Nangoma told me that they had mentioned my research during the meeting and that the National Research Committee member stated that they were supposed to be aware of all natural science as well as of all social science research being carried out in Malawi. Mr. Nangoma gave me the contact information of the representative from the National Research Committee, however Mr. Bruessow, acknowledging that MMCT had no authority to enforce permitting, advised that I should have our colleague Mr. Chimphamba inquire with the committee on my behalf to better understand what was needed. When Mr. Chimphamba inquired about the matter he was told that since my research was social science research the only other type of permit that I would need would be an access permit from the Forestry Department to take with me if I entered the reserve in case I met a guard while there, that there were no further national permits that I was required to have.

Unfortunately, the issue of unnecessary permits and permissions came to dominate much of the conversations that I was able to schedule with officials at MMCT. However, I was able to discuss issues pertaining more to the research itself in the course

of the project with Carl Bruessow. These discussions were more conversational in manner than a formal interview but the following pre-written questions did provide points of reference for the dialogue.

- What prompted the creation of MMCT?
- How was the structure of MMCT decided? Who was in charge of developing that structure?
- How is MMCT funded?
- What are the main threats to the MMFR?
- How is MMCT working or planning to work with other groups like the MOBI+LISE project?
- What are the forest co-management programs?
- What communities have been involved in co-management agreements?
- What are challenges faced when working with the Forestry Department?

All of these discussions took place at the MMCT headquarters between the Mulanje boma and the Chitikale trading center. Mr. Bruessow was very open with his information and did not seem uncomfortable discussing any topic, even the strained relationship that had been present with the FD in the past.

MOBI+LISE

I had no knowledge of the existence of the MOBI+LISE project prior to traveling to Malawi as it was not mentioned in any publication or grey literature that I obtained during the documentary research. I only learned about the project from acquaintances I met after arriving and it took some time to arrange a meeting with anyone from the program. I was however able to obtain an interview with the Project Manager Mr.

Lansen Chikopa. This interview took place at the MOBI+LISE office in Chitikale. This turned out to be the only meeting I was able to arrange with the MOBI+LISE project due to the majority of their operations taking place in the field and their staff being quite small. However, I was able to obtain several helpful documents (as listed in the last chapter) that provide further explanations of the goals and practices of the organization. These documents, along with other information from MMCT, form the basis for my descriptions of the MOBI+LISE project and the work they have been conducting in Mulanje.

4.9 Observations

Concurrent with the semi-structured interviews and within the same two villages of Muhiyo and Monjomo, I originally set out to conduct participant observation to expand and deepen the knowledge gained in more direct semi-structured interviews. As the fieldwork progressed, I made many relevant observations while conducting interviews at peoples' households, moving from house to house, and while participating in non-interview related activities. However, my level of participation in the activities I was observing was relatively low. This was due to several reasons. First, I had limited time for observation, as any extensive time devoted to participating in activities such as farming or gathering wood (although I did accompany women to the reserve for them to show me the paths used for gathering wood) would have cut into the time available for interviews. Further, the residents of the community did not have a lot of spare time to watch over me during many of these activities to make sure I wasn't making mistakes that they would then have to correct. However, the most central reason my lack of participation in several of the activities that were most relevant to this project though was

the fact that certain of those activities (like cutting green wood, burning and selling charcoal, and hunting) are illegal. I did not wish to jeopardize my project or risk losing my access permits in the event that a Forestry Department official found me participating. Despite my low level of participation in most activities, I do feel that the observations that I was able to make did help shape the questions that I posed in the interviews and, at the same time, the interview responses helped inform what I saw in the observations. Observations were carried out in a variety of different circumstances including, but not limited to, the following:

- Observing piles of cut wood at respondents' homes
- Observing and talking with men while they carried out timber sawing operations in the villages
- Talking with women while they cooked meals at their homes.
- Talking with a man while he showed me how to make sisal rope.
- Talking with men while they used sewing machines for tailor work.
- Accompanying women into the forest reserve to see the paths they take to fetch wood.
- Observing remnants of recent timber sawing operations and observing women gathering and cutting wood inside MMFR while carrying out associated field research for the Connecting Livelihoods to the Biophysical Impacts of Forest Incursion project.
- Observing non-active charcoal making sites within the villages while working on interviews

- Observing active charcoal making operations being carried out within MMFR while carrying associated field research for the Connecting Livelihoods to the Biophysical Impacts of Forest Incursion project.
- Observing timber and charcoal being sold in local markets when shopping.
- Observing women carrying dead and fresh cut wood down from inside the MMFR.
- Observing how forest resources are used in daily life for purposes such as cooking, tool making, fence making, and house construction.
- Observing illegal hunters carrying their kill inside the MMFR.
- Observing hunters with their dogs inside the MMFR.

These and other observations have allowed me to realize which interview questions were perhaps not being answered truthfully or completely which lead me to further investigation as to why that was the case. For example, many of my observations affirmed that certain illegal activities were indeed taking place within and outside the MMFR even though my interview responses did not always substantiate those findings. However, there were a small number of respondents who did speak openly about these activities, and so I used those interviews coupled with my observations and additional documentary data (such as those studies describing illegal timber extraction and charcoal burning) to provide a more holistic view of the situation in the villages. Furthermore, seeing and talking with men and women participating in other types of livelihoods activities helped me understand what activities are seen as appropriate or available to whom and let me see how natural resources were being utilized in peoples' everyday lives.

4.10 Data Analysis

The documents, interviews, and participant observations discussed in this section were analyzed to identify information that addresses my primary research questions. Documents have been searched for more detailed descriptions of management activities and goals and to better develop a clear view of how the managers like MMCT and the Forestry Department, as well as their funders intend for the state of the reserve, its ecosystem, and nearby communities to be portrayed to the public. Documents from non-managers were also searched for alternate viewpoints which could lead to interesting further questions to be explored through additional data sources such as interviews and observations. For the most part these alternate viewpoints were not found. Therefore, in order to shape my own understandings of what potential mismatches were occurring between what was being portrayed/reported by managers and what local residents were reporting, I compiled and enumerated the interviews with local residents and observations of behaviors and activities so they could be analyzed for patterns and unanticipated trends. This analysis helps bring us closer to answering if and how conventional conservation and development program designs at the reserve failed to adequately account for the realities and perspectives of local residents. I looked for similarities in the way that people interacted with the forest reserve through their livelihood activities and then looked for the larger implications of these collective actions for the reserve and for the people living around it. Being that these interviews were semi-structured and could vary in their length according to what information a respondent was bringing forth, the sample is not large enough to provide sweeping statistically significant quantitative comparisons between communities or groups. However, the patterns and concentration of

certain experiences and perspectives gained through the interviews allow for a better understanding of certain important yet nuanced contexts affecting the success of conservation and development efforts at MMFR. These are cross-checked by my personal observations of activities I witnessed while conducting interviews, while in the forest, and while living in the area in general in order to ensure inclusion of topics that might not be found favorable to discuss by many residents due to their illegal or sensitive nature.

For the interviews with residents of Muhiyo and Monjomo I have split the data several ways to look for trends or significant differences in responses among certain social groups. The original basis for defining these groups along the social cleavages that I did is that recent feminist post-structuralist literature relating to development and agriculture has indicated that breaking communities into groups along social cleavages such as gender, age, and marital status can assist in illuminating the heterogeneity of traditionally generalized “communities” as well as helping us to understand the varying manifestations of power relationships within these populations.(Warner and Kydd, 1997; Bassett, 2002; Nelson and Stathers 2009; Onta and Resurrecion, 2011; Nielson and Reenberg, 2010). As the interviews progressed differences within the “communities” of Muhiyo and Monjomo were indeed often expressed along the lines of men, women, and single women heads of household. However, there were also differences between young women and older women, and young men and older men. Therefore the choice to disaggregate the data along the lines of gender and age best fit the differentiations emerging in the data. Further, as was anticipated when choosing the research sites, meaningful differences also began to emerge between the responses from those living in

Muhiyo to those living in Monjomo and so the data was also disaggregated along these lines to better understand if and how distance from the reserve affects responses.

Additional interviews with officials of managing organizations were also compiled and analyzed for more detailed information of how they work with other groups, funders or local residents, and how they work internally. These responses were not numerous enough to enumerate and look for trends, so a qualitative analysis of the content of the responses was conducted to identify major themes and/or contradictions. Such an analysis helps to inform our understanding of how the managers of the reserve view the communities around MMFR. Furthermore, the challenges being faced by these organizations both internally and externally serve to further illuminate how massive international funding being put towards the conservation and development of MMFR is failing to bring about desired success. The findings of this analysis are explained in detail in the following sections.

CHAPTER 5: MANAGEMENT STRUCTURES AND FUNCTIONS

5.1 Evolution of Management at Mulanje Mountain Forest Reserve

Under British colonial authority, early management of MMFR was aimed at controlling and exploiting profitable timber species, especially what is now known as *Widdringtonia whytei*, the Mulanje cedar (Bayliss et. al, 2007: 64; WWF, 2001). Estate agriculture on the slopes of Mt. Mulanje in the form of coffee and tea plantations was also a major focus of the colonial government since the 1890s, resulting in extensive forest stands being cut on the lower slopes of Mt. Mulanje. Many of these estates remain adjacent to MMFR today.

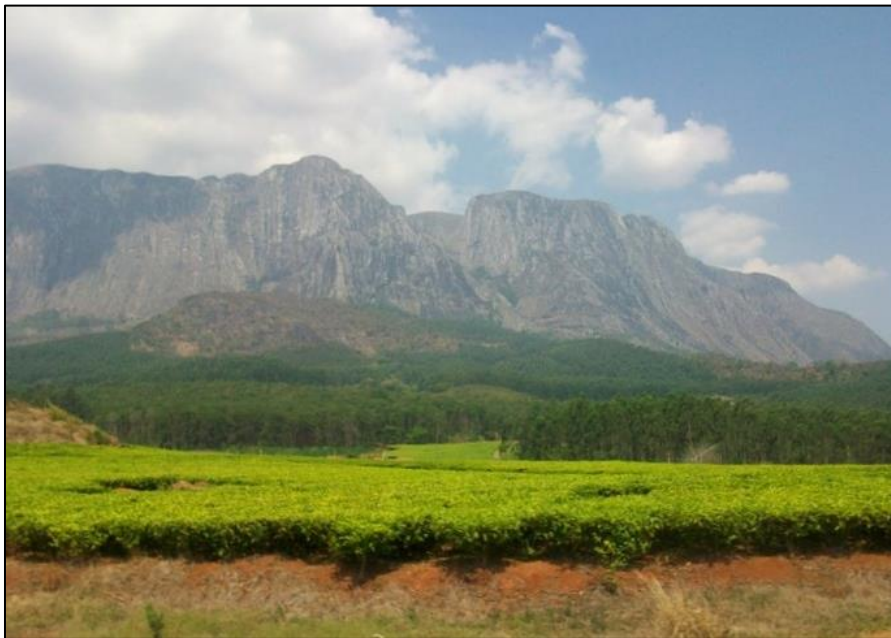


Figure 5.1: Mulanje Mountain in background with forest reserve, pine plantation, and tea plantation in the foreground

As exploitation of Mulanje cedar by local populations continued through the colonial period despite the establishment of the protected MMFR in 1927, attempts were made to replant cedar stands. However, these stands failed due to fire exposure (WWF, 2001).

Pinus platula, Mexican pine, was introduced to Mt. Mulanje in 1946 as a nurse crop for Mulanje cedar, used to buffer cedar seedlings from the elements (Binggeli, 2011). When colonial officials saw that the pine seedlings grew much faster and more successfully than the cedar, and found that this pine species also proved economically valuable, they let the pine spread on its own while undertaking large scale plantings during the 1950s (Binggeli, 2011). Mexican pine has now become one of the most prevalent invasive species at MMFR (Bayliss et. Al, 2007; WWF, 2001).

The influence of the Forestry Department (FD, formed in 1945) in the Mulanje area has evolved over time. According to Carl Bruessow, the executive director of MMCT, during the lead up to independence in the 1950s and 60s, the FD of the Nyasaland Protectorate became quite powerful among the government agencies, establishing roads, plantations, and other projects throughout the country including within MMFR (MMCT interview 1, Chitikale, 2010). The Assistant District Forestry Officer at Likhubula explained that initial goals of the reserve for managing valuable tree species and protecting the watershed were maintained by the FD of the new state of Malawi after independence in 1964 (FD interview 1, Likhubula, 2010). From 1964 until his death in 1994, the FD operated under the direction of the “Life President” Dr. Hastings Kamuzu Banda, who included among his many titles Minister of Natural Resources (Walker, 2004: 95).

According to MMCT officials, the success of the FD lasted through the 1970s, but its power and influence declined during the 1980s due to mismanagement marked by prevalent fires on the mountain and the rampant spread of invasive pine species (MMCT interview 1, Chitikale, 2010). Current FD officials made a different argument for these problems, citing the lack of government funding as the reason for their department's inability to adequately manage the reserve in the 1980s rather than mismanagement on the part of their department (FD interview 1, Likhubula, 2010.) While it is likely that a combination of these factors contributed to the degradation of the MMFR at this time, it is important to note that Malawi began structural adjustment programs in the early 1980s which, following the examples of other countries such as Ghana (see Owusu, 1998) likely negatively affected spending on natural resource management. A pine eradication program was put in place between 1987 and 1988 with a high level of success. However, this program was not maintained and the pines have since reestablished populations in nearly all previously cleared areas (Chapman, 1991; WWF, year).

In the late 1980s, escalating concern for what was perceived by many as the dire status of the MMFR ecosystem due to increasing pervasiveness of pines and increasingly frequent forest fires led former FD employee Jim Chapman to write a plea to those groups and individuals interested in MMFR to come together to find a solution to the reserve's problems (MMCT interview 1, Chitikale, 2010). Jim Chapman worked as a Forest Officer in Malawi from 1952 to 1965, spending a portion of this time at MMFR, in 1982 he returned to Malawi to serve as Acting Curator of the National Herbarium of Malawi and Lecturer in Botany at the University of Malawi, both in Zomba. Prior to and during his tenure in Zomba, Chapman continued to spearhead efforts to protect the

ecosystem at MMFR writing and co-authoring several books on the vegetation and ecosystem of the mountain.

In 1991, prompted by Chapman's call to action, a group of concerned stakeholders including James Seyani (General Manager/Chief Executive of the National Herbarium and Botanic Gardens of Malawi), Eston Sambo (Plant Physiologist at Chancellor College, University of Malawi), and C.O. Dudley (Department of Biology at Chancellor College, University of Malawi) came together to form the Committee for the Integrated Conservation and Management of Mulanje Mountain (Hecht, 2001: 15; Wisborg and Jumbe, 2010: 20). According to Carl Bruessow of MMCT, at the time the FD viewed this working group as a competitor and subsequently tried to curb their activities at the reserve (MMCT interview 1, Chitikale, 2010). He went on to explain that during the 1990s the Forestry Department was not looking for partnership, that the authorities in that Department wanted the management structures to stay the same, were resistant to change from former colonial structures, were not downsizing staff and were not outsourcing to the commercial sector. For this reason the Ministry of Finance began decreasing the funding for the Department (MMCT interview 1, Chitikale, 2010). During our interviews FD officials made no mention of these specifics, only mentioning that relations between MMCT and the Department were previously sour but is now improving (FD interview 1, Likhubula, 2010).

The work of the Committee for the Integrated Conservation and Management of Mulanje Mountain led to the formation of the Mulanje Mountain Conservation Trust (MMCT) in 1995 (MMCT interview1, Chitikale, 2010; Hecht, 2001: 15). Around this time the World Bank became interested in the efforts being undertaken to protect Mt.

Mulanje and made efforts to garner interest in the project within the Global Environment Facility (GEF) (MMCT interview 1, Chitikale, 2010). GEF had been formed in 1991 as a pilot program as part of the Bank and was, by 1994, a separately functioning but affiliated organization with the Bank serving as the Trustee of the Facility and providing administrative support (World Bank, 2009: I; GEF, 2010). In 1996 MMCT received funding from GEF and the British Department for International Development (DFID) to compose a conservation project concept document (Hecht, 2001: 15). Since such large-scale conservation funding is operationalized through the State, in 1998 the Government of Malawi requested support from the World Bank for the Global Environment Facility (GEF) Mulanje Mountain Biodiversity Conservation Project (MMBCP) (World Bank, 2009). This project aimed to use the newly established MMCT as a means of addressing gaps in the management structure of the FD in terms of financing and human resources. Furthermore, as stated by the WB:

The approach adopted in the Project design was to pilot a new institutional and financial structure for forest management and biodiversity conservation for high biodiversity status areas with the view to replicating the model, if successful, to other high biodiversity status areas in Malawi and elsewhere (WB, 2009: 3).

This project also corresponded with the 1998-2000 Malawi Country Assistance Strategy (CAS), the primary document outlining WB development goals for a country, which called for “Fostering Environmental Sustainability” (WB, 2009: 3).

Initial project objectives included:

1. Maintain the Mulanje Mountain ecosystem, including globally significant biodiversity and vital ecological services.
2. Increase awareness, understanding and appreciation of the value of the Mulanje Mountain ecosystem at local and national levels.

3. Improve sustainability of biological resource use and enhance the value of the Mulanje Mountain ecosystem to local communities.
4. Establish the long-term income stream and institutional capacity to ensure continuation of 1-3; Embedded in this [Global Environmental Objective] is the expectation that the Non-Governmental Organization, [MMCT], is appreciated and respected by stakeholders at local, national and international levels and that the Project demonstrates the appropriateness of the Conservation Trust Fund as a financing mechanism for biodiversity conservation (WB, 2009: 4).

The objectives of the MMBCP were also consistent with recently revised state forest regulations including the Forest Policy in 1996 and Forest Act in 1997.

Component	Measureable Performance/ Output Proxy Indicators (est. 2006 at MTR):
1. Trust Administration	* ¹
2. Good baseline, monitoring and research information available to FD to improve MMFR management. FD staff trained and equipped to protect and manage biodiversity. Local employment generated through conservation actions.	<ul style="list-style-type: none"> •Degree of effectiveness of ecological monitoring system •Cumulated number of FD person days of training •Number of person days of temporary and permanent jobs created as part of the daily MMFR management
3. Environmental education and communications strategy and programs developed and ongoing.	•Number of community level awareness and interaction events held
4. Improved FD and community capacity to implement co-management policy in MMFR (trained, organized and equipped). Co-management pilot projects.	<ul style="list-style-type: none"> •Number of Village Natural Resource Committee (VNRMC) and other relevant community structures established and operational. •Number of forest resource co-management pilot activities underway.
5. Conservation Trust Fund	** ²

Figure 5.2: Components and proxy indicators of Mt. Mulanje Biodiversity Conservation Project (MMBCP)

¹ *Component one did not have any output or proxy indicators defined since the results of the component were embedded in the outputs achieved under component five.

² ** Proxy Indicators for component five were unlisted in the official World Bank documentation. However, the report does give an overall description about this components performance (World Bank, 2009: Annex 2. p51)

These regulations focused heavily on local communities, and therefore objective 3 of the MMBCP aligned especially well with them in regards to improving the sustainability of biological resource use and enhancing the value of the Mount Mulanje ecosystem to local communities (Malawi Department of Forestry, 1996). These objectives proved difficult to measure and were eventually refined into proxy indicators that could more easily be quantified (See Figure 5.2 above) (WB, 2009: 4-5). The project was approved and became effective in August of 2001 and closed in June of 2008 (WB, 2009:3).

As outlined in the Implementation, Completion, and Results Report provided by GEF and the World Bank (2009), challenges to successful implementation of the MMBCP were prevalent throughout the life of the project. The project was organized into five different sections with varying original funding allotments:

Sections

1. Trust administration (US\$ 0.58 million)
2. Biodiversity conservation research and monitoring (US\$ 0.94 million)
3. Environmental education (US\$ 0.14 million)
4. Forest co-management and sustainable livelihoods (US\$ 0.86 million)
5. Conservation trust fund (US\$ 5.5 million) (World Bank, 2009: 6).

First, the Government of Malawi failed to allocate its agreed-to pledged funds for implementation of the project. Subsequently, DFID decided to terminate its funding to the project based on the lack of government cooperation. This loss of funding greatly curtailed efforts to implement the project (World Bank, 2009). Furthermore, the Quality at Entry Report preparation team found that the sustainability of the conservation trust fund mechanism was more tenuous than had been anticipated during the development of the project (World Bank, 2009: 9). WB reports that

The initial investment attracted steady returns for the first two years, but with quarterly drawdowns for Project implementation, the endowment income was insufficient to cover the Trust Administration Unit (TAU)'s

administrative and program costs. As a result, in year 1 following receipt of the endowment fund, the annual funding available for TAU operations decreased by 50% from US\$400,000 to US\$200,000. To address this gap, TAU staff focused their efforts on fundraising rather than on delivery of the Project's core activities (World Bank, 2009:9).

It was also found at the end of the project in 2008 that reduced resources had shifted the focus of the project from the involvement of local communities and promotion of sustainable livelihoods toward more of a direct concentration on biodiversity conservation and management (World Bank, 2009: 10; JIMAT Development Consultants, 2009:2). The significance of this shift was recognized by the World Bank and GEF as well as by MMCT. In their final report World Bank explains:

The Project's co-management and sustainable livelihoods component was originally allocated US\$860,000 (11% of total expected Project funding or 2% of GEF funding). In actuality, due to lack of co-financing, the component received only US\$64,115.86 by Project closing. Given the significance of these interventions to the overall success of the Project's Global Environmental Objectives, it would have been prudent to have allocated additional resources to this component at Project design. Project design should have placed more weight on the significance and importance of poverty alleviation efforts to ensure the sustainable use of MMFR resources. The critical importance of the interventions under this Component will need to be prioritized in the post-closure operation if the Project is to be successful in maintaining the Mulanje Mountain ecosystem and globally significant biodiversity in the long-term (World Bank, 2009:10).

High levels of mistrust between managing organizations were also of great concern, namely the Government of Malawi, Department of Forestry headquarters, the District Forestry Office personnel, and MMCT personnel. This tension originated through several factors, namely a misguided belief on the part of the District Forestry Office personnel that the Government of Malawi had sold MMFR to MMCT, direction of much biodiversity conservation funding through the Department of Forestry Headquarters instead of the District Forestry Office in the Mulanje District, and widely differing pay

grades of MMCT staff and FD staff (World Bank, 2009). These issues are discussed in greater detail below.

In an effort to address what was perceived as the dysfunctional management structure at MMFR, partners for the GEF project agreed to critical changes that would take effect with the signing of a Public Private Partnership (PPP) agreement by stakeholders. A preliminary Memorandum of Understanding (MoU) was signed in 2007 by the Ministry of Mines, Natural Resources and Environment, Ministry of Finance and MMCT that would formally allow MMCT to manage MMFR with the activities of FD second to MMCT (World Bank, 2009: 13). It was thought that this MoU would precede a more formal PPP agreement that would detail structural management changes at MMFR. To date, however, this PPP agreement remains unsigned.

In the final year of the GEF project (2007), the Government of Norway stepped in to assist with the project at the request of MMCT (Wisborg and Jumbe, 2010: ix). This assistance came in the form of a US\$ 5 million grant intended to assist in the further implementation of the MMBCP for the period of 2008-2012 (Wisborg and Jumbe, 2010:v). The objectives of this assistance align closely with those developed during the original GEF project but with an increased focus on local communities while maintaining a core concern for biodiversity conservation. One key objective among many is the expeditious implementation of the Forest co-management agreements that were originally developed under the GEF MMBCP. These agreements, developed to ensure sustainable access to resources around MMFR, make sure local communities will continue to access necessities such as thatch grass, firewood, and bee keeping (Wisborg and Jumbe, 2010:x). As an effort to address this objective as well as others centered on local communities,

MMCT enlisted the assistance of Concern Universal (CU) and the Wildlife & Environmental Society of Malawi (WESM), backed by funding from the European Union and Irish Aid, to develop a pilot program aimed at strengthening relationships with local peoples and promoting sustainable livelihoods around MMFR (JIMAT Development Consultants, 2009: 2). This original pilot program, called the Mkhumba Boundaries Communities Livelihoods Improvement Project (Mkhumba Project), ran from January of 2006 until January 2011 and was based in the Phalombe District on the northern side of MMFR (Mkhumba Project EOP Report, 2010). I was given access to several project documents by MOBI+LISE staff during visits to their Chitikale office (2/10/2011). At the project's conclusion in 2010, 264 households were evaluated for an End of Project review (EOP) to measure their progress on a set of indicators focusing on a variety of issues such as crop diversification, environmental education, soil and water conservation, gender equality and health among others (Mkhumba Project Draft EOP Review, 2010).

Overall, the EOP review found that the project had achieved success on most indicators, though some claims of success on certain goals appear questionable without further evidence. For example, the EOP executive summary states that “Most people are refraining from careless cutting of trees from the Mulanje Forest Reserve and are now taking part in protection and sustainable utilization of forest resources (Mkhumba Project Draft EOP Review, 2010: vii)”, a claim that is not evidenced with clear monitoring structures or measurements, only data suggesting that firewood vending as a main livelihood decreased during the project period (Mkhumba Project Draft EOP Review, 2010:16). Additionally, the EOP reports that the project offered support to local police in the form of materials and supplies as well as HIV/AIDS education and Gender Based

Violence (GBV) prevention training (Mkhumba Project Draft EOP Review, 2010:15).

Based on this support and cooperation with communities in the form of village committee forums on GBV, the EOP review team draws the conclusion that, “Local communities are free to report cases to police without fear because of the coordination and cooperation that exist between communities, the Police and the implementing organizations (Mkhumba Project Draft EOP Review, 2010:15)”. However, this claim is difficult to accept as there is no evidence given that communities were asked about how the training provided to police and others on GBV influenced their willingness or likelihood of reporting GB. While increased training on GBV is a positive step for law enforcement officers, there is no basis for equating increased police training on GBV to automatic increased reporting rates from community members.

The report showed a number of issues had proved problematic overall to the project with one of the most prominent being disparities in the salaries paid to the three partnering organizations resulting in low staff retention and high turnover rates for some of these organizations (Mkhumba Project Draft EOP Review, 2010: 33). There was measurable success in other project areas though, such as crop diversification and decreasing food insecure months for the participating communities, the establishment of numerous environmental education clubs, and increases in rates of health education and training. To maintain the positive benefits accrued from the Mkhumba Project in the Phalombe district, and in an effort to extend those beneficial activities to other areas near MMFR, MMCT, with the secondary support of Concern Universal and the Wildlife and Environmental Society of Malawi spearheaded the acquisition of funding from the United States Agency for International Development (USAID) for another project, the Mountain

Biodiversity Increases Livelihood Security (MOBI+LISE) project (Mkhumba Project Draft EOP Review, 2010: 32).

The MOBI+LISE project was instituted in January of 2010 (Bunda College of Agriculture, 2010). This was a three year project financed by USAID's Development Grants Program (DGP) with a total cost of US\$ 3 million. MMCT was the lead implementing agency and contributed US\$ 74,950 in funds toward the total cost of the project, with administrative support from Concern Universal and assistance in natural resource management activities from the WESM (MMCT interview 1, Chitikale, 2010; USAID, 2010:26). The aim of this project was to extend the forestry co-management and sustainable livelihoods activities started with the Mkhumba Project in the Phalombe District and expand those efforts in the areas bordering the southeastern portions of MMFR in the Mulanje District (JIMAT Development Consultants, 2009). As stated in the baseline survey discussed below, "The project includes the area surrounding Mulanje Mountain with a buffer zone of 2-7Km from the reserve boundary. The buffer area has six traditional authorities, one sub traditional authority and a total of 129 villages (70 in Mulanje and 59 in Phalombe)" (Bunda College of Agriculture, 2010: 1). This project places heavy emphasis on utilizing and building the capacity of like-minded local organizations to increase the sustainability of the project (JIMAT Development Consultants, 2009).

In February 2011 I met with Lansen Chikopa, the project manager for the MOBI+LISE project. At that time the project had moved forward with their intended first year goals of completing a baseline survey "to increase the understanding of the current state of the social and economic issues that local communities are facing in agricultural

production and the utilization of natural resources” (Bunda College of Agriculture, 2010: vi). This survey was augmented by additional sectoral surveys on bee keeping, the agriculture sector, Mulanje plantations, and Mulanje tourism. According to the baseline survey, four issues were identified as major challenges that have affected biodiversity at MMFR and the livelihoods of local people:

- Unsustainable resource use; stemming from high population density, and lack of awareness of and weak incentives for sound conservation practices;
- Agricultural encroachment on the lower slopes;
- Damaging bush fires due to an incomplete system of fire-breaks and inadequate response capacity.
- Invasion of alien plant species. (Bunda College of Agriculture, 2010:2)

According to this report, MOBI+LISE intended to address these issues through increasing local involvement in the management and protection of MMFR through replicating and scaling out the original Mkhumba project by diversifying crop production, creating income generating activities around the reserve, improving local development capacity through partnering with organizations focusing on or supporting environmental conservation, and encouraging the expansion of renewable energy projects (Bunda College of Agriculture, 2010:2-3). These efforts would take the form of new co-management agreements, irrigation projects, bee keeping, honey production, fish farming, HIV/AIDS education projects, increased access to renewable energy technologies, establishment of community policing for natural resources, and increased tourism ventures (JIMAT Development Consultants, 2009).

The two communities in which I conducted my research are not a part of the MOBI+LISE project area, and information addressing the level of success achieved by the project has not become available to the general public as of yet. The documents that

are currently available, however, do provide much insight into the state of the working relationships between managing agencies such as the Forestry Department and MMCT. This is a relevant focal point when discussing their work, as well as the work of other partnering organizations because these interactions have the potential to influence the success or failure of conservation and development efforts in all communities around MMFR. In the following section I explore these relationships and their complexity. In addition, I examine how local and national political contexts have come to play a role in the conservation and management of MMFR and the challenges that exist at times because of these interactions.

5.2 Inter and Intra-agency Relationships

Today, MMCT and the Forestry Department have a complex working relationship in which underlying tensions continue to present challenges. As alluded to in the previous section and explained in detail in the MMBCP Mid-Term Review commissioned by the Norwegian Agency for Development Cooperation (Norad), the relationship between these two organizations has been strained since the formation of MMCT, and although there have been some signs of increasing cooperation, discord remains readily apparent (Wisborg and Jumbe, 2010: 61). Here I discuss this tense relationship as well as situations where outside groups have introduced further complexity into successful management efforts at MMCT.

My interviews with one of two assistant district forestry officers (DFOs) at the Likhubula Forestry Station and with Carl Bruessow, executive director of MMCT provide further evidence of persistent divisions between the two groups. According to the assistant DFO, when asked about how the Forestry Department and MMCT work

together, he explained that the “Forestry Department plans and then MMCT presents funding for the implementation of those plans” (FD interview 1, Likhubula, 2010). Later in the interview, after being asked if there were any current problems between the Forestry Department and MMCT he expanded on that statement by saying that there are “some problems with MMCT [for example] with joint planning, we have to sit down and joint plan [and] MMCT has a tendency of dictating how things should be done” (FD interview 1, Likhubula, 2010). This reinforces Wisborg and Jumbe’s statement that “It is still a perception in the DFOs that joint planning is not genuine, because of MMCT control of resources and tendency to dictate the frame, take decisions and in some cases abandon jointly made plans” (Wisborg and Jumbe, 2010: 61).

The executive director of MMCT, Carl Bruessow, was more detailed in describing his views of the Forestry Department’s management strategies. He reports that “the Forestry Department has not progressed much in their methods, have not changed their management structures... have resisted change and maintained colonial structures” (MMCT interview 1, 12/15/2010). He goes on to report that during the 1990s, the Forestry Department was not looking for a partnership with MMCT and for that reason the Ministry of Finance reduced their funding (MMCT interview 1, 12/15/2010). Further, he states that the leadership of the Forestry Department at that time was corrupt and that later when the World Bank came, and the working group was trying to move forward toward with the formation of MMCT, the Forestry Department was against it while the Ministry of Finance was a proponent, exacerbating the funding issues at the Department (MMCT interview 1, 12/15/2010). Bruessow says that as MMCT has tried to move forward with the Public Private Partnership (PPP) that there has been a power struggle

with the Forestry Department, and in the past five to six years there have been corrupt District Forestry Officers at the reserve (MMCT interview 1, 12/15/2010). He follows by saying that today there is not much cohesion and structure at the Forestry Department.

These tensions, as Wisborg and Jumbe note, played a role in the World Bank's decision to not continue funding of the World Bank/ GEF project past a first phase (Wisborg and Jumbe, 2010: 61). That was not the only instance of the relationship between the Forestry Department and MMCT affecting management operations, with Bruessow saying that sometimes the Forestry Department has been reluctant to agree to certain endeavors such as forestry co-management agreements (MMCT interview 1, 12/15/2010). There are six of these co-management agreements that have been signed encompassing five villages each. There are also two other agreements in the works, the progression of these have seemingly been stalled since 2008 and have not been signed by the pertinent authorities in order to put them into effect (MMCT interview 1, 12/15/2010; Wisborg and Jumbe, 2010: 31).

