**Conservation's Complexities: A Study of Livelihoods and People-Park Relations around Chobe National Park, Botswana**

By

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## ABSTRACT

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My dissertation research is a case study of how the presence of an area protected for wildlife conservation can alter the livelihood options available to nearby rural communities, and an examination of the livelihood strategies that villagers deploy to cope with these conditions. Protected areas have become the primary approach to conserving biodiversity across the planet. While the modern protected areas movement dates back to the nineteenth century, conservation scientists have recently become increasingly concerned with measuring the social as well as ecological effects of land set aside for conservation. The large and growing body of "people and parks" literature examines the costs and benefits of protected areas for local communities. However, the net impact of a protected area is context-specific and is not always clear, and question of how protected areas affect livelihoods and human development remains widely and contentiously debated amongst social and natural scientists.

Using a political ecology framework, I explain in this dissertation how the Chobe National Park has influenced rural livelihoods in the northern region of Botswana, a country that is notable for its status as a relatively well-functioning welfare state, and its long history of rural-urban socio-economic linkages. Specifically, I chronicle the agrarian livelihood strategies of smallholder farmers living on the edge of Chobe National Park in northern Botswana—a place where the state has prioritized wildlife conservation but also provides support to residents' livelihoods in a number of ways. In Chobe, agricultural production is becoming increasingly challenging even as the government increases its agricultural subsidies and support to small farmers. I show that it is conservation policy rather than the prioritization of commercial farming that hurts small-scale agriculture and causes some farmers to shift livelihood activities.

I also demonstrate how restricted-use rights over wildlife, limited ways to participate in the mandated community wildlife management regimes (called community trusts) and a dearth of realistic revenue-generating wildlife-based opportunities for villagers make wildlife a relatively inaccessible source of livelihood support. Norms regarding wildlife as the property of the state, in conjunction with sources of livelihood

support that are easier for households to access – namely remittances from urban kin and state transfers – undermine the creation of effective community-based natural resource management regimes.

Throughout my dissertation I emphasize that the Chobe National Park and the Chobe Enclave villages do not exist as bounded insular units of analysis and instead are better understood as nodes in a web of social relations and connections that extend beyond the physical boundaries of the region. This recognition draws directly from insights made by critical geographers that provide a theoretical understanding of place that is extroverted and aware of its links with the wider world. Much of the people and parks research has focused on social and economic outcomes for communities living on the edges (e.g., buffer) of protected areas. However, the economic and social effects of protected areas are not limited to their borders and can affect human dynamics hundreds of miles away. I discuss linkages between rural and urban communities to create a more complete picture of the way in which protected areas can affect human populations, even those living far from park borders. I show that the overall net growth around Chobe NP's edges does not preclude out-migration from certain buffer areas. Human movements towards, away from and within the Chobe National Park buffer zone have altered the demographic composition of rural villages and contributed to a new spatial patterning of people and associated livelihoods.

Ultimately, this study looks at how a park affects who lives where, and what the implications of such settlement patterns are for livelihoods, land use, and social relations in a web of interconnected geographical areas. In illustrating these dynamics, this work contributes to a rich body of literature that examines the context-dependent mechanisms through which a protected area can alter socio-economic development and in turn, the ecology and biodiversity of a rural landscape.

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## ACKNOWLEDGEMENTS

Eight years ago, I spent a year exposed to the realities of life around a national park in Botswana. I am thankful for the financial support from my alma mater, Dartmouth College, that made this formative experience possible and the day-to-day support from the McNutt family, who welcomed me into their lovely home.

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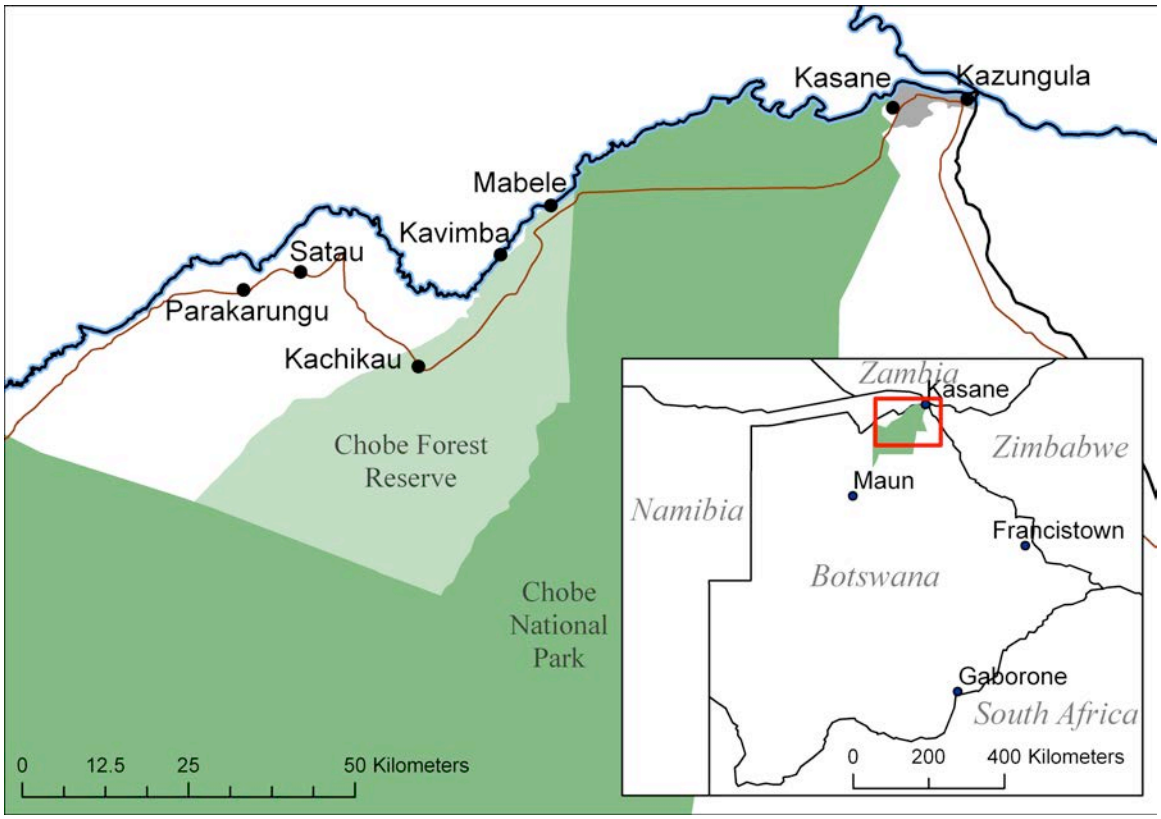

Map of Chobe Enclave (five villages), Kasane and Kazangula, Chobe National Park and Forest Reserve. Inset is country map showing key migrant destinations within Botswana.