5.3 Power struggles with outside organizations

In addition to the complications brought by tensions between managing agencies, these co-management agreements, a cornerstone of the Forest Co-management and Sustainable Livelihoods component of the MMBCP, have also been jeopardized by other outside groups working near MMFR. According to Wisborg and Jumbe (2010) and Carl Bruessow (MMCT interview 1, 12/15/2010), co-management agreements were signed into action in 2008 with local communities in the vicinity of the Thuchila Estate in the Phalombe District to the north of Mulanje. Prior to this, in 2007, the estate was purchased

by Mulli Brothers LTD (Wisborg and Jumbe, 2010: 37). On their website, Mulli Brothers states that their company's mission is to,

Enhance the profitability and competitiveness of manufacturing companies by assisting [Malawi] in its socio-economic development initiatives. Innovations coupled with aggressive business dynamics has enabled the company exploit of ideas that have been talked about by many over the years in order to empower the local people across the country as part of national poverty eradication strategy. The company believes in economic empowerment of rural communities... (www.mullibrothers.com: 2008)

Throughout their website, the Mulli Brothers promote their claim of advancing local communities. The company is prominent within Malawi and their trucks can be seen regularly throughout the Southern region. Among the Mulli Brothers officials that purchased Thuchila Estate was Mr. Felton Mulli, a Member of Parliament with the Democratic Progressive Party (DPP) who is a member of the International Relations committee and the Commerce, Industry, and Tourism committee (Wisborg and Jumbe, 2010: 37; www.parliament.gov/mw). The DPP was the ruling party of then President Bingu wa Mutharika. In 2008, Mulli Brothers sought to acquire a tourism concession from the Forestry Department for the lands already covered by the co-management agreement in that area (Wisborg and Jumbe, 2010: 37). Wisborg and Jumbe explain that witnesses report that this concession was signed by the Director of the Forestry Department very quickly due to being threatened of severe consequences for non-cooperation (2010: 37). It is apparent throughout these reports that the Forestry Department was compliant with the requests of the Mulli Brothers due to their political affiliations with the President and the ruling party and the power that accompanied these associations.

The tourism concession granted to Mulli Brothers for the Thuchila Estate resulted in a disruption of local peoples' access to resources on those lands that had been guaranteed to them under the co-management agreement (Wisborg and Jumbe, 2010: 37-38). Affected residents have reported being blocked from the lands under the co-management agreement by employees of Thuchila Estate who interpreted the tourism concession as granting them complete control of those lands. They have also reported being threatened with weapons or being charged high fees for gathering firewood, higher than I have found those residents gathering firewood in lands not covered by co-management agreements were being charged (Wisborg and Jumbe, 2010: 38). Wisborg and Jumbe report that, as of September 2010, a Forestry Department task force had been assigned to look into the issue and that Forestry Department officials had agreed that a mistake had been made with the issuance of the tourism concession (2010: 38). As of the conclusion of my field research, this conflict of interest remained unresolved.

This issue of non-compliance with co-management agreements is not the only instance of Mulli Brothers activities at the Thuchila Estate that conflict with management efforts at MMFR. Another incident, described and photographed by Wisborg and Jumbe (2010:22-23), took place in May of 2009. On that date, MMCT officials were informed that a truckload (230-300 planks) of unstamped (and therefore illegally possessed) felled Mulanje Cedar was being off-loaded at Thuchila Estate. District Forestry Department officials were informed and MMCT accompanied them to Phalombe to investigate the claims. Upon examination it was determined that the planks were indeed illegal and so Forestry Department

workers and local police were ordered to load them onto a Department truck for transport off the premises (Wisborg and Jumbe, 2010:22-23). At that point Mr. Mulli, the estate's owner, ordered his security personnel to stop the Forestry Department vehicle and have the timber off-loaded once more (Wisborg and Jumbe, 2010:22-23). Subsequently, the Regional Forestry Officer (RFO) was called in and privately met with the estate owner and the alleged supplier of the timber (Wisborg and Jumbe, 2010:22-23). In the end, the power and political clout of Mr. Mulli apparently brought any further actions by law enforcement to a standstill and the issue was never resolved, much to the frustration of MMCT and other managers (Wisborg and Jumbe, 2010: 23).

After President Bingu wa Mutharika's death in April of 2012, new President Joyce Banda has brought a new ruling party to Malawi along with many sweeping political changes viewed positively by many within the country and abroad. These changes provide reason to hope that incidents of corruption driven illegal activity at MMFR will cease to occur. However, it will take concerted effort on the part of communities, managers, and especially government to overcome entrenched practices of powerful political and business interests acting outside of the law, and the sense of resignation by those unable to stop them. As Wisborg and Jumbe (2010) note, actions such as those by the Mulli Brothers at Thuchila Estate seriously jeopardize the continuance of assistance from donors such as Norway, making this a primary threat to the long-term conservation of MMFR.

Summary

Conservation priorities at MMFR originally served to safeguard resources for the exploitation of European colonial settlers. Over time the motivation changed from commercial exploitation of resources to a concern for protecting unique biodiversity found on the mountain, for the overall forest and its animals but especially for rare species like the Mulanje cedar. This pattern echoes overall trends seen in protected areas and resource conservation throughout Sub-Saharan Africa since the early 1900s. These motivations form the basis for the modern day conservation strategies at MMFR which further serve to illustrate how the global trends in conservation and development laid out in chapter two have manifested in specific places like at MMFR. Contemporary strategies have been influenced by the incorporation of the goals and interests of organizations like the World Bank, GEF, and several foreign government donor agencies (Britain, Norway, and the US) that were viewed by MMFR conservationists as necessary financial contributors that could bring about desired biodiversity conservation outcomes. These organizations, informed by ideas of sustainable development, brought to the conversation a new focus on local people and social development. Furthermore, any project implemented at MMFR needed to adhere to certain national standards and policies including the Malawi Country Assistance Strategy, the Forest Policy of 1996, and the Forest Act of 1997, all of which included further goals focused on community engagement.

Despite this focus on local people, input from local communities living near MMFR was not actively pursued during the design stages for the

development of MMCT or its intended activities, a reality that harkens back to early colonial behaviors of disregarding local input and opinions. As the program took off, the financial challenges of operating and sustaining MMCT initially shifted many of the resources they had dedicated to local communities away from those groups to fundraising in order to sustain the operation. While today that focus has been somewhat reinvigorated through the work of the Mkhumba Project and the subsequent MOBI+LISE project, MMCT's engagement with local communities in many areas remains largely peripheral except on paper as a continuously stated goal and objective. Lastly, there are significant disconnects between MMCT and FD. Although relations may be improving over what they once were, the two are far from being in complete unison on the best strategies for protecting MMFR. Their struggles are indicative of the challenges present in a post-colonial country dealing with complex negotiations of maintaining state control and negotiating outside foreign and international intervention.

In the following chapters I will examine how conservation efforts at MMFR exist alongside the everyday realities of local people living near the reserve. I will explore various livelihood strategies being carried out by those in my research area drawing on interviews, conversations, and observations to understand how these people are affected by and in return affect conservation and management of MMFR. This examination will also include a closer look at the heterogeneity of these communities and therefore how certain social cleavages such as gender and age might play a role in shaping peoples interactions with the reserve.

CHAPTER 6: LIVELIHOODS: SUBSISTENCE FARMING

6.1 Introduction

Nearly 100% of interview respondents in Muhiyo and Monjomo villages report farming as their primary livelihood. However, stating that those people living near MMFR are only natural resource- dependent, subsistence farmers would misleadingly pigeonhole a complex assortment of groups and individuals into a narrow category that is unproductive for advancing conservation and development goals in the area. In order to illuminate social contexts that have so far been left unexamined by managers at MMFR that might impact biodiversity conservation and social development in the area, I look beyond simplified generalizations of communities to see how different people are utilizing the reserve in different ways. This way we can begin to build a broader view of the impacts of and motivations behind the different livelihoods activities taking place around MMFR and therefore develop more informed conservation and development strategies.

There are many social divisions within the populations of Muhiyo and Monjomo villages that a researcher could use as a basis for analyzing people's interactions with MMFR. For example, there are notable differences in the ways that many men and women utilize the resources of MMFR, and therefore in the ways they are impacted by conservation regulations. For those living near the mountain, such distinctions (gender, but also others including age and marital status) have implications for issues of migration,

community structure, and household dynamics, all of which impact how conservation and development projects at MMFR affect different people in different ways. Gendered divisions will therefore be an aspect of the analysis in the following chapters.

However, for this study I found that applying feminist post-structuralist lines of inquiry to the examination of livelihoods was a more productive means of framing the different impacts of these projects around MMFR. This approach moves beyond binary gender analysis, recognizing that identity is the shifting product of many roles and responsibilities that individuals inhabit at different times. Concentrating on the intersection of identity and livelihoods brings nuance to the exploration of how different individuals depend on MMFR in different ways and how different regulations at the reserve have unique implications for those individuals. Further, this approach also allows for a more detailed look at what alternatives to natural resource based activities some people are able to pursue and gives some understanding of why they are able to carry out those activities while others are not, providing insight into existing examples of their engagement in conservation and opportunities for potential future engagement.

While the sample sizes for some sub-groups of the population were quite small, this study is not meant to be a representative sample and so even relatively few participants can provide a valuable alternative lens into the heterogeneity of the overall communities. The numbers of participants for the disaggregated data in this and the proceeding chapters is found below in Figure 6.1.

Category	Total	Muhiyo	Monjomo
All respondents	192	100	92
Women	121	63	58
SWHH	23	12	11
Married Women	98	51	47
Young Women <50 Non-SWHH	87	45	42
Old Women >50 Non-SWHH	11	6	5
Men	71	37	34
Young Men	53	28	25
Old Men	18	9	9

Figure 6.1: Numbers of respondents in each examined social category

6.2 Subsistence farming

Subsistence farming is at the root of all but a very few livelihood strategies of those living around MMFR. 100% of interview respondents in Muhiyo and 99% of respondents in Monjomo reported farming as their primary livelihood. For this chapter, when I am speaking of subsistence agriculture I am looking primarily at aspects concerning types of crops grown for household consumption, food security, land availability, and discussions of farm inputs.

Maize dominates cropping in the area with 92% of all respondents from both villages reporting it as part of their farms followed by pigeon peas at 83%, sorghum at 61%, and rice at 55%.

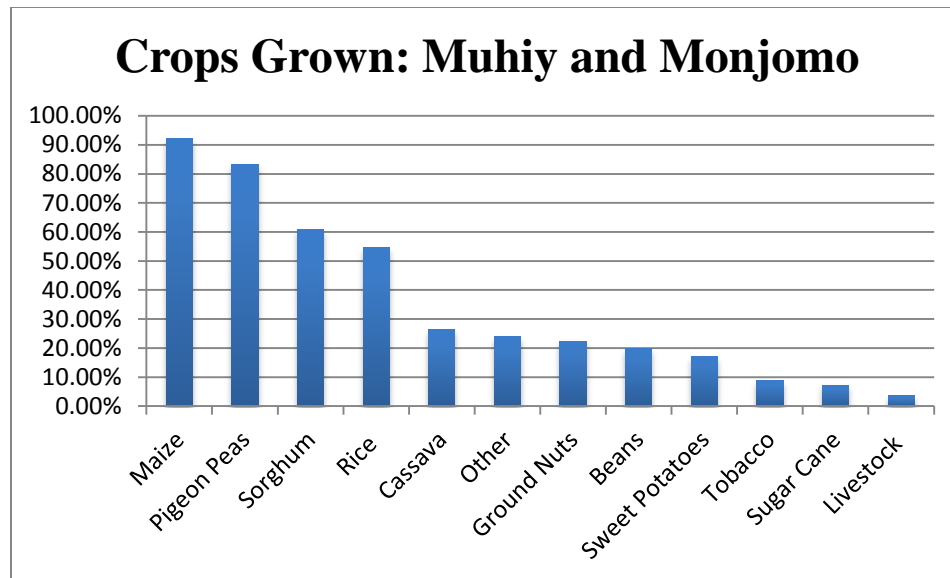


Figure 6.2: Crops grown in Muhiyo and Monjomo

When disaggregated by men, women, and single women heads of household (SWHH), there are few significant variations in this pattern. The exception is tobacco, which is dominated by men (although some women reported it as part of their crops as well). I will discuss growing and selling tobacco as a livelihoods activity more in chapter 8. While women appear to report higher amounts of many crops on their farms, these patterns do not represent a gender-differentiated crop selection strategy. Instead, most husbands and wives in the area farm together. Women are often charged with more of the day to day farm activities, especially planting, and so may have a more comprehensive knowledge of what crops are being grown on the household farm at any given time than their husbands. Single women heads of household rely almost solely on contract farm work (ganyu) and selling of their crops for a livelihoods strategy (also discussed in more detail in chapter 8) so the slightly higher instances of reporting on most crops for that group is understandable in that context.

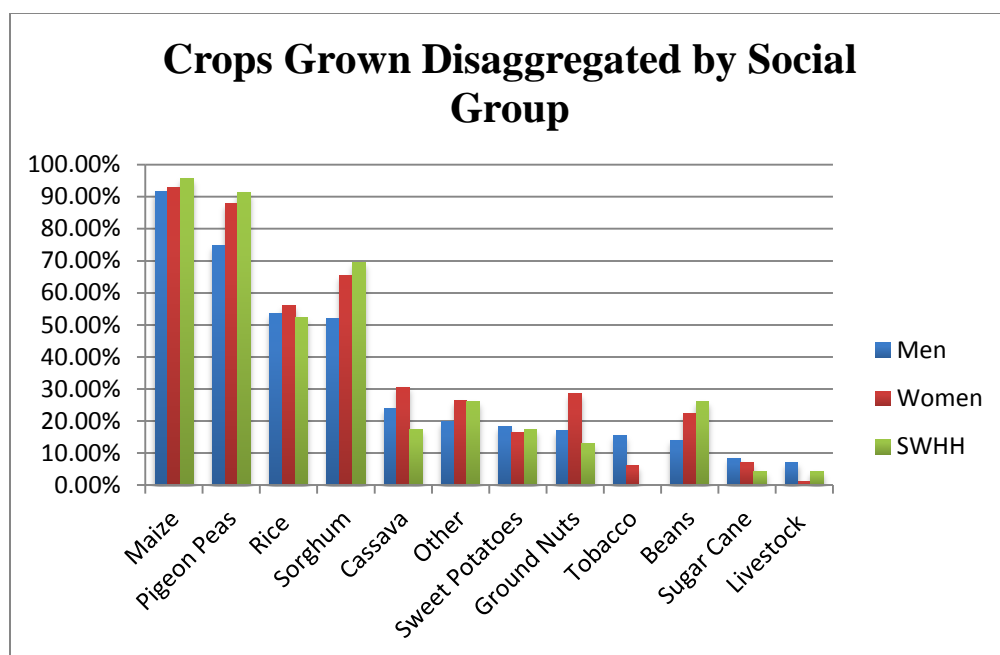


Figure 6.3: Crops grown disaggregated by social group

We see somewhat more variation when we compare crops grown in Muhiyo with those grown in Monjomo. Far more farmers in Muhiyo than Monjomo report growing rice and cassava and a slightly higher percentage report growing pigeon peas, ground nuts, beans, and sweet potatoes as well. No farmers in Monjomo report growing sugar cane while 14% of farmers in Muhiyo do. Nearly 20% of farmers in Monjomo grow tobacco while none in Muhiyo report that crop. Monjomo farmers also grow slightly more sorghum and hold more livestock. Some of this variation has to do with soil suitability for different types of crops as you move further away from the mountain, while some likely has to do with what other types of livelihoods people are practicing in the two villages that they may depend on besides farming, as I explain in chapters 7 and 8.

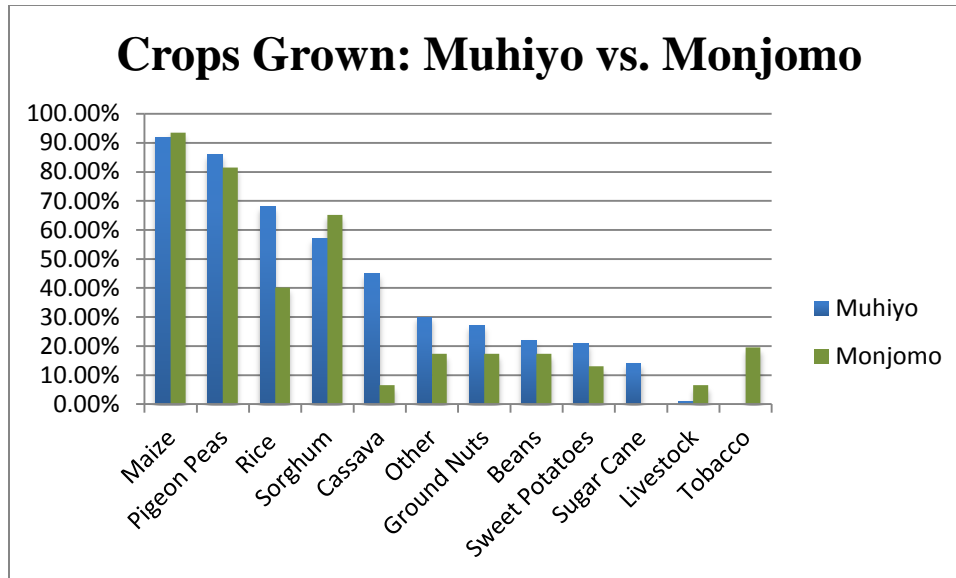


Figure 6.4: Crops grown Muhiyo vs. Monjomo

6.3 Growing challenges

Relying solely on subsistence farming as a livelihoods strategy is becoming more and more difficult due, in part, to the expanding population around the mountain. The existing farmland is being continuously subdivided to meet the agricultural needs of new generations as they reach adulthood. Limited land availability also means that there are almost no opportunities for the land to be left fallow to restore and maintain its fertility. Due to issues of land availability and, even more so decreasing fertility, many people living in the areas surrounding MMFR find themselves unable to grow enough food to last their families through the year to the next harvest. Chronic food shortages are a widespread challenge in the area during that period when the food from the previous season's harvest has run out, but the new harvest has not yet matured, leading to locals calling this time period between November and March the "hungry time" (USAID FEWS Network, 2013). The latest food security outlook put forward by the USAID Famine Early Warning Systems Network reports that from October to December of 2013

households in the Mulanje area will reach stressed food security levels. The stressed classification aligns with the Integrated Food Security Phase Classification (IPC) of phase 2, meaning “household group food consumption is reduced but minimally adequate without having to engage in irreversible coping strategies” (FEWS Network, 2013). With twenty-five percent of Mulanje district’s land being covered by MMFR, encroachment onto the protected area is increasingly used as a strategy for farmers bordering the reserve. One 89 year old man, discussing certain changes he has seen regarding population stated that,

Population is higher now and people are marrying younger than in the past. In the past if a person had reached the point whereby he could pay taxes then he was able to marry. This is totally different than today. In addition, when a person went to pay taxes they checked to see if they had hair in their arm pits to see if they had grown to maturity.[Says that he has] seen a change in the boundary of the reserve. People are moving far beyond the boundary for farming and people making charcoal are destroying the reserve (Muhiyo Interview 83, 1/18/2011).

A 62 year old woman in Monjomo echoed these statements when she explained that,

In the past, the population was lower and the land was sufficient for the people. Now, due to high population, people are going further up the mountain to have farmland. In the past, nobody was farming up there. In the past the forest came all the way down to the main road. No houses or farms were on that other side. (Monjomo Interview 86, 5/3/2011).

Such encroachment is seen as one of the prime threats to the reserve by current managers at MMCT and the FD along with illegal resource extraction, fires, and invasive species, this position will be elaborated more in chapter 7.



Figure 6.5: View of Mt. Mulanje from Muhiyo showing reserve boundary.

Critical to the issue of land shortages and fertility is access to farm inputs. Most farmers grow some combination of maize varieties on their farms, including local varieties that tend to be lower yielding and newer hybrid varieties that, while higher yielding, are also heavily dependent on synthetic fertilizer inputs. Over the past two decades, the government of Malawi has intermittently provided some sort of maize seed and fertilizer subsidy programs meant to benefit rural farmers, especially those belonging to the most vulnerable parts of the population (Mason and Ricker-Gilbert, 2012). The amount of these subsidies and their timing have varied throughout the years, gaining immense popularity when delivered on time and rains were good and producing disastrous results when delivered late and periods of drought were experienced (Mason and Ricker-Gilbert, 2012: 5). In 2010/2011, the time of this case study, 10,650MT of seed and 160,531MT of fertilizer were distributed to farmers of Malawi through these subsidy programs. These programs generally provide seed free of charge and the fertilizer subsidy comes in the form of a coupon that allows farmers to purchase fertilizer at roughly \$20USD to \$65USD cheaper than standard commercial prices. For farmers who

often live on less than \$1-2USD a day this is a large difference that can determine whether or not they are able to have a successful harvest for the season.

These subsidy programs have been plagued with idiosyncrasies. At the national level political considerations have tended to dominate the distribution. For example,

In Malawi, other factors constant, households in districts won by the ruling party in the last presidential election receive 1.7 kilograms (kg) more subsidized maize seed and 11.4 kg more subsidized fertilizer than households in districts lost by the ruling party (Mason and Ricker-Gilbert, 2012:v).

Regionally, the intent was for coupons to be distributed according to hectares under cultivation.

Village chiefs and village level committees were supposed to be in charge of allocating coupons to those eligible, or more recently open forums where a more participatory process was to determine who should get the coupons. As stated by Mason and Ricker-Gilbert (2012),

The general program eligibility criteria was that beneficiaries should be “full time smallholder farmers who cannot afford to purchase one or two bags of fertilizer at prevailing commercial prices as determined by local leaders in their areas” (Dorward et al. 2008). However, numerous unofficial criteria may have been used in voucher allocation, such as households’ relationship to village leaders, length of residence, and social and/or financial standing of the household in the village (p. 6).

In my interviews with residents of Muhiyo and Monjomo the issue of fertilizer coupons came up repeatedly as one of the greatest challenges faced in the daily lives of the respondents. Much of the concern over the coupons was the seeming lack of protocol regarding who received coupons each year. The exact process for allocating fertilizer coupons in the villages was somewhat difficult to assess. Some community members said that the chief decided who to give the coupons to, while others referenced a committee

elected by the other villagers that determines the distribution, and still others referring to a committee named by the chief. One 29 year old man from Muhiyo stated that he got a fertilizer coupon. He explains that,

[Fertilizer] is too expensive to buy without the coupons. Without it is 4,000kw and with the coupon it is 500kw per 50kg bag. There are [supposed to be] two coupons per family [but] there are some sort of favors or bribes with the chief. For example, the chief's relatives can have four coupons per family, and the other villagers can only have two or none. There is a list of all the people in the village but sometimes there are [perhaps] five people excluded on the list for coupons without explanation. (Muhiyo Interview 26, 11/8/2010).

Another man explained one strategy that people use to try and make sure community members that don't get a coupon or don't get enough coupons still have some portion of benefit by stating that, "one member of this family got a coupon and they are sharing it with a friend (Muhiyo Interview 30, 11/9/2010).

Yet another challenge reported by small farmers living in these communities is inconsistent rainfall. Annual precipitation in the Mulanje District is highly variable with an overall slight trend toward reduced precipitation since the 1950s (Carr and Thompson, In Press). Farmers explained to me that in the year before I conducted this case study early rains came to Mulanje in October so many people planted their crops. However, the rains then slacked off and did not come again until December, causing many crops to fail, leading to widespread hunger in the area (Muhiyo Interview 5, 10/26/2010). An agrometeorological update released by Malawi's Department of Climate Change and Meteorological Services in April of 2010 that described weak El Niño conditions forming in the Pacific at that time supports these statements.

The distribution and amount of the rainfall have been poor in some parts of the country especially in the south. Prolonged dry spells caused wilting of crops and pastures. The worst affected districts included Nsanje,

Chikwawa, Mwanza, Neno, Phalombe and some parts of Thyolo, Mulanje and Blantyre. Total crop failure was reported in some districts especially in the south (Malawi Meteorological Services, 2010).

Such conditions make for increasing uncertainty regarding planting decisions each year. This is not gendered issue per say, since married men and women here are depending on the same farms. However, as we have mentioned above and will begin to see more in the following chapters, the issue could be particularly concerning to SWHH as nearly the entirety of the interviewed SWHH livelihoods strategies are focused on farming and the produce sold from that farming. Without the diversification options seen in married households, these women may not have the same amount of resilience to stressors as other women and men. While I was in Mulanje, the farmers were highly cautious of planting too early and were staggering the planting of their crops in some instances in order to address some of the risks associated with the variable rainfall patterns. The rains arrived in a regular fashion during my fieldwork, and therefore I cannot comment on the efficacy of these strategies.

When trying to gauge the level of concern that members of Muhiyo and Monjomo villages feel regarding food security it is helpful to look at what they report as the overall greatest challenges that they face in their daily lives. Here I have looked at these challenges collectively and then disaggregated to see differences amongst various members of the community. For more concise analysis I grouped together several similar challenges under the following collective titles (also note that respondents were allowed to give more than one response so some people may have said that several of these categories comprise their overall greatest challenges).

Financial challenges	Includes responses that make a direct mention of insufficient money, finances, or funds to meet needs.
Food security challenges	Includes responses covering not being able to grow enough food for the season, not having enough land to farm, and having insufficient inputs to farmland.
Health challenges	Includes responses covering problems with sicknesses and being in the hospital.
Lack of employment	Includes responses that directly mention insufficient numbers of available jobs or not being able to find employment.
Other	All other challenges mentioned by respondents.

Figure 6.6: Categories of challenges reported by respondents

First, when we look at all respondents from both Muhiyo and Monjomo, we see that challenges relating to finances or lack of sufficient funds and challenges relating to food security (including issues of land availability, inputs, and sufficient or well-timed rains) are the most reported concerns at 54% for financial challenges and 52% for food security challenges.

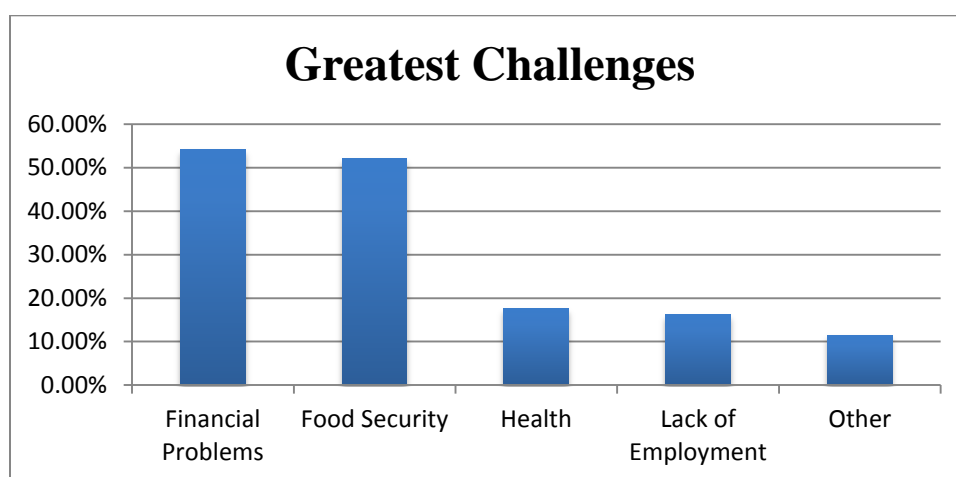


Figure 6.7: Greatest challenges as reported by respondents

When we disaggregate this data by simple gender categorizations of men and women we see that overall a higher percentage of men are concerned about food security (56%) and financial issues(65%) than are women (50% and 48% respectively), while women are slightly more concerned with health issues than are men.

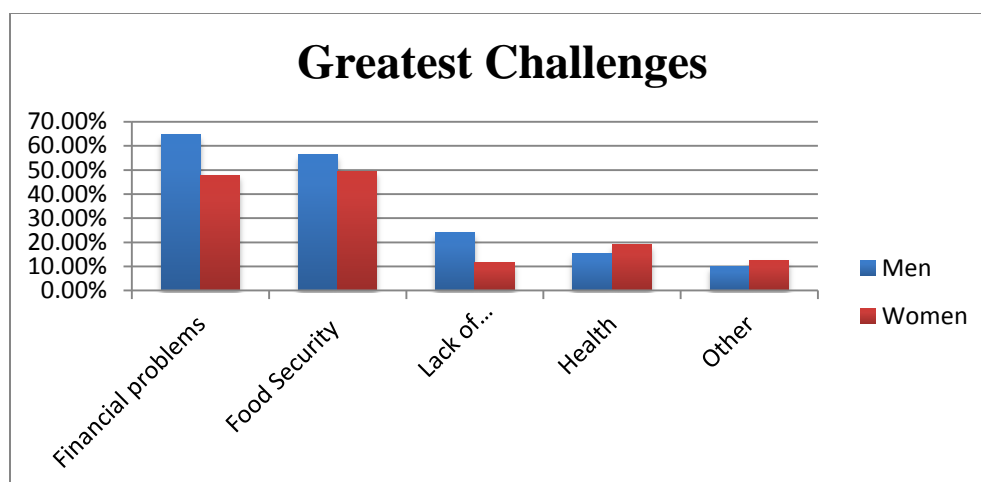


Figure 6.8: Greatest challenges as reported by Men and Women

When we disaggregate the data further though, we see some interesting patterns amongst other relevant social cleavages. For example, SWHH showed more concern about financial challenges (63%) than for food security related challenges such as having enough land, sufficient and well-timed rains, and farm inputs even though these women are nearly completely dependent on farming for their livelihoods. Other married women held both of these challenges to be nearly equally important (financial 48%, food security 50%). This suggests that married women, while still very concerned about having enough funds to meet their needs, are somewhat more secure in their financial situations than SWHH due to the added income that their husbands bring to the household. This is also indicative of the fact that even though SWHH in this area are able to access land under the matrilineal land tenure system, they may not be able to access financial resources that are also necessary to meet their needs.

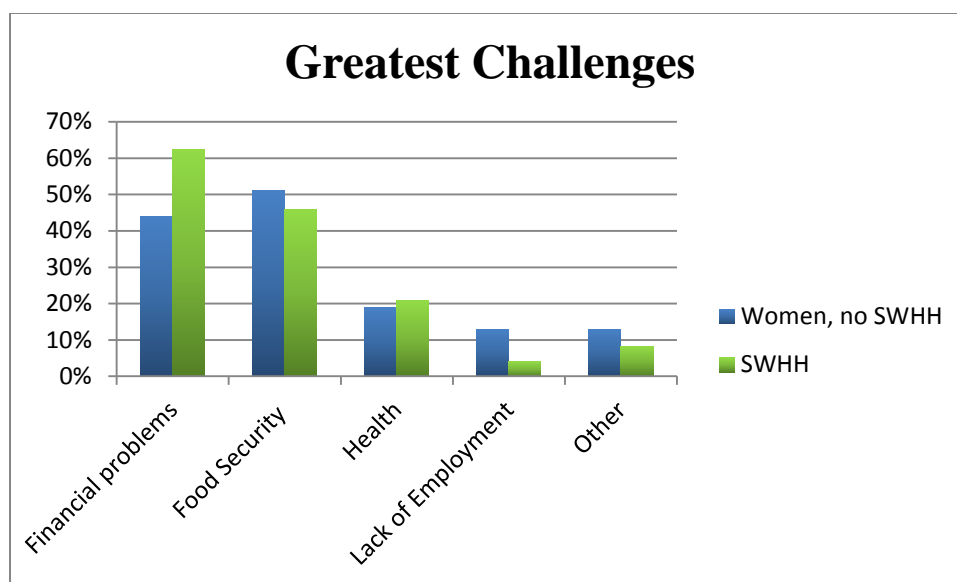


Figure 6.9: Greatest challenges as reported by SWHH and married women.

Age is another social cleavage that illustrates differences in the types of challenges faced by different groups within Muhiyo and Monjomo. For instance, older women are more concerned with food security (64%) and health issues (55%), than are younger women (food security 49%, health 15%). On the other hand, younger women are more concerned about financial problems (46%) than are older women (27%). These differences may be related to the fact that older women are less able to work their fields in the same capacity as younger women are and so are even more dependent on others for labor and on farm inputs for adequate harvests. Young women may find themselves with enough land, labor, and farm inputs, but with too few opportunities for making money to support other household needs.

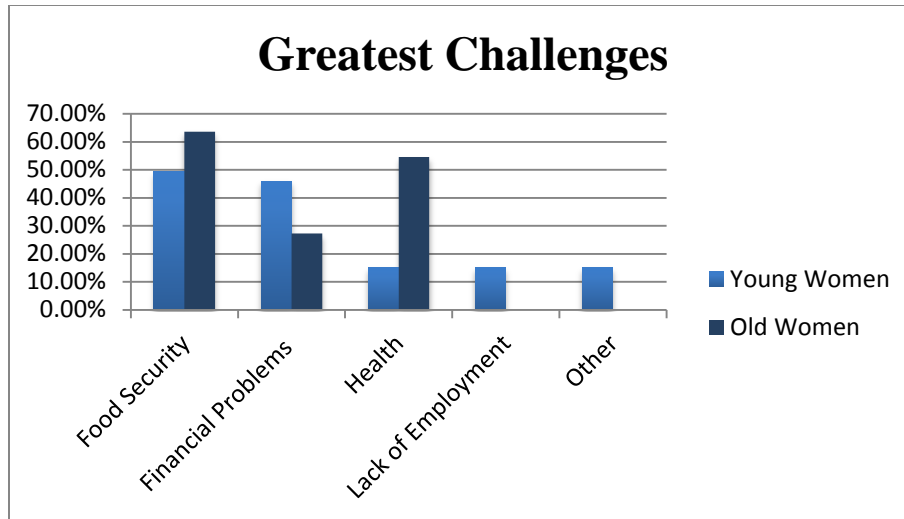


Figure 6.10: Greatest Challenges as reported by young women and older women.

Continuing to disaggregate by age, young and old men also have differences in what they perceive as the greatest challenges in their daily lives. While young and old men had roughly the same responses concerning the importance of food security challenges (young men 57%, older men 56%), young men cared much more about financial problems (72%) than did older men (44%). Furthermore older men were more concerned with a lack of employment opportunities (44%) than were young men (17%). The differences in reported challenges between young and old men regarding financial problems and lack of employment could be an indication that older men view financial hardships as a result of lack of jobs or alternatively that young men don't feel that the jobs they do get are bringing in sufficient funds. The older men's greater concern with employment could also be illustrative of the fact that many of the jobs available in the area are very physically demanding such as being a sawyer, brick layer, or doing ganyu contracts on other people's fields.

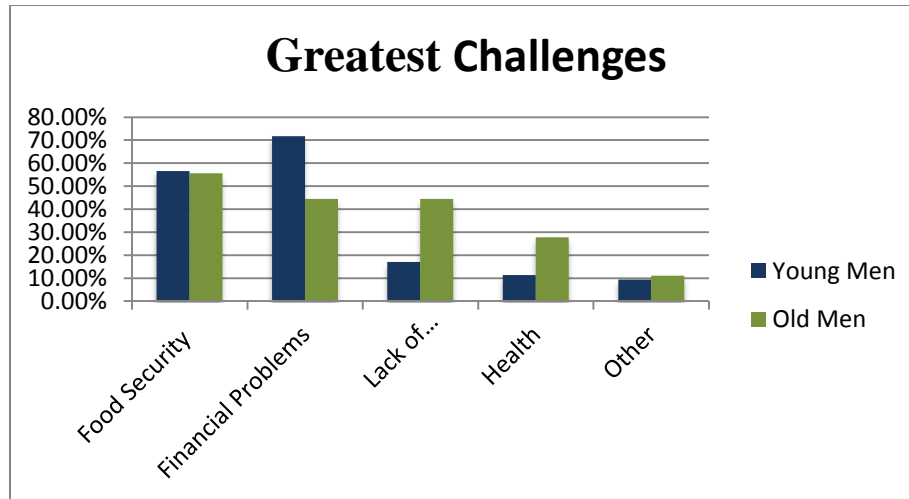


Figure 6.11: Greatest challenges as reported by younger men and older men.

Finally, location also plays a role in the types of challenges that people in this area are experiencing. To explore these differences we can compare the data from Muhiyo with that from Monjomo. In Muhiyo, 57% of respondents say that issues pertaining to food security, land, and rainfall are their greatest challenges, whereas the number in Monjomo is somewhat lower at 46%. Similarly, slightly more people in Muhiyo (55%) report that financial issues are amongst their greatest challenges while the number in Monjomo is 54%. Likewise, slightly more respondents report lack of employment and health issues as part of their greatest challenges in Muhiyo than do those respondents in Monjomo. In subsequent chapters concerning different types of livelihoods, I will give more context to the differences between Muhiyo and Monjomo.

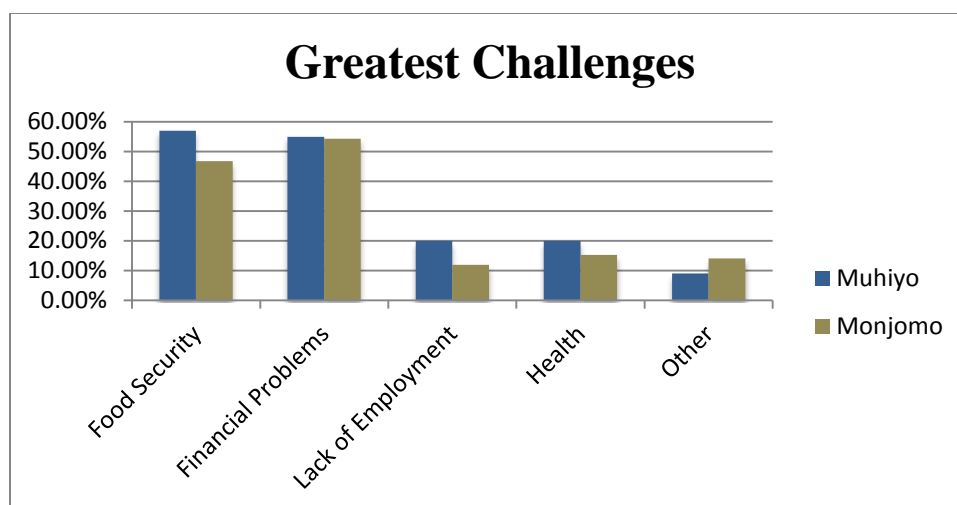


Figure 6.12: Greatest challenges as reported in Muhiyo vs. Monjomo.

All of these challenges combine to create a situation where it is difficult for many households to meet the food requirements and other needs of their families.

Summary

This chapter lays out several key aspects of the subsistence farming systems that make up the foundation of nearly all livelihoods in the research area. A number of pressing challenges, including decreasing land availability amid population pressures, decreasing soil fertility, a changing climate, increasingly variable rainfall, and uncertain access to essential fertilizer inputs create a situation in which dependence on subsistence farming is an increasingly less-viable livelihoods strategy. By exploring how different people situated among varied social cleavages within the communities view these challenges, we get a better idea of what problems are being experienced by different members of the community, and how those problems are being more heavily felt by certain sub-groups, as in the case of financial stability for SWHH who generally do not have access to added incomes in the households as married women do from their husbands. Further, understanding the different perspectives on these challenges at play

around MMFR also helps to situate the motivations and behaviors of those participating in other livelihood strategies at and near MMFR, and thus allows us to productively think about likely future behaviors under different management scenarios. This is critical information for gauging how any proposed future projects might succeed or fail at addressing those concerns.

In addition to highlighting varied impacts of different types of challenges on different people within the communities of Muhiyo and Monjomo, by illustrating how members of local communities collectively perceive issues such as reliability of rains and subsidized farm inputs as vitally important, this chapter is constructing the context within which the faulty management strategies at MMFR laid out in chapter 9 take place. Before we get to that discussion though, in chapters 7 and 8 I discuss forms of supplemental livelihoods that community members pursue in order to survive the increasingly uncertain conditions of their subsistence agriculture. Those discussions provide deeper contexts for the information about the challenges faced by community members described in this chapter and further illustrate how the conditions of life and activities performed by local people and managers of MMFR are all integrated and enmeshed in ways that have produced the current situation we see in and around MMFR today. The analysis also focuses our attention on openings for new strategies that might support rather than degrade conservation and social development efforts in the future.

CHAPTER 7: LIVELIHOODS: FOREST-BASED

7.1 Introduction

In an economic assessment of the value of the natural resources and ecosystem services of Mt. Mulanje commissioned by USAID's COMPASSII program (that conducted water resource protection programs in a community near MMFR and other projects elsewhere in Malawi) and MMCT, Joy Hecht introduces the conservation challenges at MMFR with the following statement :

The resources provided by Malawi's Mount Mulanje are under threat. This area of unique biodiversity and endemic species is being encroached upon by cultivators, harvesters of timber, charcoal-makers, fire-setting hunters, and, according to some, even staff of the Forest Department responsible for its sustainable management (Hecht, 2006: iii).

These threats are echoed in an article co-authored by biologist Julian Bayliss of the Wildlife Conservation Society (WCS), Carl Bruessow and David Nangoma of MMCT, Hecht, and Steve Makungwa from Bunda College, where they list “fire, fuelwood collection, illegal logging, unsustainable hunting, invasive species, and [proposed mining operations]” as the greatest dangers to the Mt. Mulanje ecosystem (Bayliss et al., 2007:64). The predictions of Hecht's valuation study as well as those of Bayliss et al. were grave. At the time, Hecht reported:

If business continues as usual in the region, we anticipate that miombo woodlands on the mountain will be gone by 2011, and afro-montane forests by 2016. With greatly improved forest management and improved Forest Department operations, the lifespan of miombo may be extended to 2014

and of afromontane until past 2023, which is the endpoint of our projections (2006: iii)

It is clear today that these dire predictions have so far failed to come to pass.

Granted, Hecht was explicit in stating that the data used for her valuation was imprecise and that any decisions based upon it would need further research for accuracy, and made all the data used for the study available to the public (Hecht, 2006: iii). For example, the study states, “We do not know what the actual patterns are of fuelwood use in the region, nor do we have accurate local data with which to reliably estimate the impact of scarcity or an increase in price” (Hecht, 2006: 19). However, even with the statements acknowledging incomplete (or non-existent) data, the implications for those interested in the well-being of the MMFR were clear; if drastic action was not taken immediately the forests of Mt. Mulanje were essentially doomed. The study essentially categorizes local communities into two different groups, those that are law abiding residents dependent upon the mountain for vital ecosystem services and natural resources like water, medicine, and fuelwood, and those who exploit the reserve for their own gain with no regard for the fragility of the unique natural environment found there like hunters (poachers), fire-setters, encroachers, and corrupt forestry workers. She makes her position on this clear when she states:

If the encroachment is not stopped, all of the other services will be stopped, to the detriment of those who live in Mulanje and Phalombe Districts. The cost of replacing those services is likely to be much greater than the costs of preventing encroachment, and the benefits reaped in the short run by those responsible for encroachment are likely to be far lower than the benefits of sustainable use of the mountain (Hecht, 2006:iii).

Despite the emphasis that Hecht and those who commissioned the study place on the inadequacies of their findings for directing management decisions, their work effectively serves to promote a crisis narrative at Mt. Mulanje. This narrative points to

local community members as the primary drivers of ecological destruction at the reserve, both through illegal and legal forms of unsustainable resource extraction. This narrative is problematic not because it is completely wrong. The ecosystem of Mt. Mulanje is threatened, and some people around the mountain are degrading the resources found there at a rapid pace. However, the current construction of the “degraders” in the narrative is overly coarse. By their own admission, those involved in developing the study did not have time to seek out primary data and so relied on the research of previous studies for their economic data. Gathering data in this way is not in and of itself a problem yet, in this instance, broad-scale ecological and social processes within which local motivations and behaviors were being articulated have been left unacknowledged. As a result, the viewpoints of those portrayed as primary threats to the MMFR environment are not provided. Furthermore, key differences within local populations have been overlooked in this narrative that can and should inform conservation and development initiatives at MMFR. The livelihoods and rationales for livelihood decisions held by those around the reserve are generalized in a way that does not lead to the formulation of targeted initiatives that prioritize those who are more likely to degrade the resources of MMFR or that are appropriate for different people within local communities. This is not to imply that the author of this study, or those who commissioned the study including MMCT, were unaware of these larger processes or local contexts and differences, but that they reduced them (whether strategically or not is unknown to me) into simplified portrayals that problematically steer discourses concerning MMFR to fortress conservation-type dialogues. It should also be noted that this study was published the year prior to the end

of the GEF project at MMFR, at which time the Government of Norway decided to step in with the funding to continue the program as discussed in chapter 5.

The economic valuation study discussed above is only one report. Therefore, the narrative represented in it including its simplified portrayals of local populations and “degraders” cannot necessarily be held as the comprehensive guiding views of MMCT, the FD, or others. Indeed, there have been a limited number of instances where more focused initiatives have been undertaken in specific areas surrounding the mountain that would seemingly contradict such a coarse narrative. However, those initiatives are limited in their scope, and in the remainder of this document I will point to instances where, in areas not covered by such programs, complex local social contexts are being ignored that could serve to inform more targeted, relevant, and equitable conservation efforts. Such instances speak again to an underlying narrative that portrays the interface of socio-economic and ecological challenges as an issue involving coarsely defined “communities” that are inclusive of the primary threats to the MMFR ecosystem, and that can be addressed through limited arrangements such as co-management agreements. Here, and in the following chapters, I argue that in Muhiyo and Monjomo such initiatives hold little relevance for meeting conservation or livelihoods goals. Instead, the interactions that people within these communities have had with managers of MMFR have been largely shaped by a lack of information sharing, negotiating the need to illegally extracting resources to meet livelihoods needs while avoiding violence from managers and authorities, and a general experience of marginalization when it comes to decision-making in conservation initiatives.

In order to show how this type of narrative and its associated weak engagements between managers and people living near MMFR is problematic in the local contexts of Muhiyo and Monjomo, I begin by exploring how current management strategies combine with forest-based livelihoods strategies to create complex situations with dynamic challenges and opportunities that local community members must negotiate in order to survive. I will also look at how managers have portrayed the severity of the actions of those engaging in these livelihoods (as with the examples provided above) and compare that with my own findings illustrating the complexities that the managers have heretofore missed. Here I focus on natural resource based livelihoods, those most directly influencing and most directly influenced by the health and management of MMFR. The discussion will cover both legal and illegal natural resource based livelihood activities and interactions with managers and law enforcement. In chapter eight, I will broaden the livelihoods discussion to include non-natural resource based activities.

7.2 Matabwa: Plank Timber

In order to be able to pay for food to make up for shortages from inadequate returns from subsistence farming, along with the need to cover costs of essentials such as medicine, transportation, and school uniforms and supplies, local people seek out non-agricultural forms of livelihood to gain capital. Timber harvesting is one of those supplemental livelihoods.

Timber harvesting has been an important part of the history of Mt. Mulanje since colonization and remains an essential livelihood strategy for many living near Mt. Mulanje today. Much of the discussion by managers concerning local timber harvesting at MMFR revolves around illegal cedar harvesting in the higher elevation areas, legal

eradication of invasive pine from different parts of the mountain, and unsustainable fuelwood extraction from the lower elevations (Bayliss et al., 2007:68). The managers acknowledge that timber extraction is a livelihood strategy at MMFR where alternatives are very limited, and they give some discussion to licensed extraction of dead cedar (Baylis et al., 2007:68). One rarely hears of logging of other types of tree species (different than fuelwood extraction), and outside of program reviews commissioned by the Government of Norway (Wisborg and Jumbe, 2010). I've not seen any mentions of large scale organized cedar extraction designed by groups outside of the Mulanje area. So what is present in the portrayal of timber extraction largely focuses on networks and individual local small-scale illegal cedar extractors. Where managers or others mention pine eradication it is presented as a potential source of temporary employment for those living around the mountain, but is not given nearly the attention that illegal cedar harvesting is.

In this section, I discuss information gained from observations, interviews, and conversations regarding logging at MMFR, as well as what conservation-inspired timber restrictions at MMFR mean for local families and communities today. I then go on to compare the narratives put forth by managers and actual reports and observations from the communities in order to lend insight into the complexities involved with legal and illegal logging as well as interactions between loggers and forest managers.

There is a notable difference in the numbers of people practicing sawyer work in the two villages studied for this project. Fifteen men in Muhiyo report sawyer activities as a livelihoods strategy, but only one man in Monjomo makes a similar claim. These numbers are likely to significantly underestimate the actual numbers of men participating

in this type of livelihood as many men were away conducting these activities during the times of the interviews. None of the women that participated in the interviews report taking part in sawyer activities themselves. Most of the difference between the participation of men in Muhiyo and Monjomo can be attributed to the fact that Monjomo is further away from MMFR than Muhiyo, which sits directly adjacent to the reserve. While not all of the men from Muhiyo who practice sawyer work perform these activities in the reserve (a point I discuss further below), the historical proximity of the community to the forests of Mt. Mulanje have created a tradition of sawyer work there which has led these skills to be passed down from one generation to the next. Those men living in Monjomo speak of their lack of skill in sawyer work as a reason that this is not one of their common livelihoods approaches.

Logging and sawyer activities take several different forms at MMFR. As mentioned in chapter five, large scale plantings of Mexican pine were undertaken by colonial forestry officials during the 1950s, along with these plantings the aggressive pine species spread extensively through natural means and has gone on to encroach heavily on native Mulanje cedar habitats as an endangered species. Today, the considerable existing pine stands serve as a double edged sword: they remain a major ecological concern especially with regard to competition with Mulanje cedar, but they also serve as an incredibly important employment opportunity for local sawyers and carpenters. Most legal timbering at MMFR currently centers on cutting and harvesting invasive pine trees. Many men are employed by the Forestry Department on contract to go onto the mountain and stay there for extended periods of time cutting the pines. Some men are paid by the FD to saw the cut trunks into planks while still on the mountain. One man reported that

he is paid 130kw (USD 0.84) for an 8x6 plank and 70kw (USD 0.45) for every 4x2 plank (Muhiyo Interview 49, 11/22/2010) At times the cut tree trunks are not immediately sawn into planks or taken down the mountain. Other men, working independently or who are contracted by larger operators, come in and either carry down the already-sawn planks, saw the trunks into planks on the mountain and then bring them down to sell, or logs are brought down the mountain whole. In the case of whole logs, they are sawed in the villages, either by those who harvested them or sold to other sawyers who then cut the wood into planks to sell or used to make furniture to sell in their communities or at the market.

If those carrying pine planks or trunks meet guards when they are coming down the mountain then they pay a fee of approximately 70kw -200kw (USD 0.45-\$1.29) (Muhiyo Interview 18, 10/28/2010; Muhiyo Interview 38, 11/11/2010; and Monjomo Interview 58, 3/17/2011). If they do not meet the guards then they do not pay, and so it is likely that some of these men go out of their way to avoid the guards by going to the reserve on Sundays or at times when they know the guards are otherwise occupied. One interview respondent from Monjomo who carried planks down the mountain explained that he had to pay to bring them down and would receive a receipt to show that he had paid that day so if he met another guard he would not be charged more than once (Monjomo Interview 63, 4/7/2011).

This type of work pays fairly well relative to alternatives such as ganyu and does not depend upon a high technical skill level, but the physical demands of the job are significant. Such demands cause more young men from Muhiyo (35%) to pursue this livelihood than older men (5%). In return for their efforts, one respondent explained that

he gets paid 100kw (USD .65) for bringing down pine trunks and then sells pine planks for 200kw (USD \$1.29) apiece (Muhiyo Interview 26, 11/8/2010).



Figure 7.1: Sawyers at Likhubula cutting pine into planks for a construction project

Aside from cutting the invasive pines, another legal form of timber extraction is harvesting dead wood from trees on the mountain. This practice includes the cutting of dead Mulanje cedar trees. In 2007, Bayliss et. al reported that approximately 32.6% of standing cedar on the mountain was dead (Bayliss et. al, 2007: 67). Every year, the Forestry Department grants a number of licenses for the harvesting and use of these dead Mulanje cedar trees. Bayliss et. al explains that there are, on average, 20 of these licenses given to individual pit sawyers, who then harvest approximately 20 m³ of timber apiece or 400 m³ collectively per year Bayliss et. al, 2007: 68). I also learned during the course of my fieldwork that men fell dead trees of other species as well to utilize the wood, and

are charged fees as well to recover that wood if they come across guards on the mountain. If they do not meet any guards, they harvest the wood without paying.

Felling of any live trees in the reserve (apart from the regulated felling of pine) is strictly forbidden. However, illegal logging continues to be a common practice in certain areas. This is especially true it seems in remote areas further away from centers of official FD and MMCT activity where being caught by law enforcement is less likely. Yet even in and around Muhiyo and Monjomo, which are in fairly close proximity to the FD station at Likhubula, one can find evidence of illegal logging of Mulanje cedar and other timber species. Once, my colleagues (Mr. Dzimbiri and Mr. Willie) and I came across cedar planks that had been hidden amongst some rocks and boulders inside MMFR, presumably the logger intended to come and collect the planks at a later time or after dark. On several other occasions we found evidence of trees of other species, some quite large, that had been felled by sawyers, sawn into planks on site, and then carried down the mountain. These sawyers use man powered saws and axes to carry out their work which gives limited noise that could draw the attention of forest guards. According to grey literature accounts on the subject, they do the cutting in the very early hours of the morning when they are less likely to be heard by guards (Christie, year unknown). One female interview respondent reported that she knows men go to the reserve to cut cedar (she did not specify if they were from Monjomo village or other villages), but the men know that practice is illegal so they bring the planks down before morning to avoid being caught (Monjomo Interview 65, 4/7/2011). In certain instances, we could see where loggers had damaged the lower portions of the trunks of large trees with axes, knives, or fire. This would then harm the tree to the extent that it would die and the men could then

come back later and harvest the dead wood without as much risk of penalty from the authorities.

Mulanje cedar is an especially desired timber type due to its strength and resistance to termites, this means that people are willing to pay more for furniture and housing structure pieces like door frames made of Mulanje cedar than they are for those made of pine. The same respondent who reported that he sells pine planks for 200kw (USD \$1.29) explains that people who cut cedar are able to sell one plank of one inch cedar for 500kw (USD \$ 3.24) although unconfirmed sources online report that the price of a six foot long, one inch thick plank is closer to 1, 500kw (USD \$9.70) (Monjomo Interview 26, 11/8/2010; <http://www.seanchristie.co.za>).

In addition to plank-timber, Mulanje cedar is also used to make curios by artisans around the base of the mountain, especially near more popular tourist areas such as near the Likhubula forestry station. These curios include walking sticks for hikers of Mt. Mulanje, figurines, and highly popular cedar boxes. The artisans claim that all of the cedar they use in their crafts has been purchased legally from the Forestry Department from their stores of confiscated timber. Some question these claims but I have seen no evidence to prove otherwise. It is not difficult, though, to question the sustainability of a craft market dependent on utilizing illegally harvested endangered timber, or the ethics of the FD obtaining revenue from the sale of that timber. Aside from Mulanje cedar, other species of wood like ironwood and ebony are also desired for making curios, as well as for items such as hoe and axe handles and poles for housing frames.

Timber and Temporary Migration

While conducting the interviews in the villages, especially in Muhiyo, it became apparent to me that one striking effect of strict regulations on timbering at Mt. Mulanje is that a large percentage of the men at Muhiyo often travel long distances to seek work as sawyers in other areas of Malawi. The location most often cited is Mzuzu, which is over 700 miles north of Mulanje. In a personal car this trip would take about nine hours, but using buses and mini-buses as most Malawians do the trip would take much longer. Men from Muhiyo report that they can travel to Mzuzu most times of the year for sawyer work when they need money for their families. In Muhiyo, 30% of men who participated in our interviews reported going to the north for sawyer activities, and in addition 11% of women from Muhiyo said their husbands were currently away in the north working as sawyers. In Monjomo the numbers are much lower with only 5% of men reporting that they go north to be sawyers, and 5% of women respondents saying their husbands were away in the north conducting such activities. According to several respondents, those forests are closed by the government during the months of June, July, and August but otherwise there is always work available there (Muhiyo Interview 62, 11/30/2010). One man explained that he goes to Mzuzu sometime in February or March and then comes back in April for the harvest (Muhiyo Interview 96, 1/24/2011). These respondents report that there are many contractors at those forests and that they hire men to go and cut the trees for money. Other Malawian logging locations mentioned included Nkhata Bay and Chicongawa, both also located in the northern part of the country. It is apparent that this livelihood strategy draws many men in Muhiyo away from their homes and villages for extended periods of time.

While it was not within the scope of this project to explore this theme in great detail, I do believe that this labor migration highlights several potentially meaningful areas of inquiry into how local livelihoods decisions here are shaped, such as how the extended absence of men in the village and household throughout the year affects the workloads of other family members, and why some men are more likely to pursue this livelihood strategy than others. While this strategy is helping members of these communities to survive at present, it is unlikely that this type livelihood can be seen as a sustainable solution to a lack of employment in villages around MMFR. This is due to the fact that such livelihoods are vulnerable to the variations of national and international timber markets, the often rapidly-changing political objectives of different ruling parties, and the finite nature of timber stocks in northern Malawi. The FAO reports that,

Over a 20-year period (1972-1992), Malawi's forest resources were reduced by more than half (57 percent) of their size, with an estimated annual deforestation rate of 2.8 percent. The deforestation rate from 1990 to 2000 was only slightly lower, 2.4 percent, which is three times greater than the Pan-African average (FAO, 2012 b)

While forest stocks in the north of the country are greater than in other areas, the deforestation rates there are also higher, with current estimates hovering around 3.4 percent (FAO, 2012 b). Therefore, this migration for sawyer work is likely only a temporary solution for meeting the financial needs of community members near MMFR and elsewhere. In the next sections we look at additional natural resource based livelihoods strategies being undertaken by those living around MMFR.



Figure 7.2: Men sawing a log into planks.

Simplified portrayals of logging at Mulanje that only give significant attention to networks and individuals who are practicing illegal cedar extraction are missing the complex ways in which different residents engage with this activity. This complexity is illustrated here through insights into the importance of pine logging as a livelihood to many in Muhiyo, evidence that other types of trees are being targeted by illegal loggers, and accounts of how local impacts of timber restrictions are manifest in temporary migration schemes. These broader themes do not make their way in to most current discussions of timber extraction at Mulanje as portrayed by the forest managers.

7.3 Makala: Charcoal

Illegal logging is also the means by which some people around Mt. Mulanje produce charcoal. In the MMCT and COMPASSII commissioned valuation study discussed at the beginning of this chapter, you will recall that charcoal burners are grouped with hunters, illegal resource extractors, and others as a primary cause of forest degradation at MMFR. This is despite their lack of concrete data on the subject as Joy

Hecht indicates when she states, “our data on current charcoal use are based on estimates of current volume by Carl Bruessow of MMCT; thus they are very crude guesses” (Hecht, 2006: 14). Most other mentions of charcoal involve reports that 90% of people in the surrounding communities use burn fuelwood and charcoal as their primary fuel source (Wisborg and Jumbe, 2010). Little variation between the two are accounted for. Therefore, in most representations by managers at MMFR, charcoal burners are only vaguely conceptualized. It is indicated that they are active more in some parts of the reserve than in others but there is no evidence that the managers have undertaken or commissioned any detailed studies on the dynamics of these communities or why certain people are more likely to participate in charcoal making than others.

The increasing dependency of Malawians on charcoal is well documented, as is the varying stance of government officials at the national and sub-national levels concerning the legality of charcoal production and use (Kambewa et al., 2007; Fisher, 2004; Zulu, 2010). This increasing dependence is especially prevalent in urban areas where firewood is less easily accessed and charcoal proves more convenient and affordable than unreliable electric fuel usage. A large part of the charcoal produced in and around MMFR is also transported to nearby urban areas, especially to Blantyre and the trading centers along the roads to Blantyre such as Bangwe (Kambewa et al., 2007: 14).

Charcoal production in the communities surrounding MMFR is forbidden by law. However, efforts by law enforcement to curb this practice seem to be ineffective. During my stay in Mulanje I saw recently used pits that had been used for the production of charcoal on several different occasions, both in the forest reserve and in the villages. On

one occasion I saw, from a distance, two men producing charcoal within MMFR. They continued to work though they were aware of my presence, and aware I had a FD employee along with me. Since my forestry colleague did not want to mix the business of law enforcement with the work for my project he did not act to stop them. I am therefore unsure of the typical protocol in that situation, especially as my colleague was not a forestry guard. These observations were made fairly close to the nearest FD office at Likhubula (within a half hour's bike ride). Many interview respondents and others reported that much more charcoal is produced in the communities further away from the FD offices, especially in the Kambenje area. Charcoal is easy to find in local markets around Mulanje, as well as in the Mulanje boma and Chitikale trading center. In fact, I have seen small amounts of charcoal being seen beside the steps of the MMCT tourist information center in Chitikale on multiple occasions.

Only six interview respondents in Muhiyo and two in Monjomo admitted to using charcoal on a regular basis though some respondents did acknowledge seeing charcoal made within their communities as well as within the reserve (Muhiyo Interview 86, 1/19/2011). Reasons for this use differed, with one man explaining that he is not allowed to use firewood in his rented house because of the smoke (Monjomo Interview 2, 2/8/2011) and another woman explaining that her wealthy sister sometimes brings bags of charcoal for her from the city to use during the rainy season when gathering wood is more difficult (Monjomo Interview 31, 3/1/2011). One respondent reported that you can buy a small pack of charcoal from a nearby market for approximately 50kw (USD 0.32) (Muhiyo Interview 27, 11/9/2010). It can be reasonably assumed that the number of positive responses regarding charcoal use is lower than what is used in reality, as it is

likely many people felt uncomfortable admitting to buying illegally produced charcoal. Many told me they had never seen it being produced or sold (which I am certain is not true, as I saw evidence of this on multiple occasions just in the short time that I was there and it would be highly improbable that a resident could avoid it). I was surprised that more people in Muhiyo reported using charcoal however than in Monjomo, since Monjomo is further from the MMFR boundary and therefore gathering wood for charcoal production is a more difficult process. However, slightly more people were interviewed in Muhiyo which could account for the difference and the number of people reporting using charcoal is so small overall that it is difficult to accurately gauge the actual numbers. The use or production of charcoal in and around Muhiyo and Monjomo does not appear to be a major livelihood for most at this time. Most feel that buying charcoal is an unnecessary expense while wood is available more cheaply in the reserve and at the markets, though others who are unable to travel to the reserve for wood or who have no access to wood on their own land find it to be a good option for cooking and heating their homes. Most in Monjomo who acknowledged that people within the village make charcoal reported that people there use their own trees for making charcoal in their own yards, and that they do not bring down timber from MMFR to make the charcoal. This may indeed be the case in Monjomo given the distance it takes to reach the reserve and carry back timber, however, making charcoal is illegal regardless and it is much easier to spot someone making charcoal in the village than it is in the reserve so it seems likely that people from Monjomo are making it within the boundaries of MMF. The same is likely for charcoal makers from Muhiyo.

Seeing as fires within MMFR is cited by MMCT and FD as one of the most prominent challenges facing the reserve ecosystem today, charcoal burning remains a priority concern due to the risks it poses for sparking wild fires. This challenge will likely only increase in importance in years to come.

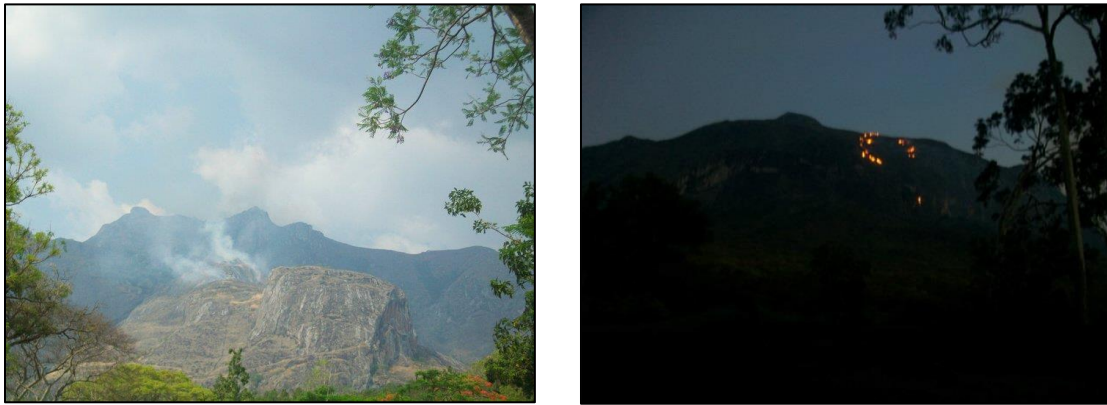


Figure 7.3: Fires on Mt. Mulanje in the daytime and at night from prescribed burning

Just as we see members of certain communities like Muhiyo more commonly practicing timber extraction from MMFR and others from different communities like Monjomo not practicing that extraction as often due to distance and lack of the tradition of that skillset in the village, it is likely that charcoal making follows similar patterns. This view was supported by correspondence I had with another graduate student doing research in the area at the beginning of my study who had dealt more with people who were accustomed to making charcoal when he said that from his experiences in the villages he had done work in, people either made charcoal because that was the tradition in their particular community or family, or they didn't, that there was very few people who sometimes decided to burn charcoal to meet their needs. Likewise, it is widely acknowledged by managers and most people around MMFR that certain areas are more active in terms of charcoal production. However, I've seen little evidence of inquiry into studying people around the mountain who buy charcoal to use in their homes. Therefore lumping charcoal

use in with fuelwood use in the form of firewood sticks gathered from the reserve seems an unhelpful simplification that the managers at MMFR seem to be doing nothing to clarify. And furthermore, presenting activities of charcoal producers as a primary driver of forest destruction when making broad and dire predictions of forest loss based on “vague guesses” on data relating to charcoal seems irresponsible or at the very least unhelpful.

7.4 Nkuni- Firewood

As part of their (now defunct) predictions concerning the complete loss of the lower elevation miombo woodlands at Mulanje, the valuation study described the role of firewood gathering as follows:

In 2005 the use of fuelwood from the protected area exceeded its sustainable yield including the dead wood shed by the trees by about a factor of three. Fuelwood demand is going to grow with population growth, while the current excess of demand over supply means that the stock of forest must be mined rather than harvested sustainably. Supply will therefore decline over time until there is no forest left (Hecht, 2006:iii).

While the study does not list fuelwood gatherers in their list of those acting as threats to the reserve, it is clear that they see the gathering of firewood by these communities as one of the most prominent drivers of ecosystem degradation. The fact that firewood gatherers are cutting trees and likely having negative effects on the MMFR ecosystem is not disputed here. However, the authors of the above report are relying on rather Malthusian reasoning to make their claims. On a positive note, they do rely on data from other studies rather than only guessing at fuelwood consumption in the area. The study does give recommendations for further studies to increase knowledge on the topic, but most of those recommendations involve following women into the reserve to see what types of

wood are being harvested, weighing headloads, and counting sticks of firewood. While this information is interesting I think it would be more interesting to explore which people are relying on gathering firewood as a livelihood strategy and why, and what other alternatives are people pursuing besides this type of fuelwood extraction and use and who are the people pursuing those alternatives?

Below I shed some light on the complexities involved in the simplified scenario they present above to show how some people's livelihoods are more intimately linked with fuelwood gathering inside the reserve and therefore more vulnerable to any increased restrictions on access, and who would also be more vulnerable to significantly decreasing forest stocks.

Approximately 85% of respondents in Muhiyo and 97% of respondents in Monjomo use firewood as their primary fuel source. The remainder of those interviewed either use charcoal or provided no answer to that particular question. Just as the cutting of plank timber and the making of charcoal are activities overwhelmingly conducted by men, the collection of firewood is predominately practiced by women. There are exceptions whereby a few men do assist with gathering firewood, however, it is most often (though not always) the case in these instances that the firewood being collected is to be sold for a profit.