## PROLOGUE

*When I arrived in the Chobe Enclave, I saw a collection of five small, dusty villages, scattered across an expansive plain of dry grasslands that hid the occasional bedraggled goat or bell-clanking cow. I wandered around my new village home and watched women in their neatly swept yards cooking pap over wood-burning fires, uniformed school-kids walking in big giggly groups to the nearby primary school, and groups of men sitting around drinking the locally-produced brew, chibuku. When I strayed to the outskirts of the village, I found a man growing baby mango trees in his backyard in old chibuku cartons, an active evangelical church constructed out of reeds and dung, and a young customer-less mechanic with nifty welding skills whose yard was littered with half-built silvery smooth chairs and benches he hoped to sell. What I did not see, from my vantage point, was a thriving economy, or on a more basic level, a way to make much of a living. I had chosen the Chobe Enclave as my dissertation field site because its proximity to Chobe National Park made it seem an ideal location for studying how protected areas affect rural livelihoods. I wrote in my field notes, somewhat guiltily, that a lot of folks seemed, as far as I could tell, to be sitting around doing nothing (females in charge of households excluded). Enough people had lamented to me about the challenges of farming in this area ("the elephants!") for me to know that a vibrant agricultural economy was not supporting these people, and it was also clear that there were few formal jobs available in the villages. Even the informal economy—the local mechanic, tuck-shop ladies and air-time seller—seemed dismal, given a lack of customers with purchasing power. Just shortly before I had arrived, the lone bar in my village had shut down, its owner heading to the nearest town to try his luck in a place with potentially greater patronage. So, I wondered, how were people here getting by?*

*I was curious too that so many people seemed so optimistic when I asked them about how they envisioned the future of their village. It seemed incongruous to me—when I asked residents and migrants what the village might look like in ten years, given the lack of agricultural or employment opportunities, people answered repeatedly that despite these conditions, the village was likely to grow. People pointed specifically to the brand new police station, the under-construction tar road and the plans for a new state-of-the-art clinic as evidence of village development and improvement. One young man residing in the village explained to me, "It will be a big village in years to come…because there is a school here, a clinic. When we say we need development, we mean that to develop our village is to build things, to have shiny things; like now we have the play court, and the youth center so people can learn, we have TV…it shows we are going somewhere, we are pushing forward." But how can the village grow and develop without a livelihood base, I wanted to ask?! If there are no jobs and agriculture is unprofitable, as everyone concurs, won't people 'vote with their feet' and leave?*

*I came to realize that to Chobe residents, development and growth meant new roads, electricity, state-of-the art hospitals and new police stations. The lack of employment or other livelihood-generating opportunities was seen by all to be a big problem, but in their eyes it did not mean that development was not still happening. On one level, I agreed—the new tar road and the introduction of cellular phone service made life easier and seemed likely to facilitate greater access to markets, knowledge and other pathways that could enable economic growth. However my American graduate student*

*self saw these changes as the potential means to a 'development' end, while my informants saw them as a 'development' end in itself. I was reminded of Christine Walley's book Rough Waters: Nature and Development in an East African Marine Park (2004), which I had just read prior to arriving in Chobe. In her book, Walley contrasts western notions of development to local perspectives that understand development to be about obtaining electricity and other material benefits. As she points out, "the 'meaning' of development cannot be separated from the particular desires and social positions of those who either plan or are the target of such projects." The same was true in my field site, where most residents' notions of 'development' were not predicated upon the growth of local economies, as mine were. As I read more about the history of Botswana's development, this local meaning made sense given the government's approach to development since independence. As others have noted before me, the government of Botswana has to date pursued rural development through the widespread delivery of social services without paying real attention to the creation of employment or economic opportunities in the rural sector that might redress the existing urban biases. This tension is particularly visible in Chobe. Here, the state has embarked on rural development projects designed to provide the Chobe Enclave with increased infrastructure and social services and to establish the largest Enclave village as a decentralized local service center. At the same time, a network of protected areas established by the government makes agricultural livelihoods and settlement expansion nearly impossible. My initially puzzling exchanges—villagers lamenting the lack of livelihoods yet professing a belief in future village growth and development—crystallized when placed in the context of government policies that converge in Chobe. These policies, I came to understand, simultaneously prioritize wildlife at the expense of human livelihoods yet provide an extensive suite of social services in order to promote village development, albeit a circumscribed notion of development.*

*As I spent more time in the Enclave, I also learned that people 'got by' because of the money and food that came from family members working outside of the Enclave and because of state-provisioned safety nets. Examining the role of remittances and state transfers in the lives and livelihoods of Enclave residents, in the context of their proximity to the national park, then became a focus of my study. I was interested to find out—if the park and its protected wildlife made agriculture so difficult, what incentive did migrants have to remit back to their home villages, where agricultural benefits and investment opportunities were now so few? If rural households were increasingly dependent on outside sources of support to survive, how did this dependence affect the nature of rural-urban social relations, as well as the livelihoods of those who were at the other end of these linkages—the urban migrants? I also wanted to know, what does it mean for household farming practices that there appears to be both incentives for farming (subsidies provided by the government) and deterrents (a high likelihood of elephant damage)? And returning to the first iteration of my dissertation question, I was curious as to whether a rigorous livelihoods analysis, one that recognized Chobe to be a node in a larger network of crisscrossing social, political and economic relationships, might help explain why a longstanding community-based natural resource management project had not gained more traction in the Enclave. These intersecting questions ended up guiding the development of my dissertation chapters. Woven through each chapter is the implicit (and in some cases explicit) message that while the presence of a park and*

*park-related policies can play a critical role in precluding or providing certain livelihood options, they do not determine a village community's fate. Instead, I have tried to make visible the ways in which the actual choices that people make are predicated upon the social, political and economic context within which that protected area is situated. Parks do not automatically destroy or create livelihoods, and neither do they uniformly drive away or attract settlers. To truly understand what Chobe National Park has meant for Chobe households, including nearby residents and faraway migrants, one must look at how the park's influence on livelihoods and development in the Enclave has in fact been mediated by a constellation of interacting factors. When I think about the Chobe Enclave now, I still visualize those five dusty villages, but I also see the broader regional, national and global relationships—both historical and contemporary—that have articulated to produce this unique and special place.*

# CHAPTER ONE

## Introductory Literature Review

My dissertation research is a case study of how the presence of an area protected for wildlife conservation can alter the livelihood options available to nearby rural communities, and an examination of the livelihood strategies that villagers deploy to cope with these conditions. If the logic of a case study is to demonstrate a causal argument about how general social forces take shape and produce results in specific settings (Walton 1992), then my goal is to explain what a protected area means for rural livelihoods in a country such as Botswana that is notable for its status as a relatively well-functioning welfare state, and its long history of rural-urban socio-economic linkages. I refuse to make a unicausal argument about the relationship between people and protected areas and instead insist that in order to understand what a protected area and its associated conservation policies mean for a community, in terms of costs, benefits and changed livelihoods, we must critically examine the other relevant social, economic, and political dynamics at work that are historically and geographically specific to a region, and that together produce a certain set of possibilities and constraints for people's livelihood and settlement strategies. I also hope to demonstrate that the Chobe National Park and the Chobe Enclave villages do not exist as bounded insular units of analysis and instead are better understood as nodes in a web of social relations and connections that extend beyond the physical boundaries of the region. This recognition draws directly from insights made by critical geographers that provide a theoretical understanding of place that is extroverted and aware of its links with the wider world. (Massey 1994)

### The sustainable livelihood approach

This dissertation provides a tangible example of how the sustainable livelihoods approach (SLA), a framework developed by key agrarian and development studies scholars for livelihoods analysis (Scoones 1998, Carney 1998, Ellis 2000), can be applied to the study of people and parks. The sustainable livelihood approach is both a theory and a methodology, which recently has formed the basis for policy-relevant empirical research that seeks to capture the cross-sectoral nature of rural people's income-generating (and subsistence) activities and that refuses to equate rural peoples' welfare with agricultural growth (Allison and Ellis 2001). In response to the complexity of rural livelihoods and their growing non-agricultural character (Bryceson 1999), the livelihoods concept takes an open-ended view of the combination of assets and activities that turn out to constitute a viable livelihood strategy for the rural family. (Ellis and Biggs 2001) Under the livelihood approach, a livelihood is defined as:

> the assets (natural, physical, human, financial and social capital), the activities, and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household (Allison and Ellis 2001).

Throughout this dissertation, I use the livelihoods approach to frame the types of assets available to people in the Chobe Enclave, the mechanisms through which these

assets are transformed into livelihood strategies, and the outcomes of these resulting activities for villagers' livelihoods and the meanings they ascribe to them. This is important because while scholars and practitioners alike have identified broad trends in rural agrarian change over the past century—notably a shift towards livelihood diversification and away from a singular reliance on agriculture—the precise nature of the livelihood strategies that farmers employ in response to declining agricultural opportunities, and the resulting outcomes of these strategies are context-specific and contingent on the processes unfolding in particular locations (Ellis 2000). Immediate determinants of livelihood diversification—for example labor markets, risk and coping—are mediated through social institutions including kinship ties (Berry 1993), property rights (Bromley 1991) and gender relations (Hart 1995). They are further shaped by interactions with the physical environment and by changes in the larger political economy (Ellis 1998). As conceptualized through the SLA, the effects of an external shock such as the creation of an environmental conservation area on rural livelihoods are necessarily mediated by place-specific institutions and organizations within the context of other influential social, economic and political conditions. Using this framework, this dissertation shows that while the presence of Chobe National Park plays a key role in influencing livelihood strategies and the flow of people and capital between neighboring settlements and migration destinations, in practice, individuals and households are influenced by a multiplicity of factors, the cumulative effect of which determines livelihood changes (Ellis 1998).

The livelihood framework then provides a way to analyze rural livelihoods through a set of linked questions that facilitate an understanding of the interactions between the various components of a livelihood. For example, one can ask, given a particular socio-economic and political context, what assets (or types of "capital") are available to a household and how is access to these assets mediated by social relations and institutional factors as well as by external contextual factors (trends in population or shocks such as civil war for example)? Furthermore, what combination of these available assets results in the ability to follow what combination of livelihood strategies? And finally, what are the outcomes of these livelihood strategies in terms of livelihood security effects and environmental sustainability effects? (Table 1) (Allison and Ellis 2001) This approach is conceptually useful because it seeks to elucidate changing combinations of modes of livelihood in a dynamic and historical context, and acknowledges the need to transcend boundaries between conventionally discrete sectors (urban/rural, industrial/agricultural, formal/informal, etc.). It also implicitly recognizes the need to investigate the relationships between different activities that constitute household livelihoods, which in turn requires attention to both intra-household and extra-household social relations (Murray 2001). And, on a policy level, this approach ideally enables participants in development programs to identify key constraints and opportunities for development intervention.

| A | B | C | D | E | F |
|---|---|---|---|---|---|
| Livelihood platform | Access modified by | In context of | Resulting in | Composed of | With effects on |
| *Assets*<br>Natural capital<br>Physical capital<br>Human capital<br>Financial capital<br>Social capital | *Social relations*<br>Gender<br>Class<br>Age<br>Ethnicity<br><br>*Institutions*<br>Rules & customs<br>Land and sea tenure<br>Markets in practice<br><br>*Organisations*<br>Associations<br>NGOs<br>Local admin<br>State agencies | *Trends*<br>Population<br>Migration<br>Technological change<br>Relative prices<br>Macro policy<br>National econ trends<br>World econ trends<br><br>*Shocks*<br>Storms<br>Recruitment failures<br>Diseases<br>Civil war | Livelihood strategies | *NR based activities*<br>Fishing<br>Cultivation (food)<br>Cultivation (non-food)<br>Livestock<br>Nonfarm NR<br><br>*Non-NR based*<br>Rural trade<br>Other services<br>Rural manufacture<br>Remittances<br>Other transfers | *Livelihood security*<br>Income level<br>Income stability<br>Seasonality<br>Degrees of risk<br><br>*Env. sustainability*<br>Soils & land quality<br>Water<br>Fish stocks<br>Forests<br>Biodiversity |