There are marked differences between the two research sites concerning where respondents get their firewood. In Muhiyo 61% of respondents collect their wood from the forest reserve, while in Monjomo only 19% report collecting their wood from MMFR. In Monjomo, most people report using farm residues after harvest, their own trees, or buying firewood from the market instead of going to the reserve to collect it

themselves. This is because of the amount of time and strenuous effort needed to make the journey into the reserve to gather the wood. Women gathering firewood usually leave from their homes very early in the morning, sometimes in the pre-dawn hours, and return sometime in the afternoon or even late into the evening, and the paths are often very steep and can become extremely slippery when wet. I used these paths during my work in the forest walking transects to record cut trees near the end of my stay in Mulanje. My assistants and I would often meet women on the paths and off the paths in the forest collecting wood for their headloads. I would also meet the women whenever I hiked to the waterfall along the Likhubula River up the mountain from where I lived. Women stopped by a bridge where a small stream runs, and would prop their headloads against a nearby rock while they rested and cooled their feet in the stream.

On average, the respondents from Muhiyo go to the reserve to collect wood twice per week and spend 5.2 hours on each trip, the respondents from Monjomo average less than once per week (.75) and spend an average of 11 hours per trip. So, one can see that distance plays a large role in women's decisions concerning traveling to MMFR to collect wood. While these averages are helpful in illustrating notable differences between the experiences of women in Monjomo and those in Muhiyo, they are also capable of masking some of the nuance among these groups. For example, the majority of women from both Muhiyo and Monjomo that go into MMFR to collect wood are younger women, my interviews showed that as age increases the women become less likely to feel comfortable making the trip into the reserve to collect the wood and are then reliant on others for wood, use farm residues, or buy wood if they are able. Also, during my interviews it became clear that women who were wealthier (as evidenced by their

stronger housing structures such as brick homes, tin roofs, glass windows etc. or through their own responses) were not as likely to go to the reserve to gather wood as poorer women because the wealthy women were able to buy firewood from others. The poorer women either gathered the wood themselves or, if they were not able, found themselves highly dependent on farm residues and the generosity of others or assistance from their children for firewood. It is also important to remember that the wood that residents of Monjomo and other villages somewhat distant to the reserve are buying does, for the most part, come from MMFR. It is gathered primarily by women who live closer to the reserve, who then transport the wood to the local markets to sell in bundles. One woman stated that small bundles of wood can be bought in local markets such as Nkando or Manaku for around 30kw (USD 0.19) (Monjomo Interview 3, 2/8/2011), while another stated that whole headloads of wood can be sold for 120-150kw (USD 0.77-0.97) (Muhiyo Interview 64, 11/30/2010).



Figure 7.4: Young girls bringing headloads of firewood down from Mt. Mulanje

The women carry panga knives (machetes) with them to break up larger pieces of wood into more manageable sizes. Some also use them for illegally cutting small trees or cutting live branches off of trees. The women also take along money with which to pay the forest guards they often meet inside the reserve. Most women from both villages reported paying 20kw (USD 0.13) to the guards whenever they meet them. In return, they receive a receipt that they keep with them to show to other guards in case they happen to meet any. If they do not have the money and meet the guards after collecting wood, the guards will often make them leave without their headload or will accept the promise that they will pay them the next time. Some women from Monjomo do report that they are sometimes charged up to 30kw (USD 0.19) depending on the size of their headloads. Only once did I see women actively cutting wood from a standing tree, but I was not close enough to see if the tree was living or dead. Women did mention that sometimes they use poles and knives to pull down dead branches in live trees. However, women seemed to distance themselves from the practice of cutting live trees, even when I witnessed them carrying green branches down the mountain. I did see women bringing down headloads of green wood on at least one occasion, while I was walking up a footpath into the forest during my fieldwork. I also observed stacks of cut green wood at a woman's home during my interviews. At times, some women explained, women will collect green wood during the dry season and keep it at their homes for it to dry out and be ready to use after the rains come and the paths within the forest become even more treacherous (Muhiyo Interview 48, 11/19/2010). A 21-year-old woman clarified that sometimes they themselves do not cut the green wood that they bring down stating that,

Sometimes it is hard to make up a headload of only dried wood so sometimes she collects green wood as well, green wood that is already cut

by men wanting the trunks. Not pine. If the wood looks like it was just cut then the guards will take away your knife, but if it looks like it was cut a while ago they will let you go (Muhiyo Interview 85, 1/19/2011).

In my fieldwork in the reserve toward the latter part of my stay in Malawi I came across many instances where small trees, saplings, and branches had been cut live. This evidences the fact that the forests are indeed being degraded. This coupled with my other observations of women in possession of green wood, leads me to believe that most women that I interviewed did not feel comfortable reporting actual rates of illegal harvesting of green wood in the reserve due to fear of trouble from authorities.

So we see here that indeed local populations are contributing to the degradation of the forests through the cutting of green wood. However we also see that there are patterns to these behaviors dependent upon individual tree stocks, as well as distance to the reserve. These types of nuances are more helpful in moving research toward finding targeted alternatives to unsustainable resource extraction than are simplified categories of “women around Mt. Mulanje” or other broad descriptors being currently put forth.

7.5 Other Forest -Based Livelihoods Activities

Apart from timber, charcoal, and firewood there are other natural resource-based activities that people pursue around MMFR, some legal and some illegal. For example, the gathering of bamboo, thatch grass, mushrooms and fruits from the reserve are very common practices undertaken by many people living in communities near Mt. Mulanje. These activities are most often practiced in addition to other primary livelihoods like those listed above, or other non-natural resource based livelihoods. Managers at Mulanje speak positively about these kinds of resource extraction and have pursued co-

management agreements with a small number of communities to ensure their continued access to such resources.

Men are most often tasked with gathering bamboo and thatch grass while both men and women gather mushrooms and fruits, especially Masuku or custard apples from the Uapaca Kirkiana tree. Gathering of fruit is free in the reserve. Most respondents from both Muhiyo and Monjomo explain that gathering thatch grass is also free, but that you are supposed to pay for taking bamboo. One woman in Muhiyo reported that she paid for someone to go to the reserve for her to gather thatch grass and pays 500kw (USD \$3.25) for a big bundle (Muhiyo Interview 22, 11/2/2010). Some men follow this rule, while others avoid paying fees for bamboo. For example, one 66-year-old man states that he “doesn’t pay for bamboo, [he] hides from the guards by going at noon when they are at lunch” (Muhiyo Interview 56, 11/24/2010).

Another natural resource-based livelihood, practiced by some residents as their primary livelihood strategy, is the gathering of medicinal plants. It is my understanding that both men and women participate in these activities. I talked to one 71-year-old woman in Monjomo who explained to me how she became an herbalist after visiting a traditional healer when she was younger. She had a series of dreams about searching for particular plants and roots, after which she was taught by the traditional healer which specific plants to take and whether to take leaves, bark, or roots to cure specific things. She then began her work as a traditional healer (Monjomo Interview 79, 5/2/2011). This woman explained that once a year officials at the Likhubula forest office put out a call for all traditional healers to come and pay to get their permits. These permits last an entire year, and they are told to keep the ticket so that they can show it to the guards in the

forest when they are collecting medicines. She says there are many herbalists that go collect medicines inside the forest reserve.

The methods of gathering medicines used by traditional healers is not cited by MMCT or the FD as negatively impacting the reserve in a substantial way like some of the other natural-resource based livelihoods can. However, there are instances where some traditional healers have not made efforts to conserve the plants that they utilize. For example, in the picture below you can see how the bark of a bloodwood tree has been stripped for medicine, and in this instance so much of the bark has been taken that, according to a forestry department official, it is unlikely that the tree will be able to recover and live. At present, these impacts do not seem to be a top priority for managers at the reserve, but could pose a problem for those pursuing this livelihood strategy if they become more prolific.

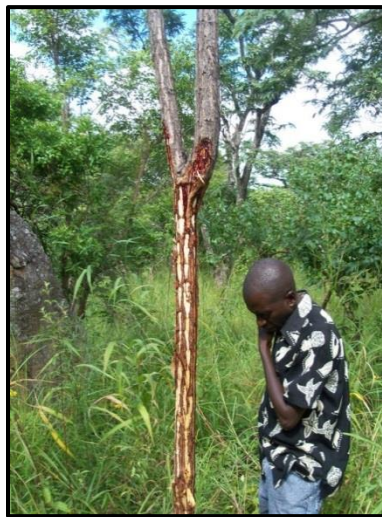


Figure 7.5: Forestry worker examines a Bloodwood tree whose bark has been unsustainably harvested.

Another natural resource- based livelihood activity around MMFR is hunting. This is another activity seen as very harmful to MMFR in the eyes of the forest managers.

Although they are concerned with the obvious degrading effects on local wildlife

populations that hunting involves, they are even more worried about the use of fire in some traditional hunting strategies to clear away undergrowth and drive out animals, therefore making them more visible and easier to kill. MMCT and the FD report that the fires set by these hunters often get out of control and can devastate large areas of forest in short amounts of time, especially during the dry season. A long history of troubled relations exists between forest managers and hunters. It is helpful to look more closely at this history in order to frame a more informed understanding of how hunters (and others familiar with that history) view and situate themselves within the situation at the reserve today. In this section and the next I explore this issue in greater detail.

Though hunting is prohibited within the reserve, many men still practice this activity. It is possible that this activity is not as widespread as it once was given that many large game species have been extirpated from the area. The aforementioned practice of using fire for hunting is acknowledged by some interview respondents and disputed by others, with one man reporting that “people use dogs and bows and arrows for hunting, but they don’t use fire” (Muhiyo Interview 56, 11/24/2010). Another woman says the opposite stating that, “fires are mostly started by hunters. There are specific places where hunters go where guards cannot catch them because the terrain is so rough” (Muhiyo Interview 33, 11/10/2010).

Hunting is also seen as problematic because there are very few wild animals left on Mt. Mulanje, especially animals like leopards and small mammals. There are some remaining animals which are under constant threat of being killed by hunters and their dogs such as wild hare, wild goats, baboons, monkeys, and hyrax. For a long time this killing of large animals, especially potentially dangerous ones such as leopards, was

accepted as the appropriate thing to do in the reserve. A Scottish gentleman that had been coming to CCAP Likhubula House for years as part of the Scottish Presbyterian Mission told me of an incident that occurred many years ago when he was scheduled to hike up the mountain with some local guides and porters. When they were set to start their journey the guides brought him to an area where they had killed a female leopard and six cubs and how proud they were of this because they felt that they were protecting him. Few if any leopards have been seen on Mt. Mulanje since that time, the gentleman believed that those could very well have been the last of the population in that portion of the reserve.

When I first arrived at Mulanje I was hiking with a guide on a Sunday at mid-morning very near the Likhubula forestry offices when we saw several men carrying down the carcass of an adult blue monkey they had just killed. The men were not worried about getting caught since it was Sunday and the offices were closed. On other occasions while doing fieldwork in the forest, my assistants and I would hear hunters chasing baboons through the forest. I would also often see hunters with their dogs at the Likhubula pools, an area along the Likhubula river that is popular for swimming. From my interviews I learned that some men practice hunting in order to get meat for their household use (as meat is rarely available or affordable for most people living near the reserve), and others hunt in order to sell the meat in the local communities. One man told how, depending on the size, hunters can get up to 1,100kw (USD \$7.18) for a large animal (Muhiyo Interview 65, 12/2/2010). This practice has been dealt with harshly in the past by law enforcement.



Figure 7.6: A man bringing his hunting dogs to drink at the Likhubula River

Working for the management agencies is yet another livelihood activity that, while not directly dependent on extracting natural resources for home use or sale, is directly linked to the protection of the mountain ecosystem and regulation of its utilization by others. Within Muhiyo, three interview respondents reported being employed in some capacity by MMCT or FD at present or in the past. None of the respondents from Monjomo reported working for these agencies. Answers to questions concerning this type of employment illustrate that these jobs are not without their challenges. One woman in Muhiyo reported that she had worked for MMCT constructing firebreaks, cutting pine trees, planting cedar and irrigating the cedar seedlings in 2008 and was paid 6,000kw (USD \$38.84) per month (Muhiyo Interview 24, 11/8/2010). When asked about how she was able to get this job she explained,

She heard at the forestry office that MMCT members were enrolling people for jobs so she decided to go there, there was a man there that knew her and knew her troubles and he encouraged her to go into the office and

so she was enrolled without [having to pay] any bribe...She went again to MMCT last year and this year so that she could get the job again but was told she would have to pay 2,000 kwacha [USD \$12.95] so she didn't do it. (Muhiyo Interview 24, 11/8/2010).

Another Muhiyo man reported at the time of the interview that he was employed as a patrolman in the reserve by the Forestry Department, not as one of the forest guards in charge of collecting fees for firewood, but instead posted at the higher elevations tasked with protecting cedar (Muhiyo Interview 42, 11/15/2010). This man also stated he did know that “there are problems with MMCT to its employees in terms of payment. They are paid late” (Muhiyo Interview 42, 11/15/2010). One Muhiyo woman who reported that her husband was employed by MMCT also expressed concern over late payments explaining that, “Though the husband is employed with MMCT, the money is not sufficient to support the family for the whole month. They get their payments very late. Her husband's work for the last month has still not been paid” (Muhiyo Interview 34, 11/10/2010).

Keeping to the subject of natural resource based livelihoods, in the next section I move to an examination of how certain regulations at MMFR are perceived by different people living near the reserve and discuss their accounts of how law enforcement officials deal with people practicing illegal natural resource usage and extraction at the reserve. Gaining a better understanding of local views on the interactions of law enforcement and local residents helps in developing a clearer picture of how those regulations in place at MMFR affect people's everyday lives as well as whether or not those regulations are achieving their intended purpose of protecting the reserve's ecosystem and biodiversity.

7.6 Regulations and Law Enforcement

As discussed, many of the natural resource-based livelihoods in this section are practiced illegally by certain members of the communities surrounding and nearby MMFR. Motivations for these illegal activities range broadly from need and necessity to the desire by some to make fast money. As discussed in chapter five when looking at how illegal cedar extraction was dealt with by the Forestry Department and MMCT, the ways in which law enforcement officials and forest managers at MMFR address illegal natural resource usage and extraction is very important. This is particularly important because Norway, one of MMCT's largest donors, has recently expressed concern over the apparent turn toward increased militarization of law enforcement tactics at the reserve (Wisborg and Jumbe, 2010: 64-66). In their 2010 mid-term review, Wisborg and Jumbe, in a report commissioned by the Norwegian government, discussed several incidences that occurred where law enforcement officers including police, MMCT, or FD were attacked during their operations or felt unsafe while on patrol. This included a particularly unfortunate event in December of 2009 where a woman passed away after being questioned and released by the police and MMCT in Phalombe in relation to her husband's involvement in illegal logging activities at Fort Lister (Wisborg and Jumbe, 2010: 64). The woman's death was later found to be a pre-existing heart condition, but this did not stop the community from attacking and setting fire to forest buildings at Fort Lister. While that mid-term review highlighted some of the instances of violence against law enforcement officials by illegal resource users, here I focus more on the perceptions and accounts of the actions of law enforcement officers and managers when dealing with illegal resource extractors or users.

My interview data showed that people in Muhiyo and Monjomo have similar views of the regulations on many of the illegal activities mentioned above, such as certain types of timber extraction, charcoal production, and cutting of green wood for firewood and for the consequences of breaking these regulations as well. Therefore, I have combined my discussion of the regulations and their consequences here to avoid repetition and to more easily assess nuanced differences between them.

Most respondents from both Muhiyo and Monjomo report that they do understand that cutting green wood, whether it be branches or entire trees with the exception of regulated pine extraction, is against the rules in place at MMFR. It is widely acknowledged however that cutting of timber other than pine is a widespread practice both for timber sawyers and for those gathering firewood. Efforts have been made by managers to educate the public and raise awareness of the laws with the chiefs of both Muhiyo and Monjomo holding meetings to advise against the cutting of green trees, radio programs promoting resource conservation, and advice given to those entering the reserve by FD guards. Analysis of the interview responses from Muhiyo and Monjomo illustrate some disconnects in people's understandings of what roles different agencies play in the management of the reserve and where regulations concerning resource in the reserve are originating. In Muhiyo, 75% of the respondents say that they have heard of MMCT, this is compared to 40% of respondents in Monjomo. The majority of respondents had heard of FD in some capacity. Only 24% of respondents in Muhiyo report that MMCT or FD have come to the village to talk to community members about the reserve, in Monjomo 38% of respondents reported that they had seen representatives of these agencies come. Many respondents did not acknowledge any awareness that the chiefs of their village

were working in conjunction with MMCT or FD to spread awareness of forest protection principles or regulations, their perceptions were that those rules originated from the chiefs themselves. For example, one woman from Muhiyo told us that “some people, maybe from Blantyre, came and advised the villagers to not go in the reserve and cut green wood. They were just told that the reserve belongs to the government and that they are prohibited” (Muhiyo Interview 68, 12/8/2010). Most respondents voiced their understanding that the role of MMCT and FD was to look after the reserve and that these two organizations work hand in hand, although some people differentiated between the work of the two. For example, some respondents explained that MMCT creates firebreaks and plants trees while FD is in charge of looking after the entire reserve. Many other people expressed that they had heard of MMCT but were unsure of what their role was, that they had only heard the name of the Trust on the radio or through overhearing conversations. Many respondents, especially those in Monjomo, reported that no one has come to talk to them about conservation or about the forest reserve, only that the chief and some others have advised them to plant their own trees in their yards to use. One can gather from this that the managers at the reserve and the chiefs are hoping to cut down on the purchasing of illegally cut firewood and timber as well as charcoal since the people in the villages further from the reserve, like Monjomo, buy these items more often than going to fetch them themselves. However, people did not always make a connection between the protection of the reserve and these advisements. In Muhiyo, the advisements from the chief and others reportedly more often included specific guidelines about MMFR. In these interviews I did not ask every participant about their perceptions of the

concept of conservation, the answers of those I did ask all centered upon not cutting trees and not killing wildlife, especially inside MMFR.

When asked why they thought they were being advised against cutting green wood, many respondents answered that it is because the trees at MMFR bring rain and if all of the trees are cut down then there will be no more rains for the communities and the people there will suffer because of it (for a sample: Muhiyo Interviews 45, 11/18/2010; 48, 11/19/2010; 51, 11/22/2010; 67, 12/2/2010; Monjomo Interviews 16, 2/8/2011; 72, 4/22/2011). I will focus more on this claim in chapter 10. Other reasons given included to prevent soil erosion, to protect the natural beauty of the reserve, and to protect the habitat of animals which tourists which to come and see. Several respondents also gave the opinion that even though the residents of the communities around the reserve are aware of the regulations, they continue these illegal practices because of poverty, because there are not many other jobs for people to make a living at in the area and so they continue to break the rules (Muhiyo Interview 52. 11/23/2010). A 64 year old man from Monjomo explained that,

Most men here and in the surrounding villages depend on carrying timber from the reserve in order to get money and support their families. Most of the men do it illegally because they already know that the forest reserve belongs to the government but still they go there because of poverty.
(Monjomo Interview 70, 4/22/2011)

This issue of ownership is an interesting theme that came up several times during the interviews that I will discuss more in following chapters. Another woman expressed her view that, “It is true that men go and take tree trunks [illegally] but thinks that they would stop if they had jobs” (Muhiyo Interview 87, 1/20/2011). Similarly, a 32 year old Muhiyo

man stated that, “men go cut trees illegally because of poverty, since there are no companies to employ people” (Muhiyo Interview 100, 1/25/2011).

Law enforcement around the reserve is not only restricted to the police, MMCT, and FD, which I discuss in further detail below. Traditional Authorities (TAs) in the area are also involved in upholding the laws concerning resource extraction at the reserve. Interview respondents explained to me that the chief of Kazembe, which is the village directly adjacent to Muhiyo alongside the reserve to the north, is the group village headman (or woman in this case). The chief of Kazembe has certain authorities over several other villages, even though those villages have their own chiefs. It was explained that the chief of Kazembe had put certain people in charge of monitoring what resources people were bringing out of the reserve near Kazembe village. A 21 year old Muhiyo woman reports that “[when found with green wood] the patrolmen from Kazembe take away their panga knives and their headloads. They can pay to get their knives back but not the wood” (Muhiyo Interview 48, 11/19/2010). This is also the case in Muhiyo where certain people living inside the village were put in charge (by the chief of Muhiyo) of monitoring resource extraction to help prevent the illegal felling of trees or cutting of green wood for firewood. One respondent explained that,

There is a Village Forest Committee here and that they catch whoever cuts the green trees in the reserve. They stay here in the village and once they see someone carrying green trees from the reserve they catch them and take them to the chief and they may take them to the police where they might stay up to a month. That used to happen but has now mainly stopped since people have learned their lesson. (Muhiyo Interview 72, 12/14/2010).

While these committees do play a role in the enforcement of regulations against illegal resource extraction, the majority of this responsibility still lies with the police, FD, and

MMCT. Apart from the guards who work in the forest (and who several officials have expressed are far too few to be effective for the large areas they are expected to cover) patrols of local markets also take place to look for illegally cut trees, especially cedar, as well as for charcoal. People within Monjomo, who live along some of the major routes to several local markets, reported seeing FD trucks drive by very often loaded with confiscated timber and charcoal from the market.

A broad range of answers were given to interview questions concerning what happens when people are found with green wood and by whom. For example, several women reported that they have seen women in the reserve being caught by guards while taking green wood and that those women had their headloads and panga knives taken away (Muhiyo Interview 52, 11/23/2010). Another woman reported that once in the past she was found with green wood and was fined 350kw (USD \$2.26), and then after this payment she was allowed to bring down the headload of wood but was advised not to do it again (Muhiyo Interview 68, 12/8/2010). This same woman explained that many women are found with green wood in the forest and are not allowed to bring it down, that the guards do not use it themselves but instead destroy it by burning it. This woman also expressed that she does not know why the guards do not want them cutting down trees. This confusion indicates that community engagement relating to information sharing of causes for resource restrictions are not working.

While the majority of women reported that they did know it was illegal to cut green wood for their headloads, and many of the respondents were aware of potential consequences of cutting green wood like those discussed above, some women did admit to taking part in this practice anyway. They reported that as long as they pay the 20kw

(USD 0.13) fee they are free to take whatever wood they want from the reserve. For example one 27 year old woman explained,

[Women] collect whatever wood they want, mixing green and dried wood. They meet the guards when entering [the reserve] and then are free to collect whatever. If they meet guards while collecting, those guards don't say anything about green wood as long as they have their receipt showing they have paid. She has never seen anyone get into trouble while collecting wood. (Monjomo Interview 82, 5/3/2011).

Another 36-year-old woman from Muhiyo explains that, "If you collect green or dried wood the guards don't care, as long as you pay. I prefer dry wood though because it can be used right away and it is lighter" (Monjomo Interview 87, 5/3/2011). One can conclude therefore, that consequences of illegally cutting green firewood for particular women depend in large part on the attitudes of the forestry guards that they meet in the forest. Often these guards are also members of the local communities and so personal relationships may also have an effect on how strictly they enforce regulations on different women. I have been told by others who have conducted research in the areas surrounding MMFR that they are aware of instances where women would have sex with forest guards in exchange for not having to pay to gather wood, however, nothing like this was reported in any of the interviews in Muhiyo or Monjomo during my study and so it cannot be assumed that is the case in those areas. I am not aware of any monitoring or evaluation programs for the transactions between forest guards and those collecting firewood.

Responses also vary when talking to men about consequences for taking tree trunks or plank timber illegally. Some men report leniency similar to that reported by certain women when dealing with forest guards. This seems to depend in part on what type of trees are being taken. For example, one man from Muhiyo states that "people

taking cedar are taken to the police but people taking other trees just pay” (Muhiyo Interview 56, 11/24/2010). Another man reports that he takes Kamponi and Muanga trees for poles for his house, reporting that, “the Forestry Department never minds that he cuts the green wood when he pays, but if he doesn’t pay he would be taken to the forest office and then to the police” (Muhiyo Interview 65, 12/2/2010). Other respondents relay accounts that are not quite so lenient, such as one Muhiyo man who said that in 1999 he was stopped by a guard for taking cedar and “he was taken to the Forestry Department office and asked how he came across that habit of taking cedar. He told them that it was just that he had a money problem and they released him after they were convinced of his story” (Muhiyo Interview 36, 11/11/2010). Similarly, one respondent in Muhiyo who works for the FD explained that, “when they find someone taking cedar he is taken to the forest office and punished according to what he has done. If he has destroyed cedar more than once he is taken to the police, if not he is given a warning” (Muhiyo Interview 42, 11/15/2010).

For the most part, however, respondents’ accounts of law enforcement of timber rules tend to be more violent, especially when it comes to cedar but also with other types of timber as well. For example, a 22 year old man from Muhiyo recounts a time when, “

He went [to the reserve] without money and he took a tree trunk [that had already been cut by MMCT]. He met the guards and his tree trunk was taken away and he was beaten severely [with a stick]. After that lesson he doesn’t go there without money anymore (Muhiyo Interview 99, 1/24/2011).

Another woman explains that, “MMCT and FD have advised them not to cut trees. As soon as the people were advised about that there were [some] stubborn people who went there and cut trees, but they were caught by the patrolmen and beaten very much by those

guards” (Muhiyo Interview 98, 1/24/2011). As stated above, some people living along the roads in Monjomo that lead to the markets often see a FD truck transporting confiscated timber and charcoal. One man in who lives near the road in Monjomo states,

He has seen people in a truck belonging to the Forestry Department, when they meet people carrying charcoal and timber they get down from the truck and take away the charcoal and timber and beat the people who were carrying those things. They are accompanied by the policemen. They just hit and kick them with their hands and when they try to run away they catch them and take them to the police (Monjomo Interview 67, 4/19/2011).

This type of violence is also reported when discussing the law enforcement of hunting regulations. None of the interview respondents said that they had been caught hunting at MMFR but several recalled incidents that they knew of or had heard of where others had been caught. One woman in Muhiyo who admitted that her husband was a hunter, told us that if someone is found hunting MMCT will kill the dogs of the hunters (Muhiyo Interview 23, 11/2/2010). A 41 year old man from Muhiyo also explained that “whenever the hunters are caught they are beaten by the guards and sometimes they can have their dogs shot” (Muhiyo Interview 38, 11/11/2010).

It is clear from the wide range of interview responses that there is not necessarily a standard protocol that is practiced during every interaction between those enforcing regulations in and near MMFR and those that are practicing illegal resource extraction. Some interactions are peaceful and some are violent, sometimes the laws are enforced and sometimes they are ignored, however, it does seem that people using the forests are treated as “bad guys” regardless of who they are and what breaks they may be able to get from the guards. While the

Norwegian mid-term review team was justifiably concerned with the noticeable turn that MMCT and law enforcement at MMFR was taking toward arming of guards and paramilitary training, I think that protocols for more routine interactions between those enforcing regulations and illegal resource users also warrant closer inspection. These interactions shape the perceptions that people in local communities have of managing agencies, as well as their perceptions of the reserve and their own role in its conservation. If it is true, as the Norwegian team believes, “that the involvement of surrounding communities in forest management is more effective than the ‘command and control’ approach and if MMCT adheres to this belief as well, then significant changes are needed to bring the current law enforcement practices in line with this vision.

Summary

The data presented in this chapter brings us closer to developing, a more holistic conceptualization of the frameworks in which local people make decisions about forest-based resource use. This conceptualization lends heterogeneity and nuance to the identification of those utilizing the resources of MMFR, and in what ways those resources are utilized. It also sheds some light on possible alternatives to resource extraction being pursued by others living in the same or nearby villages. This nuance is not evidenced in current initiatives undertaken by managers at MMFR and their partners, such initiatives can be linked back to that uncritical narrative that fails to account for dynamic and multi-scalar processes that provide context for the activities of local people at MMFR. These activities include extracting timber for income, extracting firewood for use

and for income, utilizing fruits and mushrooms for food in times of hunger, hunting animals for food, seeking out traditional medicines and many more. In the following chapters I will continue to add to this broader understanding. In chapter seven I examine what livelihoods strategies people are pursuing in Muhiyo and Monjomo that provide non- natural resource based alternatives to those discussed in this chapter. This includes some alternative employment initiatives that have been promoted in these areas by MMCT and FD.

Consideration is given to who within the communities are carrying out these alternative livelihoods and why others are not. Subsequent chapters will then take a closer look at what the greatest challenges are for people in Muhiyo and Monjomo, and why current conservation and development strategies seem to fall short of successfully addressing those challenges.

CHAPTER 8: LIVELIHOODS: NON-FOREST BASED

8.1 Introduction

Not all people depend on extracting resources from the MMFR in the same ways. This is supported by the findings of Fisher et al. (2010) when they found that certain sub-groups of households (namely those located close to the forests, headed by older, more risk averse and less educated individuals) are more likely to use forests (in that particular case Mt. Mulanje's forests) as a safety net in times of climate stress on crops. The actions of those people participating in non-forest based livelihoods, therefore, present crucial areas of inquiry in order to gain a more realistic view of what future resource pressures at Mt. Mulanje will be.

Non-forest livelihoods activities are not practiced uniformly across the populations of Muhiyo and Monjomo. Instead, certain local norms tend to guide who participates in which activity. For managers and development practitioners who seek to encourage local residents to become less reliant on forest products in order to reduce pressure on MMFR's natural resources, it is essential they understand how the different expectations associated with particular social categories and roles shape who does what in terms of livelihoods in this area. Currently, only certain groups and individuals have access to the

full range of possible non-forest based livelihoods activities, while others are working within a much more limited set of options. Thus, not everyone is likely to pose the same threat to the reserve in times of stress or change. This differentiation is critical in that it would allow us to target interventions at the right people in order to prevent the worst impacts on the forest.

When analyzing the interview data from Muhiyo and Monjomo it becomes clear that a person's gender is an identity that governs which types of employment and livelihood are viewed as appropriate for that person. As with natural resource based livelihoods practices, where men most often participate in sawyer activities and women (particularly the young and middle aged) gather firewood, we also see gendered participation in non-forest based activities.

In this chapter I will describe some of the most common non-forest based activities and where relevant I will discuss how gender influences who participates in these activities. I pursue this angle to highlight that not everyone participates in the non-forest based livelihoods activities in the same way and therefore to show that not everyone has the same options to avoid activities that result in forest degradation. The inclusion of gender in this chapter is not meant to imply that this is the only relevant social cleavage in these villages. As discussed in chapter two, SWHH have often been found to be among the most vulnerable social groups in many societies, especially in lower income countries and, although this is not always the case, these women do commonly have unique sets of challenges that they face in meeting their livelihoods needs (IFAD, 1999). Age has also been shown to affect what kinds of livelihood strategies people are likely to take part in (Lloyd-Sherlock, 2000; Barrientos, 2007).

Where appropriate, I will disaggregate my sample by the complex intersections of these (and other) social categorizations relevant to the activity at hand, illustrating the complex and diverse ways in which people near MMFR engage in non-forest based activities.

8.2 Selling Produce

Selling produce is an important extension of the subsistence agriculture for consumption discussed in chapter 6. I discuss this topic separately here to differentiate this activity as a supplement to the farming done for consumption. Selling crops is one of the most common ways for people in Muhiyo and Monjomo to make supplemental income, with approximately 38% of the respondents for this project reporting it as a livelihoods strategy. Exploring which parts of the local populations are most dependent on this livelihoods activity is relevant in that this activity is one that is highly vulnerable to climate stressors such as drought and flooding, as well as other stressors like pests and disease. This means that people who are most dependent on these activities would need to have access to other alternatives in case of failure of their crops. Here we will see who are most dependent on selling crops as a livelihoods strategy and then throughout the rest of the chapter we will see what other livelihoods diversification options those people likely have access to.

Slightly more women participate in selling crops (40% of all women interviewed) than do men (40% of all women compared to 34% of all men). Though men do participate especially at the local markets and almost solely when it comes to the selling of tobacco (see discussion of tobacco below). Most produce sold consists of small numbers of in-season fruits and vegetables including maize, tomatoes, oranges, avocados, mustard or other greens, okra, mangoes, beans, and an assortment of others. Some people

sell produce on a regular basis, making this a consistent source of income. Others only sell produce when a need arises in their household, such as the need for transport money to get someone to the hospital or the need to buy a new school uniform.



Figure 8.7: Woman selling tomatoes in the market at Chitikale trading center.

For some people, the decision to sell their crops, especially staples such as maize, beans, rice, and peas, can be a difficult one as they have to weigh the need for quick income with the need to retain enough food to last until the next harvest. This combined with the challenges for acquiring farm inputs along with variable rainfall contribute to the hunger problems faced in these communities as discussed in chapter six.

We see different outcomes when we disaggregate the data amongst relevant social groups. For example, when we differentiate SWHH from married women respondents we see that SWHH are more reliant on selling produce for income (54%) than are other women (37%) and men (34%). This heavier reliance on selling produce and contract farm work (“ganyu”, discussed below) is the product of these women’s relatively secure access to land through their matrilineal landholding system. As we will see below though, most

other types of employment that would bring in extra income are effectively closed to them.