Table 1. A framework for micro policy analysis of rural livelihoods (modified from Ellis, 2000, p. 30)

The SLA is useful for this study because it allows for a comprehensive livelihood analysis that recognizes the importance of local context (e.g. political economic factors), the various forms of assets and capital that can exist, the relations that mediate access and the complex interactions between livelihood assets, strategies, activities and outcomes for human and environmental well-being. In the case of the Chobe region, the SLA allows me to demonstrate the mechanisms at work that structure villagers' livelihood strategies, and the material and meaningful outcomes of these strategies.

**Parks and the agrarian question**

This research represents an application of the sustainable livelihoods approach to a specific case study of particular interest to those studying and working at the intersection of conservation and agrarian studies.

Within the agrarian studies literature, there is a long history of scholarly debate around the agrarian question as first raised by Karl Kautsky—what is the fate of small-scale subsistence agriculture in an increasingly capitalized world? (Kautsky 1988) While scholars still debate the peasant "disappearance" versus "persistence" thesis (Araghi 1995, Johnson 2004) there is a widespread recognition of the multi-occupational nature of rural dwellers' livelihoods and of the continued marginalization of smallholder agriculture (Tsikata and Yaro 2011, Kugelman and Levenstein 2009). While the root causes of these processes of marginalization are manifold, political ecologists have paid particular attention to the way in which environmental conservation policies and programs can set in motion processes of de-agrarianization and coping strategies such as migration and livelihood diversification. Chapter one contributes to this body of literature by providing an analysis of the interactive effects of conservation policy and broader national-level development policies on the livelihood strategies of rural communities living near Chobe National Park. The Chobe case is noteworthy because as the chapter explains, the state—a central player in both agrarian studies and critical conservation studies—plays neither a clearly malevolent or benevolent role in the decline of

smallholder agriculture in the Chobe Enclave. Furthermore, findings regarding the unique livelihood strategies of some Chobe Enclave residents challenge the well-established concept of a diversified rural livelihood portfolio as comprised of both on-farm and off-farm income.

**Access and institutions**

While the livelihoods framework accounts for the way in which *access* to assets (as mediated by institutions and social relations) as well as those assets themselves influence livelihood strategies, the approach itself does not explicitly theorize the nature of access or its relationship to livelihood outcomes. In Chapter 2, I use Ribot and Peluso's (2003) theory of access in tandem with insights from literature on common pool resources to help explain the failure of community-based natural resource management (CBNRM) in the Chobe Enclave to foster the creation of wildlife-based livelihoods amongst villagers living near the park. CBNRM is based on the assumption that protected areas can lead to win-win conservation and development outcomes if nearby residents are given rights to manage and obtain economic value from those protected resources, especially wildlife. I employ an access analysis (Ribot and Peluso 2003) to highlight the ways in which devolved *rights* to a resource do not necessarily guarantee *access* to a resource that would allow CBNRM participants to meaningfully benefit. Also, analysis of the broader political economic context in which Botswana-based CBNRM programs takes place reveals that social and state institutions are in place that preclude the need for Chobe Enclave residents to come together to form a common-pool resource institution around the management of wildlife and its market value. To make this point, I draw from political scientist Elinor Ostrom, who shows that the probability that users will engage in collective action is high only when the expected benefits of managing a resource exceed the perceived costs of investing in better rules and norms (Ostrom 2009). These conditions are not met in the Chobe Enclave, where other sources of livelihood support that are easier for households to access – namely remittances from urban kin and state transfers – undermine the creation of effective community-based natural resource management regimes. In tracing the history of CBNRM in Southern Africa, this chapter also illustrates the shortcomings that can arise when a program or policy travels from a place with one set of historically and geographically specific starting conditions (in this case, white farms in Zimbabwe) to a new place with an entirely different political, socio-economic and cultural context (i.e. tribal land in Botswana).

**Parks and spatially extended livelihoods: the rural-urban interface**

This dissertation also draws heavily from the insights of human geographers and anthropologists, particularly in southern Africa, who have long recognized the social and spatial interconnections between rural and urban environments (Hart and Sitas 2004). These scholars counter conventional perspectives on urbanization in Africa, which sharply divide the rural from the urban (Ferguson 1999), and have exposed the realities of persistent population movements and family ties between rural and urban areas, and the rural return migration of long-term urban residents (Ellis 1998, Potts and Mutambirwa 1995). The implications of such spatial patterns for interrelated social dynamics range from spread of disease such as HIV-AIDS (Hunter 2007) to class formation and changing family structures (Spiegel 1980, Beinart 1980).

The role of remittances is a central focus within the body of literature on migration—why migrants remit, how remittances are spent, what contribution they make to rural development (especially poverty alleviation), and the social relations that underlie certain patterns of remittance sending. The topic of remittances is particularly relevant to discussions of household livelihood-migration-environment linkages, because increased outmigration and non-rural income streams affect how land use decisions are made and can give rise to "remittance landscapes" (McKay 2003). Varying motivations for sending remittances and differences in the way remittances are spent are likely to differentially influence and be influenced by land use, natural resource extraction and other key environmental variables (de Sherbinin et al. 2008).

These anthropological perspectives on the social relations underlying migration and remittances help to further explain what protected areas can mean for people and their livelihoods. Their theoretical frameworks pay attention to culture as well as economy, illuminating the way in which a protected area can induce changes that affect not only peoples' material wealth or livelihood strategies but also the social relations between people and the meanings they ascribe to various aspects of their lives.

In Chapter three, I infuse the people-and-parks debate with these theoretical insights from human geography and anthropology into the links between rural and urban communities in order to create a more complete picture of the way in which protected areas can impact human populations, even those not in close physical proximity. While political ecologists pay close attention to scale particularly in their analyses of the root causes of various environmental phenomena (Robbins 2004), critical studies of conservation have to date focused primarily on the implications of conservation zoning for the livelihoods of those living in or near designated protected areas (Neumann 1998, Brockington 2002, West 2006)**.** This chapter extends the literature on communities and conservation by demonstrating that a protected area can influence the movement of human populations in ways that affect the lives of both rural dwellers living near the park and urban migrants originating from this region, as well as the nature of the social and economic relationships between these two populations.

**Extending the livelihoods approach**

A theory of rural-urban linkages that moves beyond a purely economic understanding of the way in which remittances can structure peoples' lives serves as a window into a broader theoretical framework that similarly refuses to define development in purely economic terms. Sen (1999) has argued that income indicators alone are inadequate measures of "development." Instead, he suggests that the capabilities of people to control their own lives is central to the process of development, and that increased "freedoms" are a more holistic measure of the quality of people's lives. From this perspective, development includes such elements as social wellbeing, poverty alleviation, income and gender equality and access to meaningful employment. As I touch upon in Chapter three, applying this theoretical framework to the Chobe Enclave highlights how studies that focus on quantifying the impact of a protected area on income or numeric poverty indices may overlook the way in which the park has led to a qualitative shift in the nature of rural residents' livelihoods and more specifically, their capabilities. In the Enclave, the park has contributed to the decline of rural agricultural production yet also indirectly increased the availability of remittances through the development of the wildlife tourism industry.

This shift has reduced rural dwellers' capabilities, as they are now reliant on external sources of income over which they have little control.

Similarly, Anthony Bebbington (Bebbington 1999) has extended the sustainable livelihood approach (Allison and Ellis 2001) to encompass the experienced quality of life as well as objective measures of income and expenditure within the notion of a "livelihood." This is because how individuals and households make choices depends on what development, poverty and livelihood mean to each of them, as well as the constraints under which they make these decisions and the power relations at play. What matters is not only the ways in which assets are translated into income, but also the impact on peoples' sense of well-being.

Bebbington (1999) introduces the concept of "cultural capital" to the sustainable livelihoods framework in order to capture both the objective dimensions of development as well as the subjective dimensions of the conditions in which one lives. As he explains, the reproduction of cultural capital fosters certain forms of identity maintenance and particular patterns of interaction, which enable, inspire and empower people. Forms of cultural capital are thus another important "input" to livelihood production and poverty alleviation. With the inclusion of cultural capital into SLA, analyses of rural livelihoods can better account for people's access to all types of capital assets and the ways in which people combine and transform those assets (through relationships governed by the logics of the state, market and civil society) into the building of livelihoods that as far as possible meet their material and their experiential needs.

These expanded notions of development re-affirm the importance of looking beyond income indicators to study the multiple ways in which migration and remittances affect the wellbeing and capabilities of people in migrant-sending societies. For example, a perspective that refuses to reduce rural-urban relations to pure economics allows for recognition that migrants may be motivated to build a house or participate in farming in their rural place of origin more to obtain a sense of belonging and cultural identity than for financial gain (Andersson 2009, Jokisch 2002). Such analyses can take place at the level of migrants and their families as well as at the level of sending and receiving communities and societies as a whole (de Haas 2007). For analysis of linkages between environmental conditions and human development, which in many cases involves examination of migration and remittance trends, these non-reductionist approaches to the study of livelihoods are particularly salient. As I explain in my concluding chapter, urban migrants remit to their rural kin not only for economic gain, but also out of moral obligation to their families and in order to maintain a sense of belonging in their home communities. Rural dwellers themselves continue to practice agriculture both in the hopes of obtaining a harvest (of economic value) and because of a desire to retain a cultural identity that associates being a "proper Motswana" with planting crops and tending livestock. Holding fast to an agrarian lifestyle on the edge of a national park, where wild animals pose significant challenges to farming activities, may not appear to "make sense" on a purely economic level, but signifies a more complex story, with less obvious policy implications, when livelihood strategies are understood as both material and meaningful.

## CHAPTER TWO

### The Elephant Question: Investigating the Fate of Smallholder Agriculture around Chobe National Park, Botswana

*This article chronicles the livelihood strategies of smallholder farmers in a village on the edge of Chobe National Park in northern Botswana. This is a place where the state has prioritized wildlife conservation but also provides support to residents' livelihoods in a number of ways. This case study extends the literature on 'de-agrarianization' in Africa. Agricultural production in Chobe is becoming increasingly challenging even as the government increases its agricultural subsidies and support to small farmers. Here, it is conservation policy rather than the prioritization of commercial farming that hurts small-scale agriculture and causes some farmers to shift livelihood activities. Studies of agrarian change must take into account the interactive effects of conservation policy and other relevant macro-economic policies that structure the livelihood strategies of rural communities living near protected areas. In northern Botswana specifically, the prioritization of conservation policy results in agricultural conditions that make successful realization of a national policy regarding agricultural development nearly impossible.*

### Introduction

Intensive land acquisition in the global South by foreign governments and companies seeking to acquire rural farmland for food and biofuel production has created a renewed concern about the fate of smallholder farmers in the Global South (LDPI 2011). To many, current land deals represent the latest chapter in a long-standing history of agrarian change marked by the marginalization of smallholder agriculture (Tsikata and Yaro 2011, Kugelman and Levenstein 2009). While most of the attention given to current conflict over land acquisition by foreign buyers is focused on deals related to food or biofuel production, there is growing recognition that land set aside for conservation represents a type of 'green land grab' that affects and in some cases marginalizes small farmers (Benjaminsen et al. 2011, Ngeta 2011, Gardner 2007). Conservation not only can result in a reduction of the amount of land available for smallholder agriculture but also can create adverse conditions for farming through the protection and prioritization of wildlife species such as elephants that damage crops. Environmental conservation policies and programs have had similar effects to the more widely publicized agricultural land deals and macro-economic agricultural policies. They also can contribute to agrarian change by setting in motion processes of de-agrarianization and coping strategies such as migration and livelihood diversification.