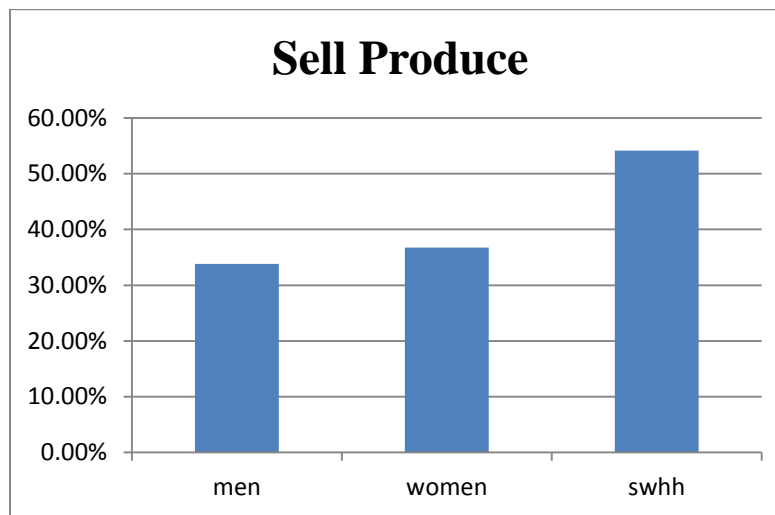


Figure 8.2: Percentages of men, women, and SWHH that report selling produce

The reliance of SWHH on the sale of produce can be attributed, in part, to a labor shortage that these households face leaving little time for participation in non-farming livelihoods activities. Further, access to sufficient capital to run a small business is also hard to come by for these women without any supplement from relatives.

Additionally, although women in these communities hold traditional land ownership rights and regularly hold traditional authority leadership roles, and despite the fact that Malawi is the first country in southern Africa to see a woman holding the office of president, social norms and customs place considerable restrictions on the activities and behavior of women here and throughout Malawi (see chapter three and also see Semu, 2002). For example, during the presidency of the first president of Malawi, Kamuzu Banda, women were forbidden by law from wearing trousers or short skirts, and men from growing their hair long (Barillas, 2012). In 2012, prior to the death of then President Bingu Wa Mutharika there were multiple instances of women in public markets

in the cities of Lilongwe and Blantyre being beaten and stripped by mobs of men for not wearing traditional conservative forms of dress (BBC, 2012). These instances were returned with large protests by women and men against the beatings and in honor of women's rights. In Muhiyo and Monjomo women still tend to dress conservatively with very few wearing trousers unless they are covered by a cloth, in fact my interpreter Eallubie bought her first pair of trousers while I was in the area. Other norms that shape the experiences of women are less visible, but by disaggregating the livelihoods data as I have done here we can see clear differentiations in livelihoods opportunities along gendered lines. Again, this speaks to gaining a better perspective on what livelihoods diversifications options different people have that might inform potential forest impacts in the future. These factors combine to create a situation here in Muhiyo and Monjomo where single women heads of household are found to be some of the poorest community members with the fewest options for making a living, especially if they do not have access to financial and/or labor help from relatives.

The age of the woman in question also affects her engagement with the marketing of produce. A greater number of older women in these villages (50 years +) sell produce (55%) than do younger women (34%). In Muhiyo, some of this difference can be attributed to the fact that younger women are more involved in the selling of firewood, a livelihoods strategy that is essentially cut off for older women because of the physical demands of gathering the wood.

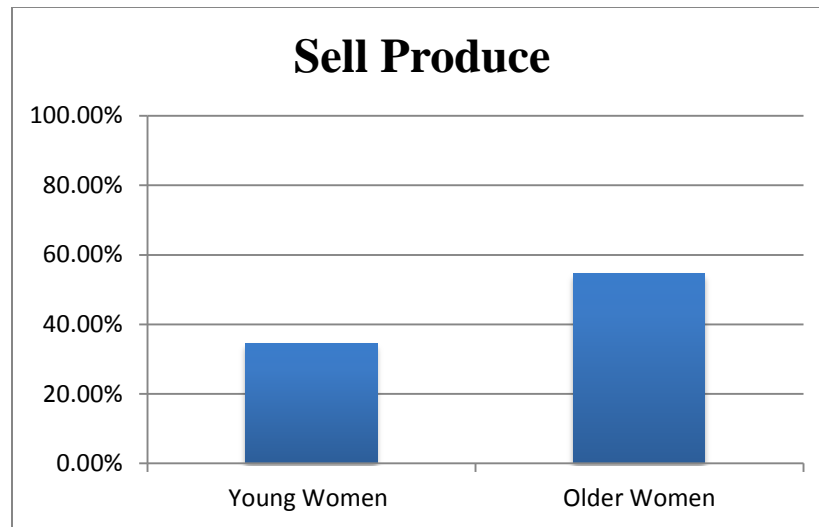


Figure 8.3: Percentage of younger women selling produce vs. percentage of older women.

In Monjomo and Muhiyo younger women were more likely to participate in some kind of non-forest based business than the older women, though my data does not point to a clear reason of why this is. However, overall it is clear that older women seek to meet their financial needs through selling of produce more often than do younger women.

8.3 Tobacco

Tobacco (*Fordia* in Chichewa) is Malawi's most valuable export and has a long history in the Mulanje district (see chapter three). Although large tobacco plantations are not prevalent in the immediate area around Muhiyo and Monjomo, small farmers here do grow tobacco as a cash crop. The interview data for this study illuminates both gendered and spatial divisions relating to the growing of tobacco. First, tobacco farming is a men's activity. Some women did report tobacco as one of their crops, however each of these women noted that their husbands were tobacco farmers, or that their husband's income from selling his tobacco contributed to their household income. Both young and old men grow and sell tobacco.



Figure 8.4: Farmer's field showing maize and tobacco (with broader leaves).

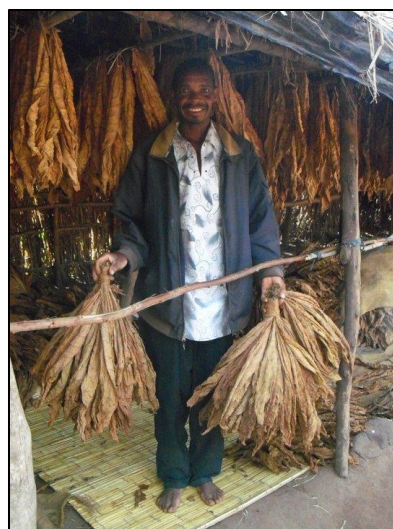


Figure 8.5: Man displaying his drying tobacco harvest.

Thirty-two percent of interviewed men in Monjomo report growing tobacco. One man explains the process of how he and other local farmers sell their tobacco at the Limbe market located just outside of Blantyre about three hours northwest by mini-bus or two-two and a half by car or truck:

He is part of a cooperative. They formed a farmer's club here and each farmer packs his own *fordia* (tobacco) in bales. They [then] collectively hire a truck and it carries their *fordia* to Limbe market to sell. This club is composed of people from different villages (Interview 21, Monjomo 2/21/2011).

Currently, Malawi has raised concerns about an approved EU Tobacco Directive that would put new rules in place on flavorings in tobacco and more strict labeling laws including pictorial warnings covering 65% of new packages (Cordina, 2013; Miles, 2013). The government of Malawi fears that these new restrictions will interfere with trade. It will be several years before this directive will take effect and details of how extensive the coverage of the ban will be are still being worked out. Considering Malawi's dependence on tobacco exports (as noted in chapter 3) such changes in global

attitudes and policies have the potential to drastically affect not only large commercial tobacco plantations but also local tobacco farmers' livelihoods.

The situation in Muhiyo is much different in that we see no respondents there reporting growing and selling tobacco as a livelihoods strategy. It seems that where, in Monjomo tobacco cultivation is important for men's livelihoods, in Muhiyo the focus is on sawyer activities. Forty- one percent of men from Muhiyo reported sawyer activities as one of their livelihoods activities, whereas only 3% of men from Monjomo report taking part in sawyer activities. Although more research would be needed to be conclusive, these findings lead me to speculate that distance from the reserve is one of the reasons behind this difference since men closer to the reserve are oftentimes more occupied with forest-based activities. Men in Muhiyo are closer (some directly adjacent) to MMFR whereas men in Monjomo are 3-4 kilometers away.

8.4 Contract Farm Work: Ganyu

Many residents of Muhiyo and Monjomo seek work on the farms of others for money. This practice is known as *ganyu*, sometimes called farm contracts, and is the third most reported livelihoods strategy in these villages. Ganyu can involve all aspects of farming from preparing the fields, planting, weeding, and harvesting. According to the interview respondents, the amount of payment can vary but is most often based on amount of work done and not on time worked, in other words "piecework". For example, a worker could be paid a certain amount for weeding around one plant and however many plants that person has weeded the area around by the end of the day is added up for payment no matter if it takes one person several hours and another person all day to complete the work, the payment would be the same.



Figure 8.6: Woman in Muhiyo preparing fields in November, 2010, amid heat and high winds as evidenced by the banana trees in the background.

Ganyu is an attractive option for many people because anyone can pursue this livelihood strategy no matter their age or gender. Further, this type of work is usually available for those seeking it whereas other employment opportunities or livelihoods activities may be more challenging to participate in. For example, certain technical skills are needed to be a bike mechanic, carpenter, or brick mason, and furthermore most of these activities are almost solely dominated by men. When the interview data is disaggregated it becomes apparent that single women heads of household are relying on this type of work more than other groups like men and married women. While men and married women from Muhiyo and Monjomo report nearly the same levels of participation in ganyu (24% and 22% respectively) the participation of SWHH is much higher at 48%. This difference, similar to that found with selling produce, can likely be attributed to lack of capital for participating in small businesses, shortages of additional labor within the household, restrictive social norms and traditions, as well as a lack of opportunity or available time to build skills needed for other types of employment.

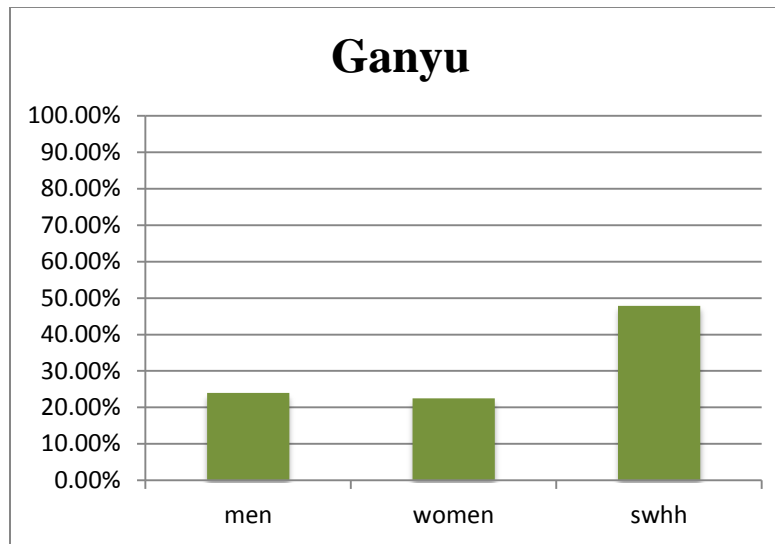


Figure 8.7: Graph showing percentages of participation in ganyu for men, women, and SWHH

At times certain social categorizations and their associated norms and restrictions combine and overlap within an individual's identity, creating new opportunities and constraints with regard to livelihoods options and opportunities. This means that individual vulnerability varies by stressor, creating a complex web of challenges around the MMFR. For example, one older (well over 60 years) SWHH from Muhiyo who is caring for four orphans explains her farm contract work saying,

In terms of weeding someone's maize garden they count one planting station of maize (weeding around one maize plant) for one kwacha. She can make up to 100kw a day. She does the contracts very often because when she gets 100kw a day she uses it the same day then has to go again, she might go four times per week. She uses the 100kw to buy maize grain and send the children to the maize mill so then she uses the maize flour to make nsima porridge to feed her family (Muhiyo Interview 66, 12/2/2010).

This woman's age (and related physical abilities) played a role here because ganyu is piecework and therefore how much work you can do in as little time as possible directly correlates with how much you get paid. Therefore, since this woman's physical

abilities were reduced, at least partly due to her advanced age, this meant she relies on what at the time amounted to roughly .67USD, earned approximately four times a week from ganyu, as the primary income source to support a family of five. Her childcare situation is not unusual for the communities around MMFR. Not only are fertility rates high, but also caring for grandchildren or other orphans is a responsibility reported by 16% of overall respondents in Muhiyo and Monjomo. There are many reasons for this situation, including parents who are away in urban areas working, parents having died of HIV/AIDS and other illnesses, or parents just not being able to support their children and therefore turning to the grandparents for help in caring for them. In addition to feeding her family, this particular woman also relies on the money earned from *ganyu*, and whatever small additional amount she might make at times from selling produce, for other expenses such as paying the fee for one of the younger girls to fetch firewood in the reserve, and clothing for the children (Muhiyo Interview 66, 12/2/2010). This level of financial poverty leaves this woman and others in similar positions with very limited ability to deal with unexpected stressors and events such as sicknesses in their families or drought/flooding that might affect their subsistence crops.

8.5 Business

Several types of business activities are pursued by those living in Muhiyo and Monjomo. For the purposes of this analysis I combined a wide array of reported activities within the broader heading of “business” in order to be able to utilize this set of livelihoods activities as one collective non-forest based livelihoods category to use in comparisons with other categories. These activities include (but are not limited to) operating small shops that sell various goods like soap, salt, sweets, etc., selling other

goods such as hoe handles or used clothing, carpentry, mechanics, bicycle taxi services, brewing local beer, brewing a local non-alcoholic drink called tobwa brick molders and layers, and an assortment of others where people provide goods or services in exchange for money. All of these activities require funds for investing in products to sell or tools and require a level of skills and experience beyond that called for in farming.

“Business” is a category of non-forest based livelihoods that has shown within the context of this project to be particularly interesting when disaggregated among various social categorizations. If we look at the two villages aggregated together we see that 25% of all respondents report business as one of their livelihoods strategies. Further, a simple binary gender disaggregation tells us that 28% of men and 21% of women participate in business activities. However, when we extend the disaggregation to SWHH, different age groupings, and by village we see more complex patterns emerge, patterns that might be left unaccounted for under some traditional conservation and development efforts.

Of note is the dominance that younger people within the population have in conducting business activities as a livelihoods strategy. The disaggregated data shows us that the reporting rate for younger women is 29%. This number alone is not that significant until you take into consideration that the reporting rate for SWHH and older women is at 0%. This means that married women less than 50 years old make up the entirety of the aggregated “women” participating in business. Likewise, younger men (32%) are more likely than older men (17%) to engage in business operations. I am not sure of the cause for this emphasis on young people, but it does make clear the fact that young people in these villages have some livelihoods options not available to the old.

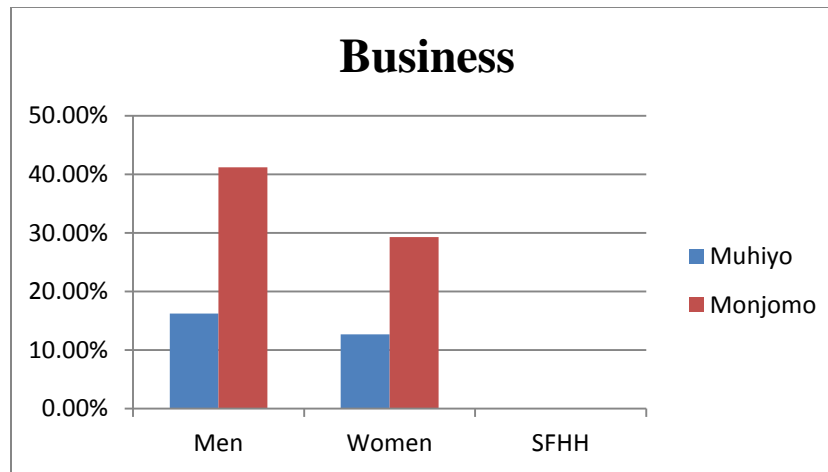


Figure 8.8: Percentages of men, women, and SFHH participating in business

When we compare the responses of those living in Muhiyo and Monjomo concerning their participation in business activities we see further variation. Overall, a higher percentage of people in Monjomo reported business as a livelihood strategy (35%) than did those in Muhiyo (14%). This pattern is evident with both men and married women, however the percentage of SFHH remains at 0%. We can partly attribute this variation to the fact that there are fewer people in Monjomo participating in forest-based livelihoods activities such as sawyer work and collecting and selling firewood than there are in Muhiyo. Distance from the reserve is a possible explanation, where more men in Muhiyo are likely busy conducting forest-based livelihoods, while that is not as practical strategy for those in Monjomo and therefore they pursue business as a livelihoods strategy more often. Likewise for women, more women in Muhiyo are likely busy gathering and selling firewood than are women in Monjomo, and so therefore women in Monjomo might pursue other livelihoods activities. The lack of participation of SWHH in business activities can likely be attributed to their lower levels of capital for investments and lower levels of household labor. This exploration of business as a non-forest based livelihoods strategy has illustrated that although this strategy is likely to present

alternatives to forest degradation in times of stress, not everyone has the same access to these strategies as others, as we saw in the case of SWHH and older people within the villages. This points to interesting lines of inquiry because, if people with fewer non-forest based alternatives are potentially more likely to turn to the forest reserve for income and resources during times of stress, but at least part of these people with reduced options also have physical constraints of age that may prevent significant incursion into the reserve, what other options do these people have?

8.6 Other Non-Forest Based Livelihoods

For the purposes of this research, the remainder of non-farm and non-forest livelihoods activities reported by respondents in Muhiyo and Monjomo come under the heading of “Other”. These included various paid activities reported by villagers for example, occasionally going into town (Mulanje town center) to work as a guard, going to Likhubula when needed to maintain water taps, fishing, working as a porter for the Mulanje Guides and Porters Association (MGPA), and working as a guide for the MGPA. These livelihoods activities are exclusively dominated by men, with no women reporting taking part in these activities.

A very small number of women do sometimes report receiving money from their husbands and out of town relatives though, as do a small number of men. Such support can make a large difference to individuals, especially if those individuals are otherwise categorized as part of one of the most vulnerable social groups in the area. Take the example of, one SWHH from Monjomo who reports receiving support from a sister who is a teacher in another area of Malawi and from brothers in Blantyre, Lilongwe, and Mangochi (Monjomo Interview 31, 3/1/2011). I observed that this woman has the nicest

house out of any that I came across in either village, and when asked about her greatest challenges she does not report any for herself, just for the community in general relating to unreliable rains. This level of quality of life for a SWHH is exceedingly rare in this area, but this example does illustrate how looking at people's livelihoods can be a useful tool when customizing development and conservation initiatives to assist those that are most vulnerable in the communities.

Summary

With the information presented in this chapter and in chapter seven we gain a more holistic understanding of the different ways that people depend on and interact with MMFR as part of their livelihoods as well as what non-forest alternatives are being pursued. The patterns of gender, age, and household situation related to these activities suggest that local social norms play a role in what livelihoods activities are seen as appropriate for which members of the community. The result of these norms are more broadly diversified employment and livelihoods activities options for men than women, for the young versus the old, and for those in married households versus women heading households.

The evidence from Muhiyo and Monjomo shows that some people within these communities are more likely than others to move toward utilizing MMFR in times of stress because they have limited or no other options through which to diversify their livelihoods. Alternatively, we also see that some members of the communities may be less likely to turn to potentially ecologically harmful forest incursions due to their greater access to other livelihoods options. This suggests the need for targeting interventions to those more likely to encroach on the reserve in times of stress.

In the next chapter I will review a number of initiatives that have been undertaken by MMCT, the Forestry Department, and other organizations that have engaged the residents of Muhiyo and Monjomo. I will discuss strong points of these initiatives and how they have, at times, made positive steps in pursuing conservation and development goals. I will also present a critical examination of what is lacking from these initiatives, using evidence from the respondents in Muhiyo and Monjomo to better explain why many of these were unsuccessful.

CHAPTER 9: MISSING RELEVANT LOCAL CONTEXTS

9.1 Introduction

As previously discussed in this document, MMCT and FD portray engagement with local communities, especially to facilitate their participation in conservation and development initiatives, as an important component of work around MMFR. While the community focused work of MMCT is largely confined to the efforts of the MOBI+LIZE project, there are a limited number of other programs conducted by a variety of different organizations that are or have been undertaking the challenge of reducing pressure on MMFR. In this chapter I shift to look specifically at the programs (supported by MMCT, FD, MOBI+LIZE and others) that have engaged residents of Muhiyo and Monjomo with the goal of reducing pressure on MMFR. While aiming to support local development needs while protecting the natural environment, the simplified portrayals and treatment of local populations that I have heretofore discussed in the preceding chapters is a regular theme within such initiatives. This results in interventions driven more by simplified discourses of conservation rather than critical evaluations of on-the-ground reality, leading to disconnects between programs and needs with negative consequences for MMFR and people living around the reserve.

These initiatives include alternative livelihoods, tree planting efforts, and education programs. I will also discuss programs aimed at supporting watershed management and soil conservation within the villages themselves. It will become clear as

I move through this chapter that the version of the local population put forth by managers at MMFR and certain other groups working on conservation and development programs in the area does not really align with what is happening on the ground in these communities. The result is that their interventions are often aimed at the wrong needs, or at the wrong people. These oversights are indicative of deeper disconnects between FD and MMCT, as well as between these managers and local people, that are currently challenging the success of conservation and development programs at MMFR.

To my knowledge, there is no data concerning the effects of these programs on the biodiversity levels or resource extraction rates at MMFR. My search for data concerning the primary objectives of some of the programs as well as the involvement of MMCT in them became challenging due to increasingly strained communications with MMCT as my project went on. However, through interviews with key participants and a review of available project documents I have formed a general understanding of what these projects were intended to do and how they engaged people from Monjomo and Muhiyo. These interviews provide insight into the alignment (or lack of alignment) of initiatives with local needs and realities, a wide array of local perspectives of these initiatives, and their effects (if any) on residents' daily lives.

9.2 Tree Planting

Tree planting initiatives in the Mulanje area in general, and in Muhiyo and Monjomo specifically, take many different forms and involve a number of different actors and organizations. As I move through this section I will highlight how these programs that are intended in some way to lessen pressures on MMFR, instead serve to only further constrain people's livelihoods and perhaps even put them in positions to

degrade MMFR further due to their mistrust of programs they see as only benefitting a certain few.

Attempting to decipher what organization is responsible for which tree-planting project (or any type of project for that matter) through interviews with residents means navigating a web of different perspectives and opinions. Typically, responses attribute specific projects to an array of organizations with widely differing accounts of who was allowed to participate and what the natures of the programs were. Such confusion concerning the initiatives that are or have been going on in their own communities speaks to faulty communications and lack of agreement between managers and practitioners on the one hand and village residents (those participating in and affected by the projects) on the other.

Village woodlots are one of the most frequently mentioned tree planting programs that have been undertaken in Muhiyo and Monjomo. These programs in Muhiyo and Monjomo are associated with the revived Village Forest Areas (VFAs) program that came about with the Forest Act of 1997. As I discussed in chapter 3, these programs involve the Director of Forestry advising village headmen to demarcate areas within their villages to be conserved (Kamoto, Dorward, and Shepherd, 2008:10). While these headmen have the jurisdiction to allocate customary lands within the village to agriculture or settlement as they see fit, the 1997 Act brought in another level of oversight concerning VFAs with the recognition of Village Natural Resource Management Committees (VNRMCs) (Kamoto, Dorward, and Shepherd, 2008: 12). These VNRMCs are charged with managing and utilizing VFAs. Also as highlighted in chapter 3, is the fact that forest management by VNRMCs and Village headmen and

women are not without controversy. The VNRMCs are supposed to be made up of democratically elected community members that will be representative of the community's concerns, but the vague guidelines concerning who should elect the VNRMCs has opened them up to being maneuvered toward particular interests by FD staff and village headmen/women (Kamato, Dorward, and Shepherd, 2008:13)

In Muhiyo and Monjomo, The German Society for International Cooperation (GIZ), formerly GTZ, was involved in the village woodlot programs. According to a forestry colleague, most village woodlot programs in the area were under GTZ and then these were later handed over to the villages themselves with supervision from FD and MMCT (email correspondence, 2013). He went on to explain that each of these villages have a VNRMC under the direction of FD that enables the village to care and protect for their forests. They do that by supervising the woodlots such that individuals are not allowed to use the woodlots for any one purpose that they see fit, as that would destroy the woodlot in a short amount of time. Instead, he says, under the supervision of the VNRMCs the woodlots are used from time to time for bigger projects like bridge construction, or some trees might be harvested to get money for some project that will be for the benefit of the entire village (email correspondence, 2013). He goes on to state that there are smallholders in each village that have their own woodlots for their own private use and that the FD sometimes supplies them with seedlings (email correspondence, 2013).

As I have not been able to locate any documentation from FD or MMCT concerning the impacts of these programs, my remaining discussion of these woodlot and other tree planting programs relies on interviews from those who participated in the

implementation and planting efforts. One man from Muhiyo said he worked as a coordinator between the villagers and the agricultural advisors of GTZ (Muhiyo Interview 56, 11/24/2010). Concerning participation he reported that, “there was a committee which was chosen by the chief and then the committee chose the villagers [to participate in the tree planting]. Only the poor were selected. That program finished five years ago” (Muhiyo Interview 56, 11/24/2010). This respondent did not specify whether or not people were paid in any way to participate in the village woodlot program. Other interviewees reported that participants were paid (Muhiyo Interview 39, 11/15/2010). It is likely that payments were similar to those dispersed in another program, aimed at planting trees along the Chikonde River, that took place partly under the direction of the Malawi Social Action Fund (MASAF) around the same time. This project paid workers in bags of Maize (Muhiyo Interview 67, 12/2/2010). Several respondents also attributed this program to GTZ and documentary research shows that GTZ did have planned tree planting exercises along local river banks in Mulanje to support soil and water conservation (Mulanje Mountain Conservation Project Brief, 1999). A respondent describing this program explained that,

They were paid with a 25kg bag of maize every Saturday. People were chosen to participate only for two weeks and then the opportunity was given to others for two weeks until the end of the project, maybe for six months (Muhiyo Interview 67, 12/2/2010).

The Muhiyo village woodlot is located on the eastern border of the village which abuts the south western edge of MMFR. Villagers who took part in the program reported planting guava, mbowa, mahogany, and other types of trees (Muhiyo Interview 17, 10/28/2010; Muhiyo Interview 52, 11/23/2010).



Figure 9.1: Photo taken from the MMFR boundary at Muhiyo near the village woodlot.

Although the program coordinator laid out that the poor were specifically targeted as participants in a seemingly straightforward way, interviews with the rest of the community in Muhiyo voiced many different understandings of who was allowed to participate in the project and why. In several interviews, questions concerning who participated in planting the village woodlot brought to the fore tensions between certain groups and individuals in the village and the chief. For example, one woman in Muhiyo discussed why she was not involved in the tree planting programs that had come to the community, saying,

Those people conducting the program were working hand in hand with the chief [and so] the chief didn't give her a chance to participate (Muhiyo Interview 29, 11/9/2010).

These statements were echoed with the description of the village woodlot program by another young Muhiyo woman who reports,

Says [MMCT and FD] once came here with the program of tree planting where the trees were planted in a woodlot near the reserve. She failed to participate because the participants were chosen by the committee. Because with that job people were getting paid and that's why others were

chosen and some not. Had it been just a development project then everyone would have had a chance to participate. Whoever the committee wanted to get the job got it. Favoritism (Muhiyo Interview 39, 11/15/2010).

These responses suggest that the targeting of individuals for participation in this project was far from a straightforward effort to engage the poor. In the case of the second woman, she believes that the committee members in charge of choosing participants were merely choosing their friends or relatives to be involved in the paid work without regard for the other villagers. Still another respondent explains,

Committee members hide the dates of those events [programs] and only tell a few people when things are happening. The programs came to the chief. Then to the committee who is supposed to act as a bridge to the people...All the committee members live on the chief's side of the road (Muhiyo Interview 12, 10/28/2010).

This response highlights a spatial aspect of the tensions within the villages that I found at both Muhiyo and Monjomo where villagers who lived at a distance away from the section of the village where the chief resided felt that those living near to the chief were favored for participation in programs and activities brought to the communities by outside organizations or the government. I discuss this point further below.

A village woodlot has also been planted at Monjomo village. Unlike the woodlot in Muhiyo which borders MMFR, Monjomo's village woodlot is located in a central location within the village at Mpatamira Hill. Along with the village woodlot program, other tree planting initiatives have also been carried out in Monjomo, like the planting of trees at the village cemetery.



Figure 9.2: Inside Monjomo woodlot with the Chief.

Just as in Muhiyo, the understandings of how people became involved in the planting and why vary widely depending on who you are speaking with. One man from Monjomo reported being closely involved with the village woodlot program. In discussing the village woodlot program, as well as a subsequent tree planting program that came out of that woodlot program where certain members of the village were supplied with seedlings to plant at their own homes, he explains that,

Sometime back the GTZ came with a tree plantation project in Monjomo and he joined the group that was planting the trees. After that the FD came with advisors and they told the people of Monjomo to form groups so that they can be supplied with seedlings. So he is also on that committee. [TheVNRMC]. Their main role is to take part in caring for the woodlot and advise fellow villagers how useful trees are, and act as an example for the village in terms of planting trees. The opportunity to be on the committee was open to everyone willing to participate (Monjomo interview 16, 2/18/2011).

However, another man who participated in the woodlot program reports that the GTZ program was turned over to MMCT and that after it was handed over, MMCT stopped coming to Monjomo, as they now only deal with happenings inside the MMFR (Monjomo Interview 48, 3/14/2011).

Other residents of Monjomo expressed their view that participation in these programs was not so open. Several respondents pointed out the large size of Monjomo when discussing challenges for participating in programs. For example, as another example of the spaciality of the tensions that I mentioned above, one woman from Monjomo reported, “this village has four big segments so it is impossible for one chief to supervise all those segments. It happens that when other organizations or projects have come here, only people who are near the chief took part” (Monjomo Interview 8, 2/9/2011). Further questioning of this respondent and others reveals that other issues and contexts, namely the issue of fertilizer coupons, has had an influence on how people perceive involvement in other programs such as the village woodlots and other tree planting efforts. The same respondent from above continues her statement by saying,

Even about the fertilizer coupons, most of the people who are very far from the chief are left behind. [She knows] the introduction of fertilizer coupons was really meant for the poor and elderly people in the rural areas but there are many elderly people at the back of the village here who don’t receive the coupons (Monjomo Interview 8, 2/9/2011).

Another woman in Monjomo who is married to a man in a conflict with the chief over his wish to establish a separate village, reports that due to this conflict they and their relatives don’t get fertilizer coupons and that “there are so many committees for different things like for orphans, forestry, and health and water, but most of the people on those committees are from the Mpatimira side, where the chief lives” (Monjomo Interview 19, 2/21/2011).

Not only does the dissatisfaction surrounding the distribution of fertilizer coupons influence how some residents view the implementation of other projects in the community, it can also have an effect on their engagement with the chief (and the chief’s

directions) on a more broad scale. For example, one woman told us that at the beginning of our research work in Monjomo she “didn’t go to our introductory meeting because she doesn’t often get fertilizer coupons so she doesn’t go to the meetings at the chiefs house now” (Monjomo Interview 3, 2/8/2011). I will give more detailed discussion of the implications of this intersection between the contexts of fertilizer subsidy programs and other conservation and development programs at the end of this chapter as the effects are not solely confined to tree planting initiatives.

Aside from confusion over participation in the woodlot programs, ownership is another point of contention. None of the respondents from Muhiyo or Monjomo report that the community owns the woodlot. Everyone but one person interviewed said that no one was allowed to cut or use the trees found in the woodlot. The exception was a single woman head of household in Muhiyo who reports that the group village headman (the chief of higher ranking above the chief of Muhiyo) is the only one who is allowed to use the woodlot (Muhiyo Interview 17, 10/28/2010). Per my discussions with my FD associate, it is my understanding that no one is allowed to use those trees and that certain community members are charged with making sure no one is cutting the trees, and if someone is caught doing so they are taken to the chief.

In Monjomo the topic of the village woodlot program was even more contentious for one of the interview respondents. This woman says that a portion of her farmland was taken for the woodlot project and she was given nothing in exchange, and so she wants to know if she is therefore the owner of the woodlot (Monjomo Interview 72, 4/22/2011)? Specifically she reports,

The chief called a meeting and talked to the community that there was a certain organization that which is dealing with the planting of trees on hills

in the villages and other uncultivated areas. So her land was just very close to Mpatamira Hill and so part of it was taken and trees were planted on it without consulting her. She was just looking on at what was happening without doing anything because she is not rebellious to the villagers or to the chief... She didn't say anything because it is part of the village development... and she knew that the rains attracted by the woodlot would be helpful to her too (Monjomo Interview 72, 4/22/2011).

This respondent further goes on to explain how the leader of the woodlot is the chief and she has advised everyone not to go in to the woodlot illegally and so everybody tries to follow that rule, including herself even though she is the owner of that land (Monjomo Interview 72, 4/22/2011).

At best such disconnects between the perspectives of program managers and implementers (i.e. MMCT and FD) and community members concerning who participates, owns, and uses these woodlots is a sign of a significant breakdown in communication between those running the projects and those supposedly benefitting from them. If a project's aim was to support the poorest or most vulnerable people within the community then measures should have been taken to ensure that other community members understood that this was the goal of the project instead of leaving to believe that whoever participated in the project was secretly aligned with the chief. If this was the case then this was an irresponsible oversight that likely fostered tensions between community members that have not been forgotten. At worst it is a sign of a sort of local level "business as usual" fortress conservation that is carried out without thorough engagement of the community, where local power structures have coopted the project to suite their own goals leaving residents unsure of the purpose or particulars of the project after it is finished.