This study attempts to bridge the conceptual and disciplinary divide between agrarian and environmental politics (Agrawal and Sivaramakrishnan 2000) by illustrating the ways in which conservation policy and other relevant rural economic policies operate together rather than in isolation from one another to structure the livelihood strategies of a community once reliant on small-scale agriculture. Specifically, this article chronicles the livelihood strategies of smallholder farmers in the village of Kachikau on the edge of Chobe National Park in northern Botswana. This is a place where the state has prioritized wildlife conservation but also provides support to residents' rural livelihoods in a number

of ways. This research applies the sustainable livelihoods approach developed by key agrarian and development studies scholars for livelihoods analysis (Scoones 1998, Carney 1998, Ellis 2000) to a specific case study of particular interest to those studying and working at the intersection of conservation and agrarian studies.

In sub-Saharan Africa, the livelihoods of rural farmers have been subject since the colonial era to a string of stresses and shocks, including forced labor migration, cash crops, structural adjustment and fluctuating commodity prices. Processes of marginalization, accumulation by dispossession and differentiation that have affected rural communities through the twentieth century have made it increasingly difficult for rural households to make a living based on agricultural activities alone. There has been a trend towards what is termed 'de-agrarianization,' as rural dwellers have been forced diversify their livelihood portfolios away from strictly agricultural-based livelihoods and towards non-agricultural activities (Bryceson 1999a, Bernstein et al. 1992). Though the motivations behind 'green land grabs' are different from those behind land acquisition for economic or political programs (e.g. biofuel production, structural adjustment plans), land set aside for wildlife and biodiversity conservation also drives rural agrarian change and can exacerbate the decline of smallholder agriculture that characterizes much of rural Africa today.

The precise nature of the livelihood strategies that farmers employ in response to declining agricultural opportunities and the outcomes of these strategies are context-specific and contingent on the processes unfolding in particular locations (Ellis 2000). The effects of an external stressor on rural livelihoods—the presence of an environmental conservation area and wild animals such as elephants and lions that eat crops and livestock respectively—are mediated by place-specific institutions and organizations within the context of other influential social, economic and political conditions. In the case of the Chobe Enclave[1], the effects of the external shock caused by Chobe National Park are mediated by a relatively well-functioning welfare state[2] (Bertram 2011) that provisions the rural citizens of the Chobe Enclave with both agricultural and non-agricultural support. This paper thus focuses its analysis on the way in which this state-society relationship acts in conjunction with increasingly adverse conditions for farming resulting from large numbers of wild animals (particularly elephants) in close proximity to farming lands to produce the set of livelihood strategies employed by villagers living on the edge of Chobe National Park. More specifically, I argue that the availability of financial and physical capital from the state within the context of a high degree of wild animal disturbance leads to two divergent livelihood strategies for Chobe residents. For some households, state forms of assistance (entitlements or employment opportunities) augment income to the point that people stop farming altogether, which I term the abandonment strategy.[3] Other households in Chobe choose to continue farming, despite

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[1] The Chobe Enclave refers to the five villages, including Naledi, that are adjacent to Chobe National Park and the nearby Chobe Forest Reserves.

[2] I am using Bertram's (2011) definition of a welfare state regime as government policies and expenditures aimed to secure to individuals or groups measurable benefits which those individuals or groups could not secure directly through participation in the market economy, including payment in cash of income transfers (often including part at least of the public sector payroll) and the provision in kind of key basic services, such as health, education and housing.

[3] Farming in this paper refers to arable farming conducted at the "lands," agricultural holdings of at least (and usually more than) one or two hectares where staples such as maize and sorghum are grown. In Botswana, households are

the fact that it is marginal in the area, because agricultural subsidies create incentives for people to continue to farm with low input and low risk, which I refer to as the low level continuation strategy.

The analysis of rural livelihoods in the village of Kachikau complicates the concept of 'de-agrarianization' in two ways. First, the case of Chobe provides a counter-example to the body of literature that links state-led removal of agricultural subsidies for small-scale farmers and the prioritization of capitalized commercial farming to the decline of small-scale agricultural production (Bryceson 1999b, O'Laughlin 1998, Wolford and Safransky 2011, McMichael 2006, McKeon et al. 2004). In Chobe, agricultural production is becoming increasingly challenging even as the government is *increasing* its agricultural subsidies and support to small farmers. Here, it is the ecological conditions resulting from conservation policy—namely a growing population of elephants that eat crops—rather than the prioritization of large-scale commercial farming—that negatively affect agriculture and cause some farmers to shift to new livelihood activities. Second, my case study findings call into question the assumption that a diversified rural livelihood portfolio includes at least some on-farm agricultural activities that provision a household with crops for subsistence or sale (Ellis 2000). The Kachikau case also blurs the distinction between an agricultural and non-agricultural livelihood, because in this case, some residents appear to engage in what is superficially an agricultural livelihood activity (i.e. planting crops) more because it provides financial capital from the state than because it yields harvestable produce.

This study also extends critical analyses of conservation from the field of political ecology. Political ecology studies to date have examined the effect of conservation policies and projects on local communities and their livelihoods in the context of colonial histories of oppression (Walley 2004, Peluso and Watts 2001) and divergent understandings of "conservation" and "development" between conservation NGOs and villagers (West 2006). Political ecologists recognize that conservation interventions do not take place in a vacuum. As a result, they pay close attention to the way in which conservation policies and projects intersect with ongoing national-level "development" policies (Brockington 2002, Neumann 1998) and political economic regimes (Li 2007). In accounting for the interactive effects of conservation policy and development policies on rural livelihoods, a number of these aforementioned studies have found that conservation often exacerbates longstanding processes of marginalization of poor rural agrarian and/or pastoralist communities. My study builds upon this body of literature by illustrating an interesting case in which rural development policy and wildlife conservation policy work in opposing directions to one another, as they respectively encourage and discourage local residents to pursue agricultural livelihood activities. This finding further illuminates the way in which conservation policies and programs not only can have direct negative impacts on local human populations through physical displacement and dispossession of land but also may mediate, and be mediated by, other government policies or programs in a given conservation area. In the case of Kachikau,

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highly mobile, moving between their primary village residence, their cattle post, and their "lands" during different seasons of the year. While households maintain gardens in the backyards of their village residence in order to grow "relish" (e.g. greens to accompany meals), gardening is not usually thought of as "farming" and is considered supplemental to the farming that takes place at the lands, where most of a household's food for consumption and/or sale is traditionally produced.

the provisioning of entitlements and employment opportunities by the welfare state mitigates some of the adverse effects of conservation policy on agriculture by providing households traditionally engaged in farming with alternative livelihood sources. At the same time, the state's protection of wildlife for the purposes of tourism development for the national economy impedes the success of state-led programs to promote agriculture and develop local economies in Botswana's rural regions, including Chobe. The result is a localized contradiction in the form of government policies that work against each other. The government is trying to support and enhance rural agricultural livelihoods at the same time that it is creating ecological conditions (i.e. high density of elephants) that make farming very difficult for small-scale farmers. As a result, in Kachikau even farmers who participate in state agricultural programs for the most part do not see an increase in agricultural production. Many farmers take advantage of these programs because they are eager to access any government assistance made available, even if they recognize that the intended goal of the program—increased agricultural production in this case—is unlikely to be unattainable. This case study illustrates the way in which national policies may lead to perverse outcomes for agricultural production when they are implemented in regions where conflicting policies are also in place. Ultimately, in a place like Kachikau, conservation policy that prioritizes one form of economic development—wildlife-based tourism—results in ecological conditions that make successful realization of a national policy regarding another form of economic development—rural agriculture—nearly impossible. In this way, my study serves as a reminder that conservation does not have a uniform effect and that detailed study of local conditions and the broader political economy is required in order to understand the unanticipated outcomes of conservation policy.

This article has three parts: background information on the Botswana welfare state and the effects of conservation in the Chobe Enclave; findings on the livelihood strategies that Kachikau villagers employ in response to conditions resulting from wildlife conservation policy and the availability of state transfers; and implications for analyzing smallholder agriculture in areas subject to wildlife conservation measures.

## Background

### *Botswana the welfare state*

Since the discovery and exploitation of diamonds at independence (1968) and the subsequent surge forward of the economy, Botswana has strategically used its growth economy and access to donor funds to achieve impressive levels of social service delivery, especially in comparison to most other African countries. However, rural development in Botswana has come to be defined as infrastructure projects, schools, health posts, roads and water reticulation, which, while necessary to stimulate productive economic development, are not a substitute for it (Colclough 1980, Chipasula and Miti 1989, Picard 1987). This approach to rural development has had mixed results. On the one hand, Botswana has invested in the health and education of its citizens and provided them with a number of social safety nets. For example, since the long drought of the 1960s Botswana has provided food aid to its citizens through food-for-work programs during drought years and free dietary supplements to children and destitute persons who are unable to work (Colclough 1980). The sustained resource wealth of Botswana has enabled the government to continue to augment the incomes of the poor through various

institutionalized social safety nets, even as these programs have changed throughout the years[4]. On the other hand, critics have pointed out that a greater part of the population remains without any productive activity to sustain it. Infrastructure-oriented developments have not broken the structural economic barriers (e.g. dependency on South Africa, skewed distribution of livestock amongst farmers) to increased agricultural productivity or rural industrialization (Chipasula and Miti 1989). Despite public support of the agricultural sector through a suite of programs developed in the early 1980's designed to promote output and productivity growth, arable agriculture has drastically declined in its relative contribution to the national economy. It is currently ranked as the second least significant economic activity in terms of its contribution to the total GDP (3%)[5] (Seleka 2004).

The government has rolled out new iterations of subsidized farming programs that also have had disappointing results for rural agricultural productivity and income generation (Seleka 2004). Most recently in 2002, the Ministry of Agriculture launched the National Masterplan for Arable Agriculture and Dairy Development (NAMPAADD), a broad agricultural development strategy intended to re-structure arable agriculture and dairy development programs that is particularly geared towards the transformation of traditional farms into viable commercial enterprises. For dryland arable agriculture—the most common type of farming amongst rural Batswana[6]—the major activities are to encourage smallholder farmers to form large units (clusters) of at least 150 hectares, to establish service centers for providing inputs and services at each unit, and to promote the adoption of mechanized farming. These programs have yet to be systematically evaluated and are still in the process of on-the-ground implementation.

Government subsidized farming programs are just one part of a suite of rural development interventions present in Botswana today that are designed to promote economic growth and alleviate poverty. The National Strategy for Poverty Reduction (2003) recognizes the importance of broad-based economic growth as a means to promote reduction in poverty but also emphasizes the need for the government to continue to use social safety networks to target the most vulnerable segments of society. In practice, this strategy has resulted in three clusters of targeted interventions: 1) the problem of low productivity (i.e. low returns of labor) is supposedly addressed through income generation strategies such as microcredit and agricultural assistance; 2) the problem of vulnerability (i.e. insecure returns to labor) is addressed through safety nets such as drought relief food aid and labor-based public works (*Ipelegeng*); and 3) the problem of dependency (i.e. inability to work) is addressed through old-age pensions and destitute allowances (BIDPA 2001). Other safety nets now include school feeding, orphan rations and community home-based care for AIDS patients, all of which have become increasingly necessary due to the HIV-AIDS crisis. Although these types of interventions are not fully effective given that poverty still persists in Botswana, their

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[4] For example, food-for-work programs turned into a program called *Ipelegeng* (meaning 'self-reliance'), which pays workers in cash rather than food and is no longer contingent on there being a drought.

[5] This percentage refers to commercial and not subsistence agriculture. Unofficial estimates suggest that 60% of the workforce is employed (www.indexmundi.com/botswana/economy_overview.html).

[6] In Setswana, the official language of Botswana, one person from Botswana is referred to as a "Motswana," multiple people are referred to as "Batswana," and the adjective used to describe parts of the national culture is "Setswana" (e.g. a "Setswana way of life").

prevalence reflects the degree to which many Botswana citizens rely heavily on government assistance to survive.