There have been a limited number of other types of initiatives promoting tree planting in the area. One of these is an initiative facilitated by MMCT and the FD with the Chambe Youth Club that primarily involved young people from the nearby Chambe Secondary School, located on the main road at the Chambe trading center just to the north of Muhiyo. I have not been able to access project documents outlining the specific goals and indicators of measurement for this program so my information is coming solely from the community members who have themselves participated in the program. These interviews highlight that the project was aimed at providing a resource of seedlings for planting programs along local rivers and at peoples' private landholdings with the aim of providing tree resources to help meet the needs of the community, therefore lessening pressures on the reserve. According to a respondent from Muhiyo, this program was open for anyone to join, especially the youth (Muhiyo Interview 33, 11/10/2010). She says that the voluntary program involved a plantation of seedlings and that the seedlings grown would be sold to other villagers to plant at their homes, at their farms, or in private woodlots (Muhiyo Interview 33, 11/10/2010). Although this respondent says this program, which began in 2007, is still in existence, no other respondent from Muhiyo or Monjomo has mentioned this as a current source of seedlings for purchase. The Chambe Youth Club has also developed a drama group made up of young people from the surrounding villages (Muhiyo and Monjomo included) who travel to the different villages performing skits relating to social and environmental awareness. I had the pleasure of seeing one of this group's rehearsals during my stay.

9.3 Beekeeping

Beekeeping programs have been implemented in areas around MMFR, supported by MMCT and the MOBI+LISE project, presented as an alternative livelihood strategy meant to draw people away from reliance on extracting timber from MMFR. Although residents have realized some benefits, by their own admission these programs recognize that there is still significant room for improvement. My research at Muhiyo and Monjomo supports the information the 2011 Bee Sector Products Assessment undertaken by the MOBI+LISE project as well as several key studies concerning the overall bee sector in Malawi online that highlights several problems with the process in which local community members have been integrated into beekeeping programs and associations. These problems center on weak engagement with local community members in terms of information sharing on the particulars of loan programs meant to assist with start-up costs, skills training, and education, and constraints within value chains and markets. The information that I present here from my research area does not supplement these issues with new ones. Instead, this case is another example of weak engagement with local communities on the part of MMCT and FD managers. This failure of engagement has resulted in a project that is bolstering local tensions concerning local power structures (namely the views that chiefs are misusing their power) in ways that jeopardizes the likelihood that present or future projects will be implemented successfully. In other words, in the case of these particular communities, this is an example of a missed opportunity for Integrated Conservation and Development Programs (ICDPs).

Generally, beekeeping is seen as an attractive alternative livelihood strategy, particularly in and around protected areas, because the honey produced can be sold to

provide a relatively stable income source, thus supporting people who might otherwise participate in illegal or otherwise unsustainable resource extraction. Although beekeeping can bring income from an array of products such as beeswax, propolis, royal jelly, bee venom and bee brood, at present in Malawi, honey is the only product pursued for commercial profit (Munthali, 2011:2).

In Malawi, beekeeping and honey production have been pursued at a large scale since the 1980s, largely due to the implementation of the Malawi German Beekeeping Development Project (MGBDP) (Munthali, 2007: 8). Through the MGBDP program the Bee-keepers Association of Malawi (BAM) was developed in 1993 to help aid local beekeepers with pricing and marketing of honey (Bees for Development Journal, 2007:8 and Kadale Consultants, 2005: 18). BAM was primarily active in the northern areas of Malawi. However, due to their inability to keep up with operating costs and other challenges brought on by mismanagement, BAM was forced to dissolve their operation in 1998 (Kadale Consultants, 2005:18). Other consolidators have since stepped in to facilitate the marketing needs of beekeepers throughout Malawi. In 2004 the Sapitwa Beekeepers Association (SABA) was formed to organize beekeepers in Mulanje and Phalombe (Munthali, 2011: 2). As of 2005, Village Hands Ltd., based in Mwanza, Malawi and operating under the supervision of the Wildlife Society of Malawi with program funding from GTZ, was reportedly the only large-scale buyer from beekeepers around the Mulanje area (Kadale Consultants, 2005:18). However, since that time production in the Mulanje area has increased and SABA has expanded its membership to over 2,500 beekeepers. It now has dealings with other companies like Contract Transport Limited (CTL) a smaller company involved with honey distribution and other food

distribution within Malawi, and Nali Ltd who manufacture and distribute the popular Malawian Nali hot sauces as well as other food products, in addition to their dealings with Village Hands Ltd (Munthali, 2011:2). Women participate heavily in this activity, as reportedly 52% of the members of SBA are women (Munthali, 2011:2).

MMCT is one organization associated with SABA and targeting beekeeping efforts specifically around MMFR. According to Hastings Maloya and Moffat Kayembe of MMCT, beekeeping initiatives around Mt. Mulanje began in 2003 and included 15 individual participants from three villages in two Traditional Authority (TA) areas near the mountain (Maloya, 2010). By 2005 the number of villages had risen to 15 and the number of participants to 300, and today 20 additional villages have been added. Some of these villages are also participating in the village co-management agreements that were designed to ensure access of local communities to essential forest products like thatch grass, firewood, and bee keeping areas. According to Kayembe, training for beekeepers includes “technical aspects of beehive construction, installation, monitoring, record keeping, harvesting, storage and general hygiene” (cite). These methods are seen as more favorable than traditional methods because traditional methods relied on using fire inside the forest. The more modern bee traps do not use fire, therefore reducing the fire risk to the mountain environment. So, overall these programs seem to have well-structured aims that should prove helpful to achieving goals of providing alternative income options that decrease pressure on MMFR, and while in some cases that has likely been the case, in other cases deficient engagement with participants has stunted this progress.

Given this background, I now turn to what we can learn from the limited interview data from Muhiyo (as no respondents from Monjomo reported being involved

in beekeeping) about how people within the community perceive beekeeping initiatives, and what unexamined social or other contexts might be hindering or otherwise affecting the progress or success of these programs within this particular village.

Only three people from our respondent group in Muhiyo reported participating in beekeeping activities, one young woman and two young men (using the cutoff of 49 years and below being classified as young). It is unclear which members of the community these programs were meant to target, as all documentation I have come across only refers to “communities” without going into more detail. The 2011 Bee Products Sector Assessment does discuss the need for participants to have sufficient finances or alternative livelihoods activities that will sustain them through the long period involved beginning bee keeping and seeing positive financial returns (this is in addition to the start-up costs which loans from the program would cover), in this case that would perhaps point to the targeting of younger members of the community involved in other business ventures (Munthali, 2011:11). However, there is no evidence that such selective targeting actually took place within the villages during the implementation of the programs.

One man reports that,

MMCT and FD work together. They gave them loans so they could be involved in beekeeping. He took one of those loans. That was three years ago. With the loan money he made eight bee traps for the entire community. The project has been successful but sometimes the bees come to the trap and sometimes they don't. They harvest honey from the traps to sell to the trust. They sell at 350kw per 50kg package. The trust doesn't buy the honey, they find markets for them to sell (Muhiyo Interview 7, 10/27/2010).

It is unclear whether the loans provided to the participants in Muhiyo were part of a GTZ funded effort (as reported by several respondents) or a larger loan program associated

with SABA through the National Bank of Malawi. However, it is clear from the interviews that MMCT was involved in the loans, training, and marketing of honey produced from these participants. Respondents also report that the FD was working in cooperation on this program with MMCT.

The woman who was involved in the program reported that the FD instructed the villagers on how to conduct beekeeping but that she was unsuccessful because the bees did not stay at her bee trap (Muhiyo Interview 14, 10/28/2010). The second man who participated in the beekeeping program says that in the past people associated with MMCT would come and find markets for the honey but now MMCT is no longer involved, that they now find their own markets (Muhiyo Interview 42, 11/15/2010).



Figure 9.3: Bee trap hanging in the forest at MMFR.

Other interview respondents from Muhiyo expressed that they would be interested in participating in beekeeping but that they do not have the money to cover the start-up costs (Muhiyo Interviews 15, 19, 27: 10/28/2010-11/9/2010). One man elaborates on this view, explaining that,

He heard about the beekeeping but he did not take part. He was afraid if the bees did not enter the hive and the project failed he would be taken to

the police. He heard from others that if you take loans from the organization and you can't pay back the money then you will be arrested (Muhiyo Interview 43, 11/7/2010).

The MOBI+LISE report on the bee sector in Mulanje (2011) notes that many of the small-scale beekeeping efforts involved in the SABA loan programs are plagued with problems including insufficient education and sensitization of those receiving loans (who are often inexperienced beekeepers) regarding the terms of the loans and expected outputs (Munthali, 2011:40). Furthermore, challenges with the loans themselves aside, Munthali (2011: 41) notes that “Apart from occasional guidance from the Mkhumba Boundary Communities Livelihoods Improvement Project, which has limited geographical coverage, there are no extension service providers dedicated to beekeeping in Phalombe and Mulanje.”

In Muhiyo, in addition to the confusion some residents felt concerning the loans necessary to participate in the beekeeping initiatives that lead only people who could already cover start-up costs to readily engage, respondents cited the same miscommunications between implementers, the chief, and community members regarding involvement and participation as were highlighted for the tree planting programs. Specifically, with beekeeping, as with these other projects, only those related to or otherwise affiliated with the chief or a committee appointed by the chief were included in the beekeeping program. For example, respondents claim that the dates of the program were hidden from other community members so that only certain people (i.e. the Chief's family and friends) were given the opportunity to participate (Muhiyo Interviews 29, 11/9/2010; 39, 11/15/2010). Who is allowed to participate, what is involved with receiving loans and training, and the potential repercussions of not being able to pay back

a loan or strategies to address that situation are points that should not leave community members in such a state of confusion. Such confusion can misleadingly be taken for a lack of interest on the part of residents who could, with proper engagement with experienced trainers and responsible managers, greatly benefit from these types of alternative livelihoods programs. Regarding the programs around MMFR, Moffat Kayembe of MMCT states that, “The increased beekeeping activities are a clear indication that the initiative is empowering people economically while promoting conservation of natural resources around the mountain” (Maloya, 2010). If MMCT takes heed of the recommendations of the MOBI+LISE final report and focuses more attention on the efficacy of their current communication strategies within villages, then this type of empowerment and these benefits from beekeeping and other similar initiatives could potentially increase substantially. I will give more attention to these types of strategies in the next chapter.

Summary

Utilizing examples of current tree planting initiatives, youth environmental programs, and alternative livelihoods programs being implemented by MMCT and the FD, this chapter uncovers critical oversights on the part of managers at MMFR regarding local social structures, politics, and their associated structures of power. By dealing with community members collectively as “degraders” responsible for forest destruction and consequently uncritically putting in place interventions that are not tailored to specific needs of particular members of those overall communities, these programs have left project participants and potential participants in states of confusion about the purposes and ownership of current and former initiatives. This does very little to promote progress

toward community development or help achieve biodiversity protection aims at MMFR. In fact, such programs are potentially setting the stage for locally powerful actors to implement smaller scale localized versions of fortress conservation that suit their particular needs or desires.

In the final chapter of this document I will show how one can extend this analysis and recognize such critical failures in engagement between the managers of MMFR and local populations in additional aspects of the conservation and development setting at Muhiyo and Monjomo. I will go on to show the implications of these disconnects for the status of the reserve today and will conclude with an in-depth discussion of certain approaches that could be taken by current managers and practitioners to help strengthen community engagement in conservation efforts and help address weak points in current conservation and development operations. And finally, I will highlight areas of future research that would likely prove useful to the development and implementation of more successful and socially responsible conservation efforts at MMFR.

CHAPTER 10: NEGLECTED LARGE-SCALE CONTEXTS

10.1 Introduction

The coarse view and representation of the populations of villages such as Muhiyo and Monjomo that informs the work of MMCT and FD obscures important localized variations in the ways that particular community members interact with MMFR and the implications of these variations on the present and future health of the reserve. It also overlooks the large-scale drivers of pressure on the reserve. The underlying crisis narrative from which these managers are working localizes the causes of forest degradation, focusing nearly all of their energy on the actions of local community members at the expense of more extensive understandings of the effects of large scale socio-economic and environmental processes that serve to inform the motivations of behaviors involving the forest at Mt. Mulanje. For example, in their study *Climate Change and Adaptations: A case study of the Mulanje Mountain Forest Reserve and its surroundings* (2008), David Nangoma (of MMCT) and Everhart Nangoma (IIED) do not give any mention to global processes influencing climate change in the entirety of the report. Instead, the authors say their study “looks at how these communities have contributed to climate change problems, and in turn, how these problems affect them” (2008:3). Similarly, I have found no evidence of MMCT or FD officials situating the activities of local people in broader socio-economic contexts. While this project cannot establish causation relating to specific actions of those living near MMCT, it highlights

the links between actions at and around MMFR and broader contexts of economics, politics, and environmental change within which the people of Muhiyo and Monjomo were operating at the time of my research.

This is not to say that reserve managers make no mention of larger-scale issues when engaging with communities. However, discussions of issues such as climate change are used strategically, not to inform the community, but to compel them toward particular behaviors. For example, these managers, recognizing the importance local people place on adequate and well-timed rainfall, have played on people's fears regarding the cessation of that vital ecosystem service. To convince the population to follow conservation advice, managers have informed residents that if they continue cutting trees in the forest that there will be no more rains. However, such information is given in isolation of the complex processes that make up global climate change that, while related to issues of local land cover change, are also much larger in scale than the effects of individual or collective timber harvesters at Mt. Mulanje. This simplification is problematic in that it has the potential to foster tensions within local communities if rains fail without communities being able to take larger climatic processes into consideration.

10.2 Large-scale Socio-economic Contexts

Managers at MMFR rarely reference the broad socio-economic contexts that serve as the setting for the livelihoods strategies being pursued by local people other than that the people are driven by poverty. Instead, they tend to focus on broad statements describing the actions of local populations that, without the broader consideration of drivers of those actions besides that vague motivator of "poverty", can be viewed as the source of potential problems in and of themselves with no real discussion given to the broader

contexts of that poverty. For example, the World Bank document appraising a proposal for the 2000 GEF grant to MMCT states,

- The major threats to the biodiversity of the massif include:
 - Unsustainable resource use stemming from high population density, pervasive poverty, and lack of awareness of and weak incentives for sound conservation practices;
 - agricultural encroachment on the lower slopes (World Bank, 2009)

These documents do not give any larger contexts or reasons from which the “pervasive poverty” that the unsustainable resource use that they refer to is based out of. This is similar to the language used in the valuation study by Joy Hecht (2006) commissioned by MMCT that I mentioned previously in chapter 7 when she states, “ This area of unique biodiversity and endemic species is being encroached upon by cultivators, harvesters of timber, charcoal-makers, fire-setting hunters...”(2006, iii). In that report, not even poverty is listed as a driver of these actions. The baseline survey report for the MOBI+LISE project states “There high rate of loss of forest resources around the Mountain Reserve due to high dependency on the resources for livelihoods” (Forestry and Horticulture Department, Bunda College, 2010:1). Again, this report highlights that these activities are taking place, and that people are dependent upon them to make a living but there are not mentions of why people have found themselves in that position in the first place. All of this is left assumed.

In order to understand current challenges faced by residents of Muhiyo and Monjomo, the Mulanje district, and the everyday livelihoods struggles of Malawians in general, it is important to situate their experiences in these broader political and economic contexts that have shaped the situation at national and global levels. I begin with the economic policies and global economic situation in place at the time of this research.

In his first term in office from 2004-2009, President Bingu Wa Mutharika was relatively successful. During this period Malawi saw higher economic growth rates and lower rates of inflation than had been experienced in the decades leading up to Mutharika's presidency (Agbor, 2012). Exports from the country grew as a percentage of GDP, allowing for growing federal reserves, which in turn helped to stabilize the Kwacha (Agbor, 2012). Furthermore, Mutharika established good relations with foreign donors during this time as well as with major lending institutions like the IMF and World Bank. This progress and stability, and especially the fertilizer subsidy programs put in place by Mutharika despite protests from some donors and lender institutions that it was too expensive, was viewed favorably by Malawians. The country's people had suffered in the preceding years, especially in the aftermath of years of faulty structural adjustment programs that when combined with the corrupt and inefficient governance of then-president Muluzi resulted in outcomes like the sell-off of Malawi's grain stocks prior to devastating floods and regional droughts in 2002. This series of events resulted in somewhere between 500 and 1,000 people dying from hunger or hunger related diseases from January to April of that year (Owusu and Ng'ambi, 2002; Zacharie, 2002; Menon, 2007). It is important to note however, that the country was not free of hunger-related crises during Mutharika's presidency, as a drought in 2005 caused food shortages for 4.7 million people (Deverux et al., 2006).

Conditions deteriorated however during Mutharika's second term in office beginning in 2009. During this period Malawi's foreign reserves declined due to combined pressures of high levels of public spending and external factors such as the effects of the global financial crisis and Eurozone instability on global demands for

tobacco, which declined by 80% in the first quarter of 2011 (Agbor, 2012). On top of the problems presented by declining foreign reserves, Mutharika and donors could not reach agreement on how to proceed to stop the economic declines. These disagreements revolved largely around Mutharika's resistance to devaluing the Kwacha. The tensions resulting from these disagreements reached a breaking point while I was in Malawi conducting research for this project. In April 2011, Fergus Cochrane-Dyet, Britain's High Commissioner to Malawi, was thrown out of the country following a leaked cable he had sent to his superiors in London in which he referred to Mutharika as "autocratic, combative, and intolerant of criticism" (Newling, 2011). In return, the High Commissioner of Malawi and related aids were ordered to leave Britain, and the situation deteriorated further until in July of 2011 Britain suspended their aid program to Malawi, a program worth 19 million euros, due to continued disagreements on economic reforms (Tran, 2011).

Further disagreements, criticisms, and accusations of corruption from donors against Mutharika's government fueled further by the use of force by the government of Malawi against protesting citizens in July of 2011 resulted in the U.S. and other large donors being added to the list of those freezing or suspending aid to the country. The IMF also suspended a USD \$79 million aid facility (Agbor, 2012). The protests under scrutiny were based on rising costs of living, widespread outages of electricity, fuel shortages, and increasing costs of basic goods, conditions which resulted in part from taxes imposed by Mutharika to shore up government budgetary resources (Agbor, 2012). Therefore, the broader economic context of this study is one of instability³. This large-scale context is

³ This describes the large scale socio-economic context of the country and its people up to and shortly after I left Malawi in May of 2011. Since that time, as I've already described briefly in earlier chapters, things

important in understanding how the livelihoods strategies of people living around MMFR are situated in a globalized economic system in place-specific ways. For example, the responses given by the respondents to my interview questions that indicate high levels of concern over insufficient finances to meet their needs gain greater clarity when we consider that the costs of basic goods were increasing across the country and so therefore they were beginning to fear that their already low levels of funds would be able to buy them even less in the near future. Transport costs across the area were also rising because of rising fuel prices/fuel shortages. This translated into higher costs to local people who needed to use that transport for any reason like moving their crops to local markets, going to town to buy seed and fertilizer, or needing to transport a family member to the hospital. Furthermore when we look at those respondents that were highly concerned over whether or not they would receive fertilizer coupons we can understand that these concerns were founded in the mindset that if food prices were likely to increase then they would need to be able to grow as much food for subsistence as possible so as to avoid having to buy food after their harvest and if they were left with any surplus they would be able to sell it at a higher price. Such a framing was not new, but gained greater importance in the face of the instability being experienced throughout the country. These contexts also give greater insight into what may have been potential motivations for specific choices local people were making concerning livelihoods. For example, cutting timber by younger men (and more specifically for younger men in Muhiyo and not Monjomo) was one of the most accessible livelihoods options available, and in the face

have changed significantly with the death of then-President Mutharika and the instillation of the new government of President Joyce Banda. Many aid programs have been reinstalled and international support to the country is once again on the upswing, however Malawians still face the hardships that come along with a country struggling to reform its economy such as further devalued currency and persistent high costs of living.

of growing financial instability we can speculate that this option became even more attractive. Further away in Monjomo, fewer men pursued this strategy because they do not come from a tradition of sawyer activities for one and the effort of going to MMFR from Monjomo for work as a sawyer is not seen by many as worth the gains, therefore these men pursued business more often. Since men in Muhiyo showed a greater concern for financial problems than did men in Monjomo, it can be inferred that the men in Monjomo felt more secure in their business livelihood strategies than the men of Muhiyo did in their forest-based livelihood but perhaps their ability to access business livelihoods were limited.

As stated above, explicit acknowledgement of this broader socio-economic context is missing from any descriptions of local communities by forest managers, which leaves the livelihoods actions of local people that impact MMFR effectively portrayed as independent choices without any underlying causes. It may be that the managers assume this context is known, but this is problematic for developing interventions to change or modify those actions because those interventions do not address these underlying factors and therefore may not address the needs of those who use the reserve as part of their livelihoods.

10.3 Global Environmental Context

Changing global temperatures and rainfall patterns tied to global carbon emissions and other greenhouse gases are a pressing concern today, especially in areas like those around Mt. Mulanje where residents are hugely dependent on agriculture and natural resources for their survival. There are numerous debates associated with the topics of global warming and global climate change and variability with regards to which groups

of people or countries are responsible for the most emissions, and which groups and locations will see the most drastic impacts from associated changes (Grubb, 1995; Caney, 2005; Gardiner et al., 2010; Gardiner et al., 2011). Due to the effects of and processes behind climate change not being fully understood in relation to MMFR and its resources, there have been few discussions of the implications of potential changes by the managers of the MMFR, especially concerning impacts on local people and how that might influence resource use at the reserve. This coincides with the findings of Fisher et al. (2010), who point out how the role of forests relating to climate change is a subject that has yet to be developed in national adaptation strategies or climate policies of Malawi (2010:1244).

Generally, forecasted annual mean temperature changes in Malawi can be characterized as increasing. As described by McSweeney et al. (2008), mean annual temperatures in Malawi increased during the period from 1960-2006 by an average of 0.9°C and are forecast, under current understandings of global climate change, to increase 1.1°-3.0° by the 2060s (McSweeney et al., 2008:2-3). Although increased surface temperatures are a concern in and of themselves crop yields and quality of those yields, of even greater concern is when these increasing temperatures are combined with changes in or disruptions to traditional rainfall patterns.

Rainfall in Malawi is influenced by the movement of the Inter Tropical Convergence Zone (ITCZ), the band of low pressure circling the globe where the trade winds from the northern and southern hemispheres come together. The ITCZ is generally located near the equator where solar heating along the zone contributes to high levels of convection and results similarly high levels of precipitation. The ITCZ moves in its position, especially

over land, throughout the year according to differentiations in surface temperatures. These movements correlate to changes in rainfall patterns throughout the year and characterize the variations in timing and intensity of the rainy season in different parts of Malawi (McSweeney et al, 2008: 1). At times, the El Niño Southern Oscillation (ENSO) phenomenon causes variability in the surface temperatures of the Indian Ocean which can cause disruptions in the normal movement of the ITCZ and can have strong and unpredictable effects on localized rainfall patterns in Malawi (McSweeney et al, 2008:1). As explained by McSweeney et al.,

The influences of ENSO on the climate of Malawi can be difficult to predict as it sits between two regions of opposing climatic response to El Niño. Eastern equatorial Africa tends to receive above average rainfall in El Niño conditions, whilst south-eastern Africa often experiences below average rainfall. The opposite response pattern occurs in La Niña episodes. The response of climate in each of these two regions, and the extent of the area affected, varies with each El Niño or La Niña event causing mixed responses in Malawi (McSweeney et al., 2008: 1).

The predictions of current climate models concerning changes in rainfall patterns for Malawi vary widely but those based on continued high carbon emissions are generally in agreement in their predictions that the proportion of rainfall that falls in extreme rainfall events will increase (McSweeney et al., 2008; Fisher et al. 2010: 1243).

In the Mulanje District there has been a slight trend toward reduced precipitation over the last 100 years (See Table 10.1 below). However, utilizing this trend in future predictions is premature.

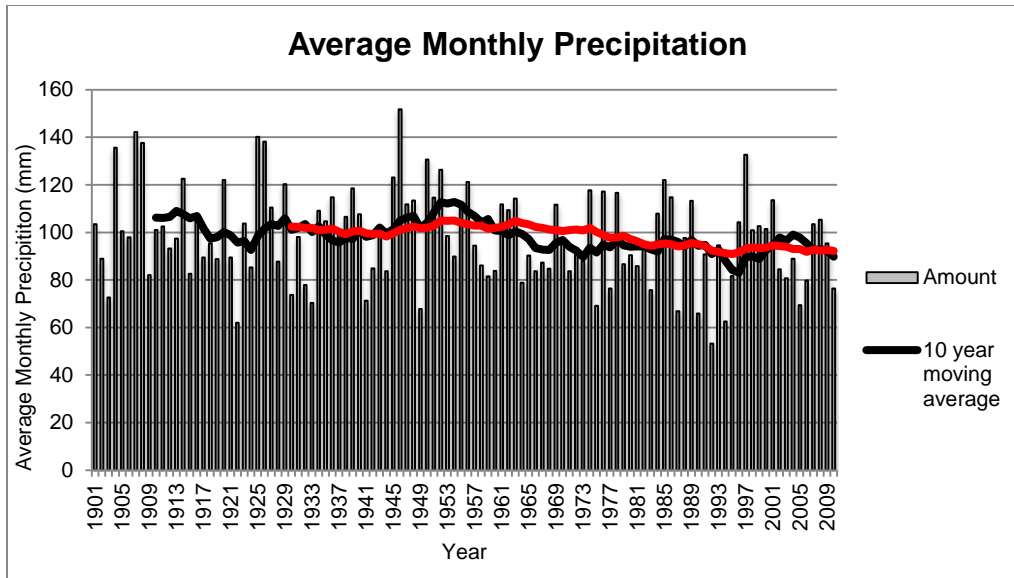


Figure 10.1: Rainfall trends in the Mulanje district since 1901. Source: IRI Data Library-mean WCRP GCOS GPCC FDP version 6 0p5. (As found in Carr and Thompson, In Press)

In short, future rainfall patterns at Mulanje are highly uncertain. This is supported by the responses Fisher et al. received to their climate survey in a number of villages around the reserve. These surveys reflected highly variable in the answers people gave regarding trends in rainfall with some reporting increases over the past ten years, some reporting decreases, and some reporting that rainfall patterns had remained the same (Fisher et al., 2010: 1245). Likewise, while rainfall patterns were not discussed with all of my interview respondents in Muhiyo and Monjomo, those that did mention rainfall patterns reported similar variations with some saying rains in recent years had been better than before, some saying they were worse, and some saying things had not changed. It is obvious though, that global climate change and variability and its associated impacts on temperatures, rainfall, and extreme events will continue to be an important area of focus in the Mulanje area as those complex impacts continue to become more understood.

Concerning how these complex global processes are being understood or portrayed in the areas around MMFR, during my interviews in Muhiyo and Monjomo an interesting trend began to emerge. When I asked the respondents why they thought that MMCT and FD did not want them to cut green wood in the reserve, 19% of respondents reported that it was because they had been advised by MMCT and FD that if they cut down the trees there would be no more rains. For example, one female in Muhiyo recalls that,

The FD came to Muhiyo and advised them not to cut trees in the reserve. They said that when people have the habit of cutting down trees carelessly there will be no more rains in the communities (Muhiyo Interview, 29: 11/9/2010).

Likewise, another woman from Muhiyo states that she thinks, “the FD doesn’t want them to cut trees so the community will have no problems with rain” (Muhiyo Interview 19,10/28/2010).

Other reasons ranged from related interpretations that the land would become a desert, that tourists would no longer come if the trees were cut down, that animals would have no place to live, and that the mountain would no longer be beautiful. To many of the people living in Muhiyo and Monjomo, their understanding is that if the trees at MMFR are cut then there will be no more rains, and all of the negative associated impacts that accompany failed rains including failure of crops and hunger. Alternatively, following the narrative the residents receive from the managers, if the trees are not cut then there will be plentiful rains and abundant harvests. Only one respondent out of 192 mentioned climate change specifically, and this was in relation to rainfall and crops. This woman stated,

Hunger due to climate change is a problem. They depend on farming and due to climate change the rain comes very late and sometimes the rains can disappear before the crops are matured. So they don't harvest enough to feed their families. This happened in 2005 and last year [2009]. When this happened in the past people would point at one another and say that someone had tied up the rains. But due to learning about things [from the Chief and the radio] they now advise one another not to cut or destroy the forest because the trees attract the rains (Muhiyo Interview 47, 11/19/2010).

This woman's response gave an indication that perhaps issues of climate change have been brought up in a village meeting, as she says the information came from the Chief, and on the radio. However, her response indicates that while in the past people would blame one another for tying up the rains (presumably by using witchcraft, as belief in witchcraft is very prevalent here) now they know that climate change affects the rains, and that cutting down the trees will influence that climate change in ways that will lead to failures of rainfall. So the blame in this scenario is still placed on local people, but is now directed at those who cut trees instead of those accused of using witchcraft to control the rains.

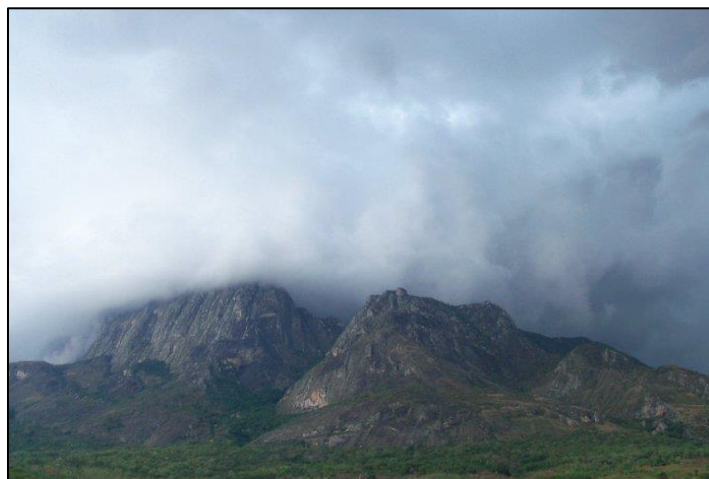


Figure 10.2: Rain clouds gather around Mt. Mulanje.

I find that this claim on the part of the managers that “cutting trees = no more rains” to be problematic in several ways. First, this description reduces the subject of rains and

changing rainfall patterns, which is a highly complex and multiscalar issue involving global environmental processes, powerful international actors and their associated agendas, international laws and governing bodies all contributing to varying effects in different places and at different times, into a simplified black and white issue that sets up local community members to see themselves as the primary drivers of change in a vital aspect of their own livelihoods. In other words, managers are encouraging local community members to view rainfall patterns as dependent on their own actions regarding the forests of MMFR instead of engaging the communities in information sharing that would strengthen understandings of what is known about the climate science at Mulanje right now and how that might be added to by local perspectives. This is not to say that localized degradation of the forest at MMFR could not have any potentially significant effects on rainfall through reduced transpiration rates, however the issue is much more complex than the managers are relaying to local communities.

This simplified portrayal translates into placing blame on local communities and individuals within local communities for changing patterns of rainfall. This can bolster tensions within these communities that already exist, as well as support the creation of new tensions centered on designating blame for shifting rainfall patterns. These explanations draw on the very real fears that local people have about hardships relating to crop failures instead of moving conservation efforts forward on transparent up-to-date information. If drastic changes in rainfall patterns do indeed occur at Mt. Mulanje in the near or distant future due to climate processes beyond the local scope, and if these simplified explanations are the only information local people have to work from, then the resulting tensions within communities could be a significant problem. There is always the

possibility that the dire consequences of deforestation predicted by these managers might not come to pass. If not, it is possible that residents will move into the reserve more aggressively, and be more resistant to further engagement with conservation efforts. The management of this reserve has a history of instability, and remains fragile. Community engagement that might delegitimize these managers is unlikely to result in productive conservation outcomes.

The fragility of this management regime is brought into relief by recent events around MMFR. Below, I highlight examples of how the failure of forest managers so far to engage local communities in meaningful ways has led to a rapidly deteriorating set of circumstances for MMCT and possibly for the future of the reserve.

10.4 Current management scenario at MMFR

Within the last several months at MMFR and in Mulanje district in general there have been growing tensions centered on proposed mining activities within the reserve that have been being formulated (for all intents and purposes out of the public eye) since 2009. These mining activities involve the actions of Spring Stone Limited, a Malawi-owned joint venture subsidiary of Canada based Gold Canyon Resources and Japan Oil, Gas, and Metals National Corporation (JOGMEC) that are now in the second drilling phase of a rare earth elements (REE) exploration project, with JOGMEC providing the majority of the funding for the program. Concerning phase one of the project which has already presumably been carried out Gold Canyon's website states,

An approximately 1,000 square kilometer Exclusive Prospecting License has been granted to the joint venture in Mulanje District in Malawi by the Malawi Ministry of Natural Resources, Energy and Environment. A US\$1,000,000 exploration budget has been approved by the joint venture partners for the Phase One Exploration Program, which is currently underway. Mitsui Mineral Development Engineering Co., Ltd

(MINDECO) in Japan has been contracted as the operator of the program (Gold Canyon, 2011).

In December of 2012, amid complaints from local community members, Spring Stone was given a court injunction to halt operations at the mountain, and unexpectedly, so was the Mulanje Mountain Conservation Trust (MMCT). It is unclear from reports why MMCT was named in the injunction. According to reports on the website miningmalawi.com,

In early November 2012, Spring Stone along with the Mulanje Mountain Conservation Trust (MMCT) allegedly received a signed letter by the Member of Parliament for Mulanje Pasani and over 60 group village headmen, among others, in which the company and trust were requested to stop exploration because of the adverse impact it has had on the area. From the letter,

It has come to our notice that the two companies did not come here to conserve and explore the resources of the mountain but rather destroyed them. [...]

During our visit to the top of the mountain, we observed that the mountain which used to have a thick forest has been reduced to a bare ground and this development has enabled Springstone Malawi Limited to embark on mining. [...]

If they do not take heed of these instructions, we as custodians of the mountain, will have no option but take the laws into our hands by physically chasing them out (miningmalawi.com, 2013).

In May of 2013, this injunction was apparently overturned by the High Court in Blantyre and Spring Stone was allowed to resume operations. It is unclear how MMCT was affected by this overturned injunction.

It is my understanding that the people of Mulanje now see MMCT's efforts to clear some areas of invasive pine as evidence of their collusion with mining companies in order to clear ground and make way for exploratory interventions on the mountain. This runs completely contrary to the goals of MMCT, who have been vocally opposed to any mining efforts in the area previously, so it is likely that there are underlying political or

other power struggles informing these accusations that are not apparent from the official paperwork. Indeed, miningmalawi.com raises this issue when they state,

It is troublesome that the MMCT, funded by the World Bank, is reported to be implicated in the dispute between local communities and the mining company. It is not clear how this is possible since some of the people who allegedly have taken MMCT to court also sit on or work for organisations that are represented on the Board of Governors of MMCT (miningmalawi.com, 2013).

In July and early August of 2013 tensions have continued to grow between community members in Mulanje and MMCT and Spring Stone Limited. On August 13th the following was posted to the Likhubula Community Facebook page,

The Mulanje Mountain Conservation Trust (MMCT) that had more power than the Dept. of forest, has now been ordered to hand over the power to the Dept. of forest and will never work on top of Mount Mulanje. This has happen after a meeting that the District Commissioner for Mulanje organised by inviting the Principle Secretary of the office of president, Environmental affairs officers, MMCT officers, Mulanje Concerned Citizens(MCC), Chiefs(only Traditional Authorities[T/A]),Officials from Dept. of Mining Malawi. (Likhubula Community Facebook Page, 2013).

The response in the comments section on the Facebook page concerning this post have been overwhelmingly positive, with some people saying that it is a “joyous occasion worthy of celebrating”. This is a clear indication of just how thin MMCT’s legitimacy is from the perspectives of local community members. These events suggest a need for real change and reform of the way this organization is communicating with and generally engaging with local people through various programs and initiatives. If they are given the opportunity, there needs to be a shift so that people can view MMCT as a partner rather than an aloof authority figure. In the meantime, the state of management at MMFR is currently highly volatile and the legitimacy of MMCT as the overseers of the mountain has been seriously undermined by these accusations. The FD’s stance on the matter and

people's perspectives on their role in the situation remains unclear as does the future of conservation and development efforts at MMFR.

Summary

The crisis narrative informing the interventions designed by the managers at Mt. Mulanje both constructs the heterogeneity of the local population as a largely homogenous group of resource users, cutters, fuelwood extractors, and fire starters and emphasizes a scale of analysis at MMFR that largely lays the blame for degradation solely on actions of these forest users. Even if the managers don't feel that they can change the underlying drivers of these actions, leaving them unacknowledged creates misleading assumptions about the motivations of those who use the MMFR as a part of their livelihoods, especially with regard to the degree to which local community members are able to change their livelihoods activities. By obscuring local heterogeneity, this narrative makes it impossible to assess which people may be more flexible within that context (i.e. who may have more power to change their current situation and who may have relatively low ability- in other words varying levels of agency), and therefore to identify those most likely to take up alternative activities presented by conservation and development interventions.

Overlooking such complexity and nuance not only impacts the design and implementation of conservation interventions, it may also eventually undermine the legitimacy of management organizations associated with the MMFR. The strategic linking of local action to large climate change impacts, without consideration of other drivers of change, to motivate the population to engage in more productive forest management practices can form tensions within communities that result in conflicts over

resource use. Further, such narratives expose managers to the risk that their dire predictions do not come to pass, therefore delegitimizing their conservation interventions in the eyes of the local community members. The current situation at MMFR demonstrates how limited the legitimacy of the MMFR managers is, and highlights the need for reformed engagement moving forward.

CHAPTER 11: CONCLUSIONS AND FUTURE DIRECTIONS



Figure 11.1: Mt. Mulanje

11.1 Introduction

MMCT and FD, as managers at MMFR, are working from the lens of a simplified crisis narrative, informed by a long history of conservation development thinking, that overlooks current views within the conservation and development literature regarding the importance of taking the heterogeneity of local communities into account. This reduced framing of the challenges at MMFR has enabled MMCT and the FD to take on uncritical assumptions regarding local behaviors and their likely impacts on the reserve. In some cases, these assumptions have informed the development of problematic strategies for engaging local community members in conservation as evidenced in Muhiyo and Monjomo villages. These problematic programs often do not present the population with meaningful and helpful alternatives to the destructive activities that they may be currently involved in at MMFR, or that they may be led to undertake if they are faced with a time

of stress or crisis that leaves them unable to meet their livelihoods needs. If these managers continue to adhere to this narrative, they are unlikely to achieve their conservation goals, to the detriment of both the environment and the populations around the MMFR.

11.2 Meaningful Heterogeneity

In the preceding chapters I have laid out a broader understanding about which people within the two communities of Muhiyo and Monjomo are most engaged in forest-based livelihoods activities at present and what those activities involve. I have also described other types of livelihoods activities different groups and individuals are participating in, including those that are farm-based and those that are non-forest and non-farm based. By examining these activities as comprising different livelihoods strategies, it is clear that individuals who are already involved in a certain degree of forest-based activities, such as most women in Muhiyo and young men in Muhiyo, will, when experiencing increased livelihoods pressure due to a stress or shock such as crop failure from drought or pests, be more likely to intensify their extraction of forest materials as a coping strategy. This likelihood increases when those individuals have few alternative livelihoods options such as business activities or relatives who can assist them, as is the case with many SWHH in both Muhiyo and Monjomo. Agricultural crisis as well as other livelihoods pressures may also lead those not previously engaged in forest-based activities, like many men in Monjomo, to turn to these activities if they are able and if they are found with no other livelihoods options and no social or economic safety nets. It is relevant to recall here that there were several instances during the interviews in Muhiyo and Monjomo where people directly stated that men would not be going into the forest reserve and taking timber if it

were not for poverty or if there were more jobs, thus supporting the linking of livelihoods pressures and forest incursion (See the following interviews quoted earlier in this document: Muhiyo Interview 52, 11/23/2010; Monjomo Interview 70, 4/22/2011). In a study on how tropical forests are differentially utilized as safety nets for members of communities facing various stressors, McSweeney concluded that strict forest restrictions on smallholder farmers are,

likely to be ineffectual as long as they are not preceded by basic improvements in health care, credit provisioning, and crop insurance programs. Without these institutional fall-backs, needy locals, especially poor, young families, will have a compelling argument for non-compliance (2003:17-18).

In this section I look more closely at these different groups from within Muhiyo and Monjomo.

Figure 11.2 below illustrates which parts of the community are currently engaged the most in extractive forest activities at the time of this study. It is important to note that the column representing young men from Muhiyo and their activities might somewhat over represent their impact on the reserve because I do not differentiate between men who conduct sawyer activity in the north and which do it at MMFR. Many men conduct sawyer activities in both places depending on their current needs and ability to travel and so I have left them here as likely and able to engage in sawyer activities at MMFR. This graph includes the activities of men extracting timber through sawyer operations, women extracting dead and live wood for firewood to sell, and women extracting wood for use as firewood at their homes. We see that young women in Muhiyo are the group most actively engaged in forest activities in the form of gathering fuelwood to use and sell

from the reserve.

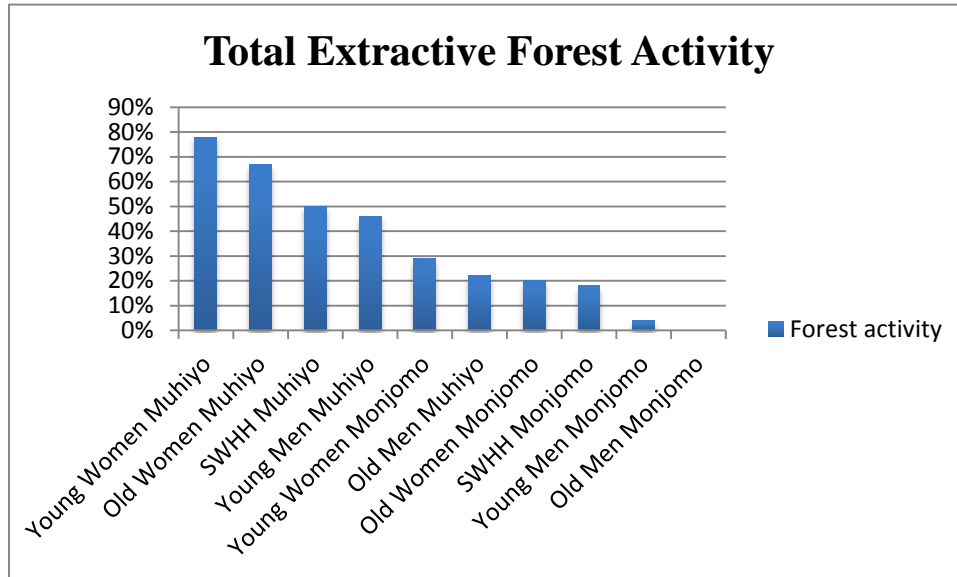


Figure 11.2: Total extractive forest activities in Muhiyo and Monjomo

They are followed by older women from Muhiyo⁴, and SWHH from Muhiyo. Distance from the reserve is clearly *the* major factor determining whether or not a woman goes to the reserve for fuelwood or finds it from other sources (usually farm residues or her own trees, though some do buy from others). Therefore, interventions aimed at reducing the impact of fuelwood extraction should be geared toward younger women in Muhiyo (or other adjacent villages) first, and then expanded to other women further from the reserve. Since this graph does not account for the wood gathered by different groups of women from other sources, it does not capture how these women may be likely to utilize the forests of MMFR if something were to affect their current sources. The potential for this outcome to occur should be taken into consideration when planning interventions to strengthen forest resources outside of the reserve.

⁴ Although women of very advanced ages would not normally be able to make the trip into the reserve, the range of 50+ still covers many women physically able to do this work.

Also obvious here is the prevalence of the sawyer activities of young men from Muhiyo and, to a lesser extent, the sawyer activities of older men from Muhiyo and younger men from Monjomo. Therefore, in terms of alternative livelihoods interventions aimed at reducing pressure on MMFR in the form of offering different strategies for income, it would be wise to target younger men and women from villages directly adjacent to the reserve first, and then programs could be expanded out to the other involved groups through time.

When thinking about which groups might be more likely to turn to extracting resources from MMFR in times of stress or crisis it is useful to think of which members of the community have more livelihoods options available to them already and which have the fewest. It is likely that those with the fewest non-forest based livelihoods options, and especially those whose non-forest activities center solely on farming, would find themselves in a position where increasing their utilization of forest resources for income and sustenance during times of stress might be an attractive option. Therefore, if a project's objective is to reduce potential exploitation of the reserve in times of crisis, it helps to know which members of the community have the fewest other options, taking into account that farm-based livelihoods would not likely be an option if it were a farming-related crisis.

Figure 11.3 shows us who are participating in the overall greatest number of options for income generating activities, and if those are forest or non-forest based.

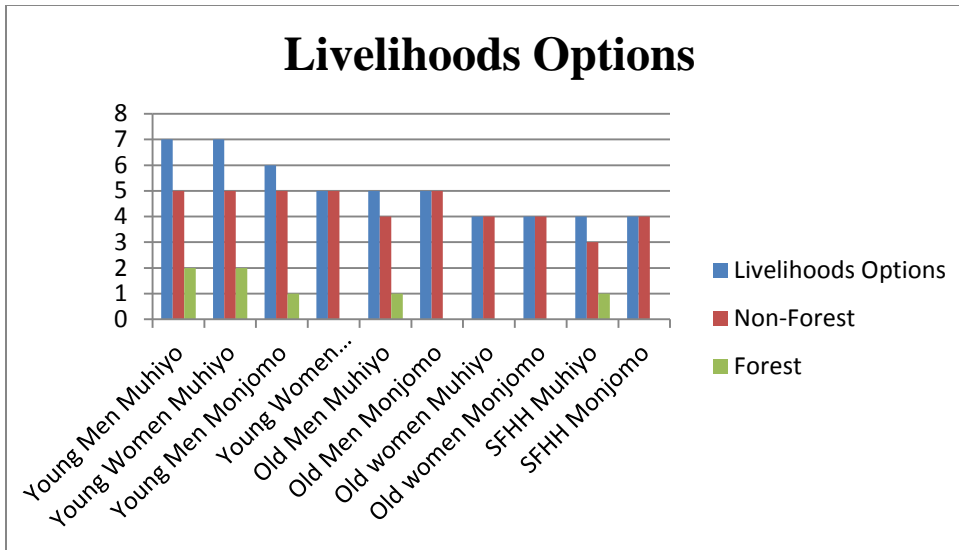


Figure 11.3: Overall livelihoods strategies

Many of those non-forest based activities revolve around farming, so we need to take another look at non-farm business opportunities.

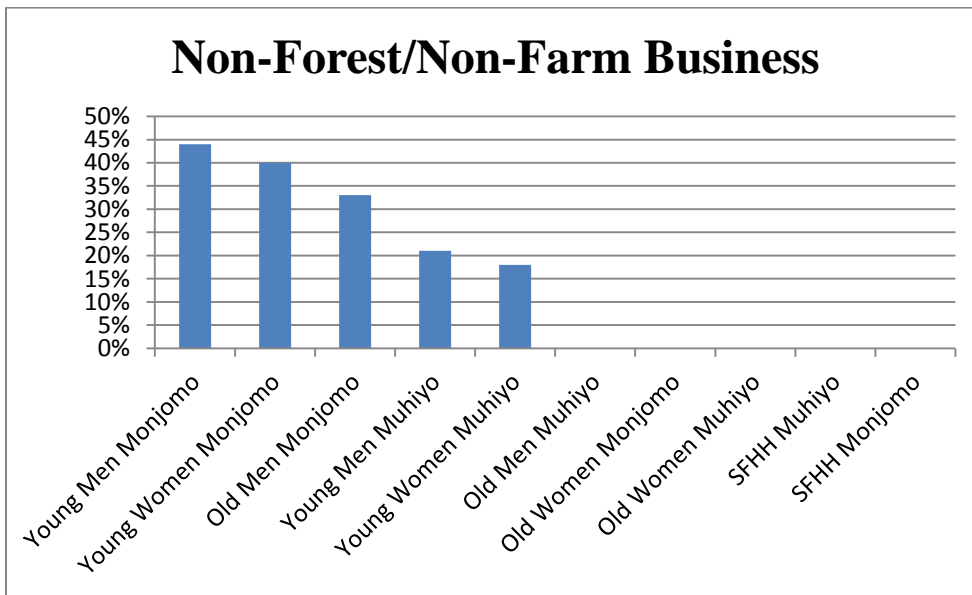


Figure 11.4: Those undertaking non-forest and non-farm business activities.

This graph gives us a better idea of who has access to what are likely the most stable livelihoods alternatives to farming and forest resource extraction. Note that this graph does not include the more vague “other” category, therefore these are not the entirety of

non-farm/non-forest based livelihoods activities being practiced. However, “business” does cover a wide variety of activities where people are exchanging goods or services for income.

This chart further reinforces the suggestion that interventions aimed at environmental protection at MMFR target younger residents adjacent to the reserve, as young men and women even a short distance away from the forest (as found in Monjomo) have more livelihoods options, and more non-forest livelihoods options, available to them should farming fail. At the same time, it is clear that there are several populations adjacent to the reserve, especially the elderly and SFHH, who are not currently using the reserve but might be forced to in times of stress. The combined information from figures 11.3 and 11.4 illustrates that particular parts of the community, like SWHH in Muhiyo and older men in Muhiyo, are more likely to turn to the reserve in times of crisis because they already have the knowledge of the reserve through gathering firewood and timber, and they have very few other livelihoods options that are not farm-based. This data also shows that while their current and future activities at MMFR might be limited, social development efforts aimed at providing greater options for livelihoods restricted groups like SWHH and older women in both villages would be well-targeted to increase overall resilience through diversification of livelihoods options. Thus, crisis-related programming might target these populations to minimize reserve impact.

11.3 Discussion

The actions of those in charge of managing and protecting the forest of MMFR can be viewed as being based on a simplified crisis narrative that places blame for environmental destruction on those utilizing the natural resources of the reserve to meet

their needs or desires for fuelwood, timber, and bushmeat. This is done without critical examination of which parts of the local populations are contributing most to which activities or situating these activities in broader socio-economic and environmental contexts. In chapters six, seven, and eight I illuminated some of these differences by examining different types of livelihoods including subsistence farming, forest-based livelihoods, and non-forest livelihoods. Within each of these categories I have disaggregated the data beyond the usual homogenous categories of “community”, “women”, or “men”, using relevant social cleavages like marital status and age to highlight the nuanced needs and challenges of particular sub-groups within these communities. As I have demonstrated above, this type of detailed analysis allows us to target conservation and development interventions to particular people and their particular interactions with the reserve. Furthermore, it sheds light on which sub-groups within the population might be most likely to turn to extracting resources from the forest in times of stress or crisis than others due to their lack of diversification of livelihoods options.

11.4 Applying lessons learned and looking toward the future

This dissertation has demonstrated the value that can come from a detailed study of the heterogeneity that exists within communities where they wish to implement a project(s). However, managers need to test how to best obtain that value by translating this study into action, targeting the most appropriate groups as discussed in section 11.2 above. This could potentially involve mobilizing, training (with assistance from Malawian or outside social scientists), and utilizing the large number of FD workers at MMFR to carry out surveys within potential project communities. Even though

respondents would likely avoid all discussion of illegal activities in such a scenario, it would still bring managers closer to understanding what alternative livelihoods options are available to which parts of the population so that they are not blindly targeting members of the community who would not benefit much from a particular intervention, or conversely that they are not neglecting parts of the population that would benefit the most. Another strategy could be to bring in social scientists from the universities in Malawi or from outside the country to help learn more about the needs and available options of certain groups in order to better target more effective interventions, this option might help lessen some potentially problematic power relationships that could be involved with employing FD workers to this task.

Throughout all of these types of program initiatives it will be very important to carefully consider the best ways of working with local governance structures (i.e. Traditional Authorities and Chiefs). Their input and authority should not be challenged, but instead they should be meaningfully engaged as partners whose ideas are valuable to project design and implementation. At the same time donor agencies and managers must stress the necessity for transparency mechanisms that will not undermine the authority of the Chiefs but will help prevent the co-opting of program funds or benefits by those for which they are not intended. This does not mean that control over projects need to be recentralized under the government authority of the FD or under MMCT, but that project design needs to take these issues of transparency into account at all levels. So far I have seen little evidence of such transparency mechanisms in any of the programs that I have heard about in these villages. Ignoring these contexts is also leading to missed opportunities for meaningful exchanges of information between managers and local

people. Such exchanges could provide a venue for managers to share with communities what they know of current climate science as it pertains to Mulanje and MMFR in locally appropriate language and examples, and in return local people could share their experiences of how they have witnessed changes in their local environments so far that could enrich and contribute to the larger body of current scientific knowledge.

Program implementation designs should also be made much stronger by informing the community members why certain people are being targeted solely or first for programs, for instance, if young women from Muhiyo are being targeted in the beginning of the initiative, the other community members should be clearly informed that this is because they are currently the ones extracting the most fuelwood from the reserve. Lest people see this as an incentive for increasing their own extraction of resources from MMFR in order to become eligible for programs, these initiatives should ideally be put in place in conjunction with other efforts that target the needs of others in the community such as micro-finance lending for SWHH or older women who currently are overly dependent on farming alone, or strengthened and more transparent bee keeping initiatives for young and old men (not that these have to be undertaken along such strict gender lines).

In terms of a potential program opportunity in these villages and others I also potential to bring in alternative energies such as wind power and solar power. I am aware that the Mulanje Renewable Energy Association (MUREA) is conducting activities in many places centered on energy efficient stoves and other types of initiatives elsewhere in Mulanje relating to other kinds of energy production like small-scale hydropower, however initiatives focused on sources such as wind and solar energy could be very

fruitful in these particular villages as well. Initiatives like these have seen success in other parts of Sub-Saharan Africa and in other parts of Malawi and so extending them to Mulanje would benefit many in the area. Again though, such efforts need to be accompanied by strong information sharing and transparency directives in order for their purposes to be understood and therefore more readily adopted.

In Monjomo it would be of benefit to conduct further research into what non-farm and non-forest based livelihoods are already being practiced there to see how these activities could be strengthened or how more members of the community could be integrated in to them in order to increase their resilience to stressors, especially those affecting crops. These are all very broad recommendations that would need to be given much more detailed attention if they were to move forward successfully. However, if MMCT and FD take these broad lessons highlighted here and put forth the effort and resources into successfully translating them into informing current projects being carried out or creating new more targeted, transparent, and informed program designs then it is expected that the effectiveness of those programs on reaching conservation goals and lessening pressures on MMFR will increase.

11.5 Conclusion

With this study I have drawn on feminist post-structuralism to recognize and illuminate how the local communities living near a protected area in Sub-Saharan Africa represent far more than homogenous groups of people driven by vaguely-defined “poverty” into repetitive cycles of forest destruction with its associated negative effects on biodiversity and ecosystem services. Building upon bodies of work generated from feminist political ecologists that spotlight the heterogeneity of local groups as

disaggregated along relevant social cleavages of gender, age, and marital status, I have produced a deeper understanding of the importance of assessing the different ways in which different parts of communities living near protected forest areas are tied to the forests through their livelihoods activities (for a selection of such authors within feminist ecology see : Rocheleau, 1995; Reed, 1997; Schroeder, 1997; Agrawal and Gibson, 1999; Few, 2001; and Bandiaky, 2008, and more specifically regarding heterogeneity Leach, Mearns, and Scoones, 1999). This dissertation highlights the arguments of authors like Goldman (2003;2009;2011), Berkes (1999 and 2000), and Olsson and Folke (2012) regarding the necessity for meaningful exchanges and sharing of information between managers and local peoples for successfully reaching combined biodiversity protection and social development goals.

Speaking as it does to the literature on conservation and development, this case study is a useful source of insights and lessons for other analyses of conservation and development programs. As Reducing Emissions from Deforestation and Forest Degradation (REDD+) and related forest based initiatives begin to take hold, there are likely to be significant conflicts over how to manage forest resources in a manner that maximizes carbon sequestration, carbon payments, and local well-being. This project illustrates the potential risks involved when oversimplified understandings of local livelihoods motivations dominate discussions of natural resource management. Further, it demonstrates the potential loss of legitimacy of resource managers who fail to translate the complex science and motivations behind particular types of interventions in meaningful ways to local communities. This case study concretely demonstrates the sorts of challenging outcomes, including fostering tensions and potentially unrest within

communities, and delegitimizing conservation strategies when incorrect climate predictions blamed on localized actions do not manifest, that can result from such approaches.

The failure of managers at MMFR to successfully engage local communities in meaningful ways throughout their tenure at the reserve has now contributed to a situation where local communities have turned their backs on the internationally supported, relatively well funded conservation organization that was purported to support them. No matter what the motivations of these tensions might be, it is not a symptom of ingratitude or selfish resource exploitation, it is because these communities did not feel themselves to be partners in the conservation efforts. It is unclear what will become of MMCT and what the future holds for the protection of Mt. Mulanje, but it is worth considering how other management programs can avoid similar futures.

BIBLIOGRAPHY

- Abouharb, M. Rodwan, and David Cingranelli. 2007. *Human Rights and Structural Adjustment*. Cambridge University Press. pp. 292
- Adger, W. Neil, Tor A. Benjaminsen, Katrina Brown, and Hanne Svarstad. 2001. "Advancing a Political Ecology of Global Environmental Discourses." *Development and Change* 32 (4): 681–715.
- Agbor, Julius. 2012. "The Economic Challenges Facing Malawi's New President | Brookings Institution." April 19.
<http://www.brookings.edu/research/opinions/2012/04/19-malawi-economic-challenges-agbor>.
- Agrawal, Arun, and Clark C. Gibson. 1999. "Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation." *World Development* 27 (4): 629–649.
- Agrawal, A. and Gibson. 2001. *Communities and the Environment: Ethnicity, Gender and the State in Community-based Conservation*. Rutgers University Press.
- Angelsen, Arild. 2008. *Moving Ahead with REDD: Issues, Options and Implications*. CIFOR
- Babb, Sarah. 2005. "The Social Consequences of Structural Adjustment: Recent Evidence and Current Debates." *Annual Review of Sociology*: 199–222.
- Bandiaky, Solange. 2008. "Gender Inequality in Malidino Biodiversity Community-based Reserve, Senegal: Political Parties and the 'Village Approach'." *Conservation and Society* 6 (1): 62.
- Banerjee, Subhabrata Bobby. 2003. "Who Sustains Whose Development? Sustainable Development and the Reinvention of Nature." *Organization Studies* 24 (1): 143–180

- Barillas, Martin. 2012. "Malawian President Assures Women to Wear Whatever They Want." <http://www.speroforum.com/a/UJTUUEHQYX12/67123-Malawian-president-assures-women-to-wear-whatever-they-want#.UhJVCpKTjX4>.
- Barrientos, Armando. 2007. "Livelihood Strategies for Old Age Income Security." <http://www.sed.man.ac.uk/research/ageingandwellbeing/documents/reports/livelihoodstrategies.pdf>.
- Barrow, Robert J. and Jong-Wha Lee. 2005. IMF Programs: Who is Chosen and What are the Effects?. *Journal of Monetary Economics* 52 (7): 1245-1269
- Bassett, T., 2002. Women's Cotton and the Spaces of Gender Politics in Northern Cote d'Ivoire. *Gender, Place and Culture*, 9(4), pp.351–370.
- Bayliss, Julian, Steve Makungwa, Joy Hecht, David Nangoma, and Carl Bruessow. 2007. "Saving the Island in the Sky: The Plight of the Mount Mulanje Cedar Widdringtonia Whytei in Malawi." *Oryx* 41 (01): 64–69.
- BBC. 2012. "BBC News - Malawian Women Protest over 'Trouser Attacks'." <http://www.bbc.co.uk/news/world-africa-16645594>.
- Bell, Richard HV. 1987. "Conservation with a Human Face: Conflict and Reconciliation in African Land Use Planning." *Conservation in Africa: People, Policies and Practice*: 79–101.
- Berkes, Fikret. 1999. "Role and Significance Of tradition' in Indigenous Knowledge: Focus on Traditional Ecological Knowledge." *Indigenous Knowledge and Development Monitor* 7. <http://agris.fao.org/agris-search/search/display.do?f=2002/NL/NL02009.xml;NL2001004925>.
- Berkes, Fikret. 2004. "Rethinking Community-based Conservation." *Conservation Biology* 18 (3): 621–630.
- Berkes, Fikret. 2006. "From Community-based Resource Management to Complex Systems: The Scale Issue and Marine Commons." *Ecology and Society* 11 (1): 45.
- Berkes, Fikret. 2007. "Community-based Conservation in a Globalized World." *Proceedings of the National Academy of Sciences* 104 (39): 15188–15193.
- Berkes, Fikret, Johan Colding, and Carl Folke. 2000. "Rediscovery of Traditional Ecological Knowledge as Adaptive Management." *Ecological Applications* 10 (5): 1251–1262.
- Bhagwati, Jagdish. 2010. "Banned Aid: Why International Assistance Does Not Alleviate Poverty." *Foreign Aff.* 89: 120.

- Bigombe Logo, P., & Bikie, E.-H. (2003). Women and land in Cameroon: Questioning women's land status and claims for change. In L. M. Wanyeki (Ed.), *Women and land in Africa: Culture, religion and realizing women's rights* (pp. 31–66). London: Zed Books.
- Binggeli, Pierre. 2011. "The Human Dimensions of Invasive Plants in Tropical Africa." *Invasive and Introduced Plants and Animals: Human Perceptions, Attitudes and Approaches to Management*: 201.
- Blom, Benjamin, Terry Sunderland, and Daniel Murdiyarso. 2010. "Getting REDD to Work Locally: Lessons Learned from Integrated Conservation and Development Projects." *Environmental Science & Policy* 13 (2): 164–172.
- Brandon, Katrina, Kent H. Redford, and Steven E. Sanderson. 1998. *Parks in Peril: People, Politics, and Protected Areas*. Island Press.
- Brass, L. J. 1953. *Vegetation of Nyasaland: Report on the Vernay Nyasaland Expedition of 1946*. New York Botanical Garden.
- Broch-Due, Vigdis, and Richard A. Schroeder. 2000. *Producing Nature and Poverty in Africa*. Nordic Africa Inst.
- Brockington, D. and James Igoe. 2006. Eviction for Conservation: A Global Overview. *Conservation and Society*. 4(3): 424-470
- Brockington, Dan and Katherine Scholfield. 2010. The work of conservation organizations in Sub-Saharan Africa. *The Journal of Modern African Studies*. 48: 1-33
- Brockington, D., J. Igoe, and K. Schmidt-Soltan. 2006. Conservation, Human Rights, and Poverty Reduction. *Conservation Biology*. 20 (1): 250-252.
- Brockington, Dan, and Katherine Scholfield. 2010. "The Conservationist Mode of Production and Conservation NGOs in sub-Saharan Africa." *Antipode* 42 (3): 551–575.
- Brosius, J. Peter, Anna Lowenhaupt Tsing, and Charles Zerner. 2005. *Communities and Conservation: Histories and Politics of Community-based Natural Resource Management*. Vol. 3. Rowman Altamira.
- Bunda College of Agriculture Forestry and Horticulture Department. 2010. Mt. Mulanje Mbi+Lise Project Baseline Survey Report. Commissioned by Concern Universal, Mulanje Mountain Conservation Trust, and Wildlife Environment Society of Malawi. pp 55
- Cameron, Jenny, and Katherine Gibson. 2005. "Participatory Action Research in a Poststructuralist Vein." *Geoforum* 36 (3): 315–331.

- Caney, Simon. 2005. "Cosmopolitan Justice, Responsibility, and Global Climate Change." *Leiden Journal of International Law* 18 (4): 747–775.
- Carr, Edward R. 2008. "Men's Crops and Women's Crops: The Importance of Gender to the Understanding of Agricultural and Development Outcomes in Ghana's Central Region." *World Development* 36 (5): 900–915.
- Carr, E. and M. Thompson. Forthcoming. Gender and Climate Change Adaptation in Agrarian Settings: Current thinking, new directions, and research frontiers. *Geography Compass*.
- Cernea, M. and K. Schmidt-Soltau. 2003a. The end of forcible displacements? Conservation must not impoverish people. *Policy Matters*. 12: 42-51.
- Cernea, M. and K. Schmidt-Soltau. 2003b. Biodiversity conservation versus population resettlement: risks to nature and risks to people. Paper presented to the International Conference on Rural Livelihoods, Forests and Biodiversity. May 19-23, Bonn, Germany: 1-32.
- Cernea, M. and K. Schmidt-Soltau. 2003c. National Parks and Poverty Risks: Is population resettlement the solution? Paper presented to the World Parks Congress Durban, South Africa: 1-34.
- Chambers, Robert. 1983. "People and Common Property Resources in Land." <http://opendocs.ids.ac.uk/opendocs/handle/123456789/318>.
- Chambers, Robert. 1997. *Whose Reality Counts?: Putting the First Last*. Intermediate Technology Publications Ltd (ITP). <http://www.cabdirect.org/abstracts/19971801093.html>.
- Chambers, Robert. 2008. *Revolutions in Development Inquiry*. Earthscan. pp. 257
- Chapman, J.D. (1962). The vegetation of Mlanje Mountains, Nyasaland. Government Printer, Zomba, Malawi.
- Chapman, J. D., J. H. Seyani, and A. C. Chikuni. 1991. "The Mulanje Mountain in Malawi—a World Heritage Resource Worth Conserving." In *XIIIth AETFAT Congress, Zomba, Malawi*.
- Chiotha, Sosten, and Dennis Kayambazinthu. 2013. "Potential Payment for Ecosystem Service (PES) in Malawi: Report Prepared With Support from Eastern and Southern Africa Katoomba Network." <http://41.87.6.35:8080/xmlui/handle/123456789/651>.

- Christie, Sean Hunter. "The Cedar Woodsmen of Mount Mulanje / Sean Hunter Christie." <http://www.seanchristie.co.za/articles/the-cedar-woodsmen-of-mount-mulanje/>.
- CI (Conservation International). 2010a. Critical Ecosystem Partnership Fund. Main page. <http://www.cepf.net>. First accessed: July 10, 2010.
- CI (Conservation International). 2010b. Critical Ecosystem Partnership Fund. About CEPF. http://www.cepf.net/about_cepf/Pages/default.aspx . First accessed: July 10, 2010.
- CI (Conservation International). 2010c. Conservation International: Our Mission. http://www.conservation.org/discover/mission_strategy/Pages/mission.aspx . First accessed: July 11, 2010.
- Clean Water Act. 1972. Federal Water Pollution Control Act. <http://epw.senate.gov/water.pdf> . First accessed: July 5, 2010.
- Clean Air Act. 1963;1970. The Clean Air Act. <http://epw.senate.gov/envlaws/cleanair.pdf>. First accessed: July 5, 2010.
- Conservation International, CI. 2013. "Key Successes - Conservation International." <http://www.conservation.org/learn/culture/communities/pages/successes.aspx>.
- Conz, Brian W. 2008. "(Re)-territorializing the Maya Commons: Conservation Complexities in Highland Guatemala." <http://scholarworks.umass.edu/dissertations/AAI3337021/>.
- Cooke, Bill, and Uma Kothari. 2001. *Participation: The New Tyranny?* Zed Books.
- Cordina, John. 2013. "EU Health Ministers Reach Agreement on Tobacco Directive - The Malta Independent." August 19. <http://www.independent.com.mt/articles/2013-06-21/news/health-ministers-reach-agreement-on-tobacco-directive-1881243648/>.
- Devereux, S B Baulch A Phiri and R Sabates-Wheeler. 2006. Vulnerability to Chronic Poverty and Malnutrition in Malawi. A Report for DFID Malawi: Lilongwe, Malawi.
- Doss, Cheryl R. 2001. "Designing Agricultural Technology for African Women Farmers: Lessons from 25 Years of Experience." *World Development* 29 (12): 2075–2092.
- Dowsett-Lemaire, F. 1988. "The Forest Vegetation of Mt Mulanje (Malawi): a Floristic and Chorological Study Along an Altitudinal Gradient (650-1950 M)." *Bulletin Du Jardin Botanique National de Belgique/Bulletin van de Nationale Plantentuin van Belgie*: 77–107.

- Dowsett- Lemaire, F. 1990. "The Flora and Phytogeography of the Evergreen Forests of Malawi. II: Lowland Forests." *Bulletin Du Jardin Botanique National de Belgique/Bulletin van de Nationale Plantentuin van België*: 9–71.
- Easterly, William. 2005. "What Did Structural Adjustment Adjust?: The Association of Policies and Growth with Repeated IMF and World Bank Adjustment Loans." *Journal of Development Economics* 76 (1): 1–22.
- Easterly, William . 2006. *The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done so Much Ill and so Little Good*. Penguin. pp. 436
- Endangered Species Act. 1973. The Endangered Species Act of 1973.
<http://www.nmfs.noaa.gov/pr/pdfs/laws/esa.pdf>. First accessed: July 3, 2010
- EPA (Environmental Protection Agency). 2010. Carbon Sequestration in Agriculture and Forestry. <http://www.epa.gov/sequestration/faq.html>. First accessed: July 3, 2010.
- Escobar, Arturo. 2011. *Encountering Development: The Making and Unmaking of the Third World (New in Paper)*. Princeton University Press. pp. 290
- Esteva, G. and M.S. Prakash. 1992. Grassroots Resistance to Sustainable Development: Lessons from the Banks of the Narmada. *The Ecologist*. 22(2):45-51.
- Esteva, G. and M.S. Prakash. 1998. *Grassroots Post-modernism: remaking the soil of cultures*. Palgrave MacMillan. New York, New York: 223pp.
- FAO. 2000. "FAO - AFWC-2000." <http://www.fao.org/docrep/meeting/x4310e.htm>.
- FAO (Food and Agriculture Organization of the United Nations). 2010. Global Forest Resources Assessment. <http://www.fao.org/forestry/fra/fra2010/en/>. First accessed: July 3, 2010.
- FAO. 2012a. "5 TOBACCO IN MALAWI."
<http://www.fao.org/docrep/006/y4997e/y4997e0i.htm>.
- FAO. 2012b. "Forests and the Forestry Sector: Malawi."
<http://www.fao.org/forestry/country/57478/en/mwi/>.
- FCPF. 2013. "About Us | The Forest Carbon Partnership Facility."
<http://www.forestcarbonpartnership.org/about-us>.
- Fisher, Monica. 2004. "Household Welfare and Forest Dependence in Southern Malawi." *Environment and Development Economics* 9 (2): 135–154.

- Fisher, Monica, Moushumi Chaudhury, and Brent McCusker. 2010. "Do Forests Help Rural Households Adapt to Climate Variability? Evidence from Southern Malawi." *World Development* 38 (9): 1241–1250.
- Forsyth, Tim. 2008. "Political Ecology and the Epistemology of Social Justice." *Geoforum* 39 (2): 756–764.
- Gardiner, Stephen M. 2011. *A Perfect Moral Storm: The Ethical Tragedy of Climate Change*. Oxford University Press.
- Gardiner, Stephen Mark, Simon Caney, Dale Jamieson, Henry Shue, and Rajendra Kumar Pachauri. 2010. *Climate Ethics: Essential Readings*. Oxford University Press Oxford. <http://library.wur.nl/WebQuery/clc/1967983>.
- GEF (the Global Environment Facility). 2010. The Global Environment Facility: What is the GEF? <http://www.thegef.org/gef/whatisgef> . First accessed: July 11, 2010.
- Geist, Helmut, J. Kapito, and M. Otañez. 2008. "The Tobacco Industry in Malawi: a Globalized Driver of Local Land Change." *Land Change Modifications in the Developing World*. Berlin, Germany: Springer: 251–68.
- George, Susan. 1988. *A Fate Worse Than Debt*. Grove Press New York. pp. 300
<http://www.tni.org/archives/know/275>.
- Ghimire, Kléber Bertrand, Krishna B. Ghimire, and Michael P. Pimbert. 1997. *Social Change and Conservation: Environmental Politics and Impacts of National Parks and Protected Areas*. Earthscan. pp. 342
- Ghimire, Krishna B., and Michael P. Pimbert. 1997. "Social Change and Conservation: An Overview of Issues and Concepts." *Social Change and Conservation: Environmental Politics and Impacts of National Parks and Protected Areas*: 1–45.
- Gibbon, Peter. 1992. "A Failed Agenda? African Agriculture Under Structural Adjustment with Special Reference to Kenya and Ghana." *The Journal of Peasant Studies* 20 (1): 50–96.
- Glaser, B. and Strauss. 1967. "The Discovery of Grounded Theory: Strategies for Qualitative Research." *London: Wiedenfeld and Nicholson* pp. 271
- Goheen, M. (1991). The ideology and political economy of gender: Women and land in Nso, Cameroon. In C.H. Gladwin (Ed.), *Structural adjustment and African Women farmers* (pp. 239–256). Gainesville: University of Florida Press.

- Gold Canyon. 2011. "Gold Canyon Resources Inc. - News Releases - Gold Canyon Announces Expansion Of Joint Exploration Agreement With Japan Oil, Gas And Metals National Corporation (Jogmec) For Rare Earth Elements In Malawi - Mon Aug 19, 2013." September.
http://www.goldcanyon.ca/s/News_Releases.asp?ReportID=477750.
- Goldman, Mara. 2003. "Partitioned Nature, Privileged Knowledge: Community-based Conservation in Tanzania." *Development and Change* 34 (5): 833–862.
- Goldman, Mara. 2009. "Constructing Connectivity: Conservation Corridors and Conservation Politics in East African Rangelands." *Annals of the Association of American Geographers* 99 (2): 335–359.
- Goldman, Mara. 2011. "Strangers in Their Own Land: Maasai and Wildlife Conservation in Northern Tanzania." *Conservation and Society* 9 (1): 65.
- Goldsmith, A.A., 2001. Donors, dictators and democrats in Africa. *The Journal of Modern African Studies*. 39 (3): 411-436.
- Government of Malawi. 2012. 2012 Global AIDS Response Progress Report: Malawi Country Report for 2010 and 2011.
[http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/ce_MW_Narrative_Report\[1\].pdf](http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/ce_MW_Narrative_Report[1].pdf) First accessed: June 2013
- Grigsby, W. J. (2004). The gendered nature of subsistence and its effect on customary land tenure. *Society and Natural Resources*, 17, 207–222.
- Grove, Richard H., and John M. MacKenzie. 1990. *Colonial Conservation, Ecological Hegemony and Popular Resistance: Towards a Global Synthesis*. Manchester University Press. <http://indianmedicine.eldoc.ub.rug.nl/root/G3/367g/>.
- Grubb, Michael. 1995. "Seeking Fair Weather: Ethics and the International Debate on Climate Change." *International Affairs (Royal Institute of International Affairs 1944-)*: 463–496.
- Guest, Greg, Arwen Bunce, and Laura Johnson. 2006. "How Many Interviews Are Enough? An Experiment with Data Saturation and Variability." *Field Methods* 18 (1): 59–82.
- Hackel, Jeffrey D. 1999. "Community Conservation and the Future of Africa's Wildlife." *Conservation Biology* 13 (4): 726–734.
- Haines, Aubrey L. 1974. *Yellowstone National Park: Its Exploration and Establishment*. US National Park Service. <http://www.getcited.org/pub/101472941>.

- Hart, S.L., 1997. Beyond Greening: Strategies for a Sustainable World. *Harvard Business Review*. 75 (1): 67-76.
- Hecht, Joy E. 2008. "When Will Community Management Conserve Biodiversity? Evidence from Malawi." *Field Actions Science Reports. The Journal of Field Actions* 1: 9–17.
- Hogg, Dominic. 1993. "The SAP in the Forest: The Environmental and Social Impacts of Structural Adjustment Programmes in the Philippines, Ghana and Guyana." *pp. 165*
- Holmes, Tim, and Ian Scoones. 2001. "Participatory Environmental Policy Processes: Experiences from North and South." *PLA Notes* 40: 76–8.
- IFPRI (International Food Policy Research Institute). 2011. Malawi Strategy Support Program: Poverty in Malawi: Current status and knowledge gaps. <http://www.moafsmw.org/ocean/docs/Research/masspn9-CurrentStatusOfPoverty.pdf> First accessed: June 2013
- International Encyclopedia of the Social Sciences. 2008. "Structural Adjustment Facts, Information, Pictures | Encyclopedia.com Articles About Structural Adjustment." http://www.encyclopedia.com/topic/Structural_Adjustment.aspx.
- International Fund for Agricultural Development (IFAD). 1999. "The Issue of Poverty Among Female-headed Households in Africa." <http://www.ifad.org/gender/learning/challenges/women/60.htm>.
- IRI Data Library. 2009. Rainfall trends in the Mulanje district since 1901. Mean WCRP GCOS GPCC FDP version 6 0p5. (As found in Carr and Thompson, In Press)
- Jackson, C. (1998). Rescuing gender from the poverty trap. In C. Jackson, & R. Pearson (Eds.), *Feminist visions of development: Gender analysis and policy* (pp. 39–64). London: Routledge.
- JIMAT Development Consultants, 2009. Mid-Term Review of Mkhumba Boundaries Communities Livelihoods Improvement Project. Final Report. Commissioned by Concern Universal, Mulanje Mountain Conservation Trust, and Wildlife Environment Society of Malawi. pp 57
- Kadale Consultants, 2005. Honey Sub-Sector Initial Report. Commissioned by USAID COMPASS II program. pp. 41
- Kalinga, Owen JM. 2012. *Historical Dictionary of Malawi*. Rowman & Littlefield. pp.567

- Kambewa, Patrick B. Mataya, K. Sichinga, and T. Johnson. 2007. *Charcoal—the Reality: A Study of Charcoal Consumption, Trade and Production in Malawi*. 21. Iied. pp. 60
- Kamoto, J. F., P. T. Dorward, and D. D. Shepherd. 2008. “Decentralised Governance of Forest Resources: Analysing Devolution Policy Processes and Their Effects on Decision Making in Communal Forest Management in Malawi.”
- Kandioti, D. (1998). Gender, power and contestation: ‘Rethinking bargaining with patriarchy’. In C. Jackson, & R. Pearson (Eds.), *Feminist visions of development: Gender analysis and policy* (pp. 135–151). London: Routledge.
- Kavalski, Emilian, and Magdalena Żółkoś. 2008. *Defunct Federalisms: Critical Perspectives on Federal Failure*. Ashgate Publishing. pp. 206
- Kelsall, Tim, and Claire Mercer. 2003. “Empowering People? World Vision & ‘transformatory Development’ in Tanzania.” *Review of African Political Economy* 30 (96): 293–304.
- Kraus, J. (1991). The political economy of stabilization and structural adjustment in Ghana. In D. Rothchild (Ed.), *Ghana: The political economy of recovery*. London: Lynne Rienner
- Lane, Marcus B., and Geoff McDonald. 2005. “Community-based Environmental Planning: Operational Dilemmas, Planning Principles and Possible Remedies.” *Journal of Environmental Planning and Management* 48 (5): 709–731.
- Lang, C., 2010. Civil Society and Indigenous Peoples’ Statement on Paris-Oslo Process. REDD-Monitor website. Last accessed: May 15, 2010. <http://www.redd-monitor.org/2010/04/12/civil-society-and-indigenous-peoples-statement-on-paris-oslo-process/>
- Lawson, V. (1995). The politics of difference – Examining the quantitative qualitative dualism in poststructuralist feminist research. *Professional Geographer*, 47(4), 449–457.
- Leach, M. and R. Mearns. 1996. *The Lie of the Land: Challenging Received Wisdom on the African Environment (African Issues Series)*. Heinemann: pp.240
- Leach, Melissa, Robin Mearns, and Ian Scoones. 1999. “Environmental Entitlements: Dynamics and Institutions in Community-based Natural Resource Management.” *World Development* 27 (2): 225–247.
- Lewis, S. et. al. 2009. Increasing Carbon Storage in Intact African Tropical Forests. *Nature*. 457:1003–6.

- Likhubula Community Facebook Page. 2013. Post concerning mining on Mt. Mulanje. First Accessed: August 13, 2013.
- Lloyd-Sherlock, Peter. 2000. "Old Age and Poverty in Developing Countries: New Policy Challenges." *World Development* 28 (12): 2157–2168.
- Luttrell, Cecilia, Krystof Obidzinski, Maria Brockhaus, Efrian Muharrom, Elena Petkova, Andrew Wardell, and J. Halperin. 2011. *Lessons for REDD+ from Measures to Control Illegal Logging in Indonesia*. CIFOR.
- Malawi Department of Climate Change and Meteorological Services (MET). 2010. Agrometeorological Update for second round 2009/2010 Agricultural Production Estimates. pp. 4
- Malawi Department of Forestry. 1996. National Forest Policy of Malawi. <http://www.malawi.gov.mw/Mines/Forestry/National%20Forest%20Policy%20of%20Malawi,%201996.pdf>. First accessed: June 10, 2010.
- Maloya, Hastings. 2010. "Hastings Maloya: New Project Launched to Improve Ecological Status of Mt Mulanje." November 17. <http://hastingsmaloya.blogspot.com/2010/11/new-project-launched-to-improve.html>.
- Mason, Nicole M., and Jacob Ricker-Gilbert. 2012. "Disrupting Demand for Commercial Seed: Input Subsidies in Malawi and Zambia." *World Development*.
- Mauambeta, D. 2008. "Commercialisation of NTFPs in Malawi." *New Crops and Uses: Their Role in a Rapidly Changing World*: 413.
- Mauambeta, D., and R. Kafakoma. 2010. "Community Based Natural Resource Management: Stocktaking Assessment." *Malawi Profile*. USAID, Washington.
- McCann, James. 1999. *Green Land, Brown Land, Black Land: An Environmental History of Africa, 1800-1990*. Heinemann Portsmouth, NH. pp. 201
- McCracken, John. 2012. *A History of Malawi: 1859-1966*. Boydell & Brewer Ltd. pp. 485
- McKenna, Amy. 2011. *The History of Southern Africa*. Encyclopaedia Britannica. pp. 220
- McShane, Thomas O., Paul D. Hirsch, Tran Chi Trung, Alexander N. Songorwa, Ann Kinzig, Bruno Monteferri, David Mutekanga, Hoang Van Thang, Juan Luis Dammert, and Manuel Pulgar-Vidal. 2011. "Hard Choices: Making Trade-offs Between Biodiversity Conservation and Human Well-being." *Biological Conservation* 144 (3): 966–972.

- McSweeney, C., New, M., & Lizcano, G. (2008). UNDP climate change country profiles: Malawi. <<http://country-profiles.geog.ox.ac.uk>>. First accessed April, 2013
- McSweeney, K. 2003. Tropical Forests as Safety Nets? The relative importance of forest product sale as smallholder insurance, Eastern Honduras. Paper presented at the International Conference on Rural Livelihoods, Forests, and Biodiversity. 19-23 May. Bonn, Germany
- Menon, R. 2007. Famine in Malawi: Causes and Consequences- UNDP Human Development Report 2007/2008 Occasional Paper. pp. 14
- Mercenier, Jean, and M. Sampaio De Souza. 1994. "Structural Adjustment and Growth in a Highly Indebted Market Economy: Brazil." 1994). *Op. Cit*: 281–310.
- Miles, Tom. 2013. "EU's Planned Tobacco Curbs Break WTO Rules, Malawi Says | Reuters." March 15. <http://www.reuters.com/article/2013/03/15/us-eu-tobacco-wto-idUSBRE92E0VG20130315>.
- Millennium Ecosystem Assessment. 2005. Global Assessment Reports: Volume 1. Island Press.
- Mining In Malawi. 2013. "Court Injunction Stops Spring Stone Prospecting for Rare Earths on Malawi's Mount Mulanje | Mining in Malawi." <http://mininginmalawi.com/2013/02/01/court-injunction-stops-spring-stone-prospecting-for-rare-earths-on-malawis-mount-mulanje/>.
- Mkandawire, P. Thandika. 1999. *Our Continent, Our Future: African Perspectives on Structural Adjustment*. Idrc. pp. 176
- Mkhumba Boundaries Communities Livelihoods Improvement Project End of Project Evaluation. 2010. Commissioned by Concern Universal, Mulanje Mountain Conservation Trust, and Wildlife Environment Society of Malawi. pp 61
- Morris, Brian. 2001. "Wildlife Conservation in Malawi." *Environment and History*: 357–372.
- Morse, Janice M. 2004. "Constructing Qualitatively Derived Theory: Concept Construction and Concept Typologies." *Qualitative Health Research* 14 (10): 1387–1395.
- Moser, Susanne C., and Maxwell T. Boykoff. 2013. *Successful Adaptation to Climate Change: Linking Science and Policy in a Rapidly Changing World*. Routledge. pp. 360

- Mosse, David, Bill Cooke, and Uma Kothari. 2001. *"People's Knowledge", Participation and Patronage: Operations and Representations in Rural Development*. Zed Books. pp. 20
- Mpepo and Seshamani. 2005. Zambia's PRSP process: from exclusion to inclusion, confrontation to cooperation? In IIED (2005) *Participatory and Action: Civil society and poverty reduction*. 59-63
- Munthali, 2007. The Honey Industry in Malawi. *Bees for Development Journal*. 84 p. 8
- Munthali, 2011. Bee Products Sector Assessment for Mobi+Lise Project. pp. 72
- Nangoma, David, and Everhart Nangoma. 2013. "Climate Change and Adaptation Strategies: a Case Study of the Mulanje Mountain Forest Reserve and Its Surroundings." <http://www.ndr.mw:8080/xmlui/handle/123456789/641>.
- National Statistics Office of Malawi. 2008. "GeoHive - Malawi Population Statistics." *Malawi Population Statistics*. <http://www.geohive.com/cntry/malawi.aspx>.
- Nelson, V. & Stathers, T., 2009. Resilience, power, culture, and climate: a case study from semi-arid Tanzania, and new research directions. *Gender & Development*, 17(1), pp.81–94.
- Neumann, R. P.1992. The Social Origins of Natural Resource Conflict in Arusha National Park, Tanzania. PhD Dissertation. University of California, Berkeley.
- Neumann, R. P.1995. Ways of Seeing Africa: Colonial Recasting of African Society and Landscape in Serengeti National Park. *Ecumene* 2 (2):149-169.
- Neumann, R. P. 2003. The Production of Nature, Colonial Recasting of the African Landscape in Serengeti National Park. Chapter 12 in: Zimmerer and Bassett. 2003. *Political Ecology: An Integrative Approach to Geography and Environment-Development Studies*. The Guilford Press. New York, London: 310pp.
- Newling, Dan. 2011. "High Commissioner to Malawi Could Be Expelled for Criticising President - Telegraph." April 19. <http://www.telegraph.co.uk/news/worldnews/africaandindianocean/malawi/8461304/High-Commissioner-to-Malawi-could-be-expelled-for-criticising-president.html>.
- Nielsen, J.Ø. & Reenberg, A., 2010. Cultural barriers to climate change adaptation: A case study from Northern Burkina Faso. *Global Environmental Change*, 20(1), pp.142–152.

- NPS (National Park Service). 2007. Yellowstone National Park- History and Culture. <http://www.nps.gov/yell/historyculture/index.htm>. First accessed: July 7, 2010.
- NPS (National Park Service). 2010. National Park Service-About Us. <http://www.nps.gov/aboutus>. First accessed: July 7, 2010.
- Olsson, Per, Carl Folke, and Fikret Berkes. 2004. "Adaptive Comanagement for Building Resilience in Social–ecological Systems." *Environmental Management* 34 (1): 75–90.
- Onta, N. & Resurreccion, B.P., 2011. The Role of Gender and Caste in Climate Adaptation Strategies in Nepal. *Mountain Research and Development*, 31(4), pp.351–356.
- Owusu, H.1998. Current Convenience, Desperate Deforestation: Ghana's adjustment program and the forestry sector. *The Professional Geographer*. 50 (4): 418-436.
- Owusu, Kwesi, and Francis Ng'ambi. 2002. "Structural Damage: The Causes and Consequences of Malawi's Food Crisis." <http://agris.fao.org/agris-search/search/display.do?f=2013/GB/GB2013202800028.xml;GB2013202812>.
- Pankhurst, D. (1991). Constraints and incentives in successful Zimbabwean peasant agriculture –The interaction between gender and class. *Journal of Southern African Studies*, 17(4), 611–632.
- Pearson, R., & Jackson, C. (1998). Introduction: Interrogating development: Feminism, gender and policy. In C. Jackson, & R. Pearson (Eds.), *Feminist visions of development: Gender analysis and policy* (pp. 1–16). London: Routledge
- Peet, Richard. 2003. *Unholy Trinity: The IMF, World Bank, and the WTO*. Zed Books. pp. 250
- Peet, Richard, and Michael Watts. 2002. *Liberation Ecologies: Environment, Development and Social Movements*. Routledge. pp. 464
- Phelps, Jacob, Edward L. Webb, and Arun Agrawal. 2010. "Does REDD+ Threaten to Recentralize Forest Governance." *Science* 328 (5976): 312–313.
- PRB (Population Reference Bureau), 2012. Malawi Population Data Sheet. <http://www.prb.org/pdf12/malawi-datasheet-2012.pdf> First accessed: May 29, 2013
- Prendergast, David K., and William M. Adams. 2003. "Colonial Wildlife Conservation and the Origins of the Society for the Preservation of the Wild Fauna of the Empire (1903-1914)." *Oryx* 37 (2): 251–260.

- Pretty, Jules N., and Michel P. Pimbert. 1995. "Beyond Conservation Ideology and the Wilderness." In *Natural Resources Forum*, 19:5–14.
- Przeworski, Adam, and James Raymond Vreeland. 2000. "The Effect of IMF Programs on Economic Growth." *Journal of Development Economics* 62 (2): 385–421.
- Razavi, Shahrashoub, and Carol Miller. 1995. *From WID to GAD: Conceptual Shifts in the Women and Development Discourse*. Vol. 1. United Nations Research Institute for Social Development Geneva.
- Redford, Kent H., and Steven E. Sanderson. 2000. "Extracting Humans from Nature." *Conservation Biology* 14 (5): 1362–1364.
- Resor, J.P., 1997. Debt-for-Nature swaps: a decade of experience and new directions for the future. *Unasylva*. 188: 1-10.
- Ribot, Jesse C. 1999. "Decentralisation, Participation and Accountability in Sahelian Forestry: Legal Instruments of Political-administrative Control." *Africa*: 23–65.
- Richards, Paul. 1995. "Participatory Rural Appraisal: a Quick and Dirty Critique." *PLA Notes*: 13–16.
- Robbins, Paul. 2011. *Political Ecology: A Critical Introduction*. Vol. 16. Wiley. com. pp. 296
- Rocheleau, Dianne. 1995. Maps, Numbers, Text, and context: Mixing Methods in Feminist Political Ecology. *Professional Geographer*. 47 (4) 458-466
- Rocheleau, Dianne, and David Edmunds. 1997. "Women, Men and Trees: Gender, Power and Property in Forest and Agrarian Landscapes." *World Development* 25 (8): 1351–1371.
- Rostow, Walt Whitman. 1990. *The Stages of Economic Growth: A Non-communist Manifesto*. Cambridge University Press. pp. 272
- Salafsky, Nick. 2011. "Integrating Development with Conservation: A Means to a Conservation End, or a Mean End to Conservation?" *Biological Conservation* 144 (3): 973–978.
- Sanderson, Steven, and Kent Redford. 2004. "The Defence of Conservation Is Not an Attack on the Poor." *Oryx* 38 (02): 146–147.

- Schroeder, Richard. 1997. "Re-claiming" Land in The Gambia: Gendered Property Rights and Environmental Intervention. *Annals of the Association of American Geographers*. 87 (3): 487-508
- Shiva, Vandana. 1991. "Ecology and the Politics of Survival: Conflicts over Natural Resources in India." *Ecology and the Politics of Survival: Conflicts over Natural Resources in India*. pp. 365
- Shiverenje, Hudson. 2005. "What Happened to the PRSP in Kenya? The Role of Politics." *PLA Notes* 51: 27–31.
- Southworth, Jane, Joel Hartter, Michael W. Binford, Abraham Goldman, Colin A. Chapman, Lauren J. Chapman, Patrick Omeja, and Elizabeth Binford. 2010. "Parks, People and Pixels: Evaluating Landscape Effects of an East African National Park on Its Surroundings." *Tropical Conservation Science* 3 (2): 122–142.
- Southworth, Jane, Harini Nagendra, and D. K. Munroe. 2006. "Introduction to the Special Issue: Are Parks Working? Exploring Human–environment Tradeoffs in Protected Area Conservation." *Applied Geography* 26 (2): 87–95.
- Strugnell, Alison M. 2002. "Endemics of Mt. Mulanje. The Endemic Spermatophytes of Mt. Mulanje, Malawi." *Systematics and Geography of Plants*: 11–26.
- Sundberg, J., 2003. Strategies for Authenticity and Space in the Maya Biosphere Reserve, Petén, Guatemala. Chapter 3 in: Zimmerer and Bassett. 2003. *Political Ecology: An Integrative Approach to Geography and Environment-Development Studies*. The Guilford Press. New York, London: 310pp.
- Tauli-Corpuz, V., et al. 2009. Indigenous Peoples' International Centre for Policy Research and Education (Tebtebba) : Guide on Climate Change and Indigenous Peoples Second Addition. 1-208
- Thiele, Rainer. 2003. "The Social Impact of Structural Adjustment in Bolivia." *Journal of International Development* 15 (3): 299–319.
- Thompson, M.C., 2008. Conservation, Eviction, and Identity in Ghana's Digya National Park. Unpublished Master's Thesis. University of South Carolina.
- Thompson, Mary C., Manali Baruah, and Edward R. Carr. 2011. "Seeing REDD+ as a Project of Environmental Governance." *Environmental Science & Policy* 14 (2): 100–110.

- Toye, J. (1991), “A case study of Ghana: In Paul Moseley, Jane Harrigan and John Toye eds; Aid and Power”. The World Bank and Policy-based lending in the 1980s, vol 2, New York, Routledge
- TNC (The Nature Conservancy). 2010. How Debt-for-Nature swaps protect tropical forests.
<http://www.nature.org/wherewework/centralamerica/tropicalforests/news/news2113.html>. First accessed: July 17, 2010.
- Tran, Mark. 2011. “Britain Suspends Aid to Malawi | Global Development | Theguardian.com.” July 14. <http://www.theguardian.com/global-development/2011/jul/14/britain-suspends-aid-to-malawi>.
- Twyman, Chasca. 2000. “Participatory Conservation? Community-based Natural Resource Management in Botswana.” *The Geographical Journal* 166 (4): 323–335.
- UNAIDS. 2011. “Malawi.”
<http://www.unaids.org/en/regionscountries/countries/malawi/>.
- UNDP. 2013. “India - Community-based Natural Resource Management Pays Dividends | UNDP.”
http://www.undp.org/content/undp/en/home/ourwork/environmentandenergy/focus_areas/ecosystems_and_biodiversity/projects/india---community-based-natural-resource-management-pays-dividen/.
- UNESCO. 2013 a. “Malawi Slave Routes and Dr. David Livingstone Trail - UNESCO World Heritage Centre.” <http://whc.unesco.org/en/tentativelists/5603/>.
- UNESCO. 2013 b. “Mulanje Mountain Biosphere Reserve - UNESCO World Heritage Centre.” <http://whc.unesco.org/en/tentativelists/1419/>.
- United Nations. 1987. Report of the World Commission on Environment and Development: Our Common Future. <http://www.un-documents.net/wced-ocf.htm>. First accessed: July 11, 2010.
- UN Malawi. 2010. United Nations Malawi- Discovering Malawi.
http://www.unmalawi.org/on_mal_discover.html. First accessed: June 29, 2010.
- USAID (the United States Agency for International Development). 2010. REDD Credits boost community partnerships for biodiversity conservation in Malawi.
<http://www.rmportal.net/library/content/tools/compass-ii/redd-credits-boost-community-partnerships-for-biodiversity-conservation-in-malawi>. First accessed: July 14, 2010.

- USAID Famine Early Warning Systems Network (FEWS NET). 2013. Malawi Food Security Outlook July to December 2013. pp. 9
- USFS (United States Forest Service). 2010a. Shoshone National Forest page. <http://www.fs.fed.us/r2/shoshone/>. First accessed: July 3, 2010.
- USFS (United States Forest Service). 2010b. US Forest Service- About us. <http://www.fs.fed.us/aboutus/>. First accessed: July 3, 2010.
- UN-REDD. 2009. The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries. <http://www.un-redd.org/>. First accessed: March 11, 2010.
- Walker, Peter A. 2004. "Roots of Crisis: Historical Narratives of Tree Planting in Malawi." *Historical Geography* 32: 89–109.
- Walker, Peter A. 2005. "Political Ecology: Where Is the Ecology." *Progress in Human Geography* 29 (1): 73–82.
- Wangari, E., Thomas-Slayter, B., & Rocheleau, D. (1996). Gendered visions for survival: Semi-arid regions in Kenya. In D. Rocheleau, B. ThomasSlayter, & E. Wangari (Eds.), *Feminist political ecology: Global issues and local experiences* (pp. 127–154). New York: Routledge
- Warner, M.W. & Kydd, J.G., 1997. Beyond Gender Roles? Conceptualizing the Social and Economic Lives of Rural Peoples in Sub-Saharan Africa. *Development and Change*, 28(1993), pp.143–168.
- Water and Development Alliance. 2010. USAID Malawi- Global Development Alliance: Mount Mulanje Community Watershed Partnership Project. http://pdf.usaid.gov/pdf_docs/PDACH867.pdf. First accessed: July 12, 2010.
- WHO (World Health Organization). 2010. World Health Organization Structural Adjustment Programs. <http://www.who.int/trade/glossary/story084/en/index.html>. First accessed: July 15, 2010.
- Wildlife Conservation Society (WCS) . 2013 a. "Community-based Conservation – Wildlife Conservation Society - Wildlife Conservation Society." <http://www.wcs.org/conservation-challenges/local-livelihoods/community-based-conservation.aspx>.
- Wildlife Conservation Society (WCS) . 2013 b. "Zambia: Poachers-turned-Protectors – Wildlife Conservation Society - Wildlife Conservation Society." <http://www.wcs.org/conservation-challenges/local-livelihoods/community-based-conservation/poachers-turned-protectors-in-zambia.aspx>.

- Williams, Gavin. 1994. "Why Structural Adjustment Is Necessary and Why It Doesn't Work." <http://www.tandfonline.com/doi/pdf/10.1080/03056249408704057>.
- Wisborg, Poul, and Charles Jumbe. 2010. "Mulanje Mountain Biodiversity Conservation Project: Mid-term Review for the Norwegian Government." *Noragric Report*. <http://agris.fao.org/agris-search/search/display.do?f=2012/NO/NO201200001955.xml;NO2010282146>.
- World Bank. 2009. Implementation Completion and Results Report (TF-28898). Environment and Natural Resources Management Unit. Country Department 2. Africa Region. pp. 63
- World Bank. 2012. "Malawi Overview." <http://www.worldbank.org/en/country/malawi/overview>.
- WWF. 2001. "Southern Africa: Southern Malawi into Mozambique | Ecoregions | WWF." *Southern Africa: Southern Malawi into Mozambique*. <http://worldwildlife.org/ecoregions/at1014>.
- WWF. 2010a. Conservation Finance- Delivering sustainable financing for the planet. <http://www.worldwildlife.org/what/howwedoit/conservationfinance/index.html>. First accessed: July 13, 2010.
- WWF. 2010b. Conservation Finance- Conservation Trust Funds. <http://www.worldwildlife.org/what/howwedoit/conservationfinance/conservationtrustfunds.html>. First accessed: July 13, 2010.
- WWF. 2010c. Conservation Finance- Debt-for-Nature Swaps. <http://www.worldwildlife.org/what/howwedoit/conservationfinance/debtfornature swaps.html>. First accessed: July 13, 2010.
- WWF. 2010d. Who we are- Vision. <http://www.worldwildlife.org/who/Vision/index.html>. First Accessed: July 13, 2010.
- Zacharie, Arnaud. 2002. "CADTM - Famine in Malawi Exposes IMF Negligence." <http://cadtm.org/Famine-in-Malawi-Exposes-IMF>.
- Zimmerer, K.S. and T. J. Bassett. 2003. *Political Ecology: An Integrative Approach to Geography and Environment-Development Studies*. The Guilford Press. New York, London: pp. 310
- Zimmerer, Karl S. 2004. "Cultural Ecology: Placing Households in Human-environment Studies-the Cases of Tropical Forest Transitions and Agrobiodiversity Change." *Progress in Human Geography* 28 (6): 795–806.

Zulu, Leo Charles. 2010. "The Forbidden Fuel: Charcoal, Urban Woodfuel Demand and Supply Dynamics, Community Forest Management and Woodfuel Policy in Malawi." *Energy Policy* 38 (7): 3717–3730.