### *Conservation and agriculture around the Chobe Enclave*

*Chobe as a wilderness area*

The Chobe District is a primary safari destination due to its abundant wildlife resources and the extensive Chobe-Zambezi river system. A review of the Chobe District Development Plan reveals a conflict of interest between national and district level land-use priorities: setting aside land for wildlife conservation is extremely important to the country of Botswana because of the contribution of wildlife-based tourism to the national economy,[7] and yet, this eclipses the possibility of other types of land-use that might help to diversify the local economy and spur income generation and rural development. Since independence Botswana has been criticized for its singular dependency on mining. In the last two National Development Plans, Botswana has identified tourism as one of the key sectors that could help diversify the economy beyond diamond mining (Leechor 2005). Since the success of the tourism industry relies on the sustainability of the nation's wildlife population, the government of Botswana has increasingly developed plans and policies for effective natural resource management and conservation of the country's wilderness areas (i.e. the northern portion of the country). Therefore, as the most recent Chobe District Development Plan (2003) plainly states, there is an 'acute shortage of land' in the district due to the fact that about 80% of the district is devoted to conservation of wildlife and forest resources, leaving very little room for settlement expansion and other economic activities. The Chobe Enclave itself is sandwiched between the Chobe Forest Reserve and Chobe National Park, established in 1968.

*Agriculture in the Chobe Enclave*

Today, the roughly 10,000 residents who live in the Chobe Enclave are faced with the costs of living near a protected area and within a region zoned for wildlife management. The population here has historically engaged in arable agriculture as a major means of livelihood. Conditions in the Chobe Enclave are much more favorable for arable agriculture in comparison to the rest of Botswana because of higher than average rainfall and the relatively fertile soils in the regularly flooded plains (where floodplain *molapo* farming takes place). At the same time, arable agriculture remains a risky endeavor because of erratic rainfall with periodic droughts and regular flooding of arable lands that cause frequent crop failures. Under these variable natural conditions, agricultural production is characterized by low inputs of capital and labor[8] (Barnhoorn et al. 1994), and most farmers prefer to have both rainfed dryland and *molapo* farms in order to spread risk and increase production potential. Maize is generally confined to *molapo* lands while sorghum is the main crop on the rainfed drylands. Maize is the preferred food crop while sorghum is primarily used for beer production (except in households only engaged in rainfed dryland farming). Two types of watermelon, two types of pumpkin and cowpeas

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[7] Tourism accounted for an estimated share of 10 percent of GDP (or about 16% of non-mining GDP) in 2007 (The Voice 2008)

[8] Low inputs of capital and labor are due in part to the risky nature of agriculture in this area but also due to labor shortages resulting from rural-urban migration, which has been documented extensively elsewhere (Schapera 1966; Colclough and McCarthy 1980). Shortage of labor is considered to be one of the biggest obstacle facing farmers in the Chobe Enclave (MacDonald 1989; BIDPA 2001).

are sparsely interplanted with the two staple grain crops (MacDonald 1989). Traditionally, farmers will prepare and plant *molapo* fields just after the floods have receded (usually around August) and harvest around Christmas. The rainfed crop, maize or sorghum, is planted with the first rains, usually between November and February, and is harvested from June to August. Historically, if the *molapos* were either too dry or flooded, the rainfed fields offered an alternative, unless they were also affected by drought. As a result of these constraints, the cultivated area, yield levels and total agricultural production vary considerably from year to year and among households (Barnhoorn et al. 1994), making it impossible to estimate an average yearly yield (MacDonald 1989). At times, the Chobe Enclave has produced enough grains for commercial sale.[9] Yet today, as in the past, in years without good rainfall or with flooding, households are unable to produce enough food for themselves and the Enclave receives major inflows of maize meal. Indeed, from 2007/08 to 2009/10, Kachikau and its neighboring two villages in the southern Enclave sold no crops to BAMB.

*Wildlife stresses on agricultural livelihoods*

For farmers in Chobe, the prioritization of wildlife conservation means further marginalization of their already risky agriculture-based livelihoods and few benefits in exchange. Land-use constraints along with poor performance of the agricultural sector due to livestock predation and crop damage by wildlife help to explain why economic activities in the Enclave are characterized as virtually 'non-existent' (DDP 2003), and why increased agricultural productivity, one of the goals of the National Development Plan and the Rural Development Policy (2002), has not materialized.

Most notably, crop destruction by wild elephants is increasingly a problem as Botswana's elephant population has increased sixteen-fold over the past fifty years to an estimated 133,829 individuals, with 70 to 80% of the population living outside of the National Park (World Bank 2009). Problem Animal Control data from the Department of Wildlife and National Parks show that the number of elephant conflict reports for Kachikau rose dramatically over a 10 year period—nine reports were filed in 1995 and consistently increased through 2004, when 38 reports were filed (K. Alexander, unpublished data). The present study shows that state-led zoning of land for wildlife and the associated increase in wildlife that freely raid crops have created new adverse conditions that arguably outweigh any of the weather and soil-related benefits that exist for Chobe farmers.

Livestock are also subject to predation by wild animals, which are protected under game laws and cannot even be shot in self-defense. Villagers cannot expand communal grazing lands without encroaching on the reserves. Nor can they sell their livestock to the highly lucrative (and subsidized) European Union (EU) market as the rest of Botswana does, because their animals are in proximity to wildlife and therefore cannot be certified as hoof-and-mouth disease free, as the EU market requires.

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[9] For example, in the 1940's, the Enclave was Botswana's most productive agricultural area, exporting large surpluses of maize. Disastrous floods in the 1950's led to several decades of depression. By the 1980's the agricultural economy had improved and in favorable years (with good rains and flood recession) the Chobe Enclave became a net exporter of grains (MacDonald 1989). These grains were (and today still are) purchased by the Botswana Agricultural Marketing Board (current price: approximately $275 per ton of maize (BAMB). For example in 1985 and in 1986 BAMB purchases 86 and 503 tons of maize grain respectively from the Chobe Enclave (Central Statistics Office 1987) These two years followed almost a decade in which the Enclave sold no grain at all to BAMB, and in which the proportion of maize harvested was between nine and 100 percent.

While attributing the difficulties of small farmers in Chobe solely to wildlife and conservation policy would overlook the multiple historical and geographical reasons for agricultural decline that has occurred in Botswana more generally over the past century,[10] it is clear nonetheless that wildlife, and especially elephants, have made farming even more challenging in an already ecologically and economically marginal landscape. The result is that although the decline of agriculture is widespread within Botswana and not unique to Chobe, conservation in Chobe has nonetheless greatly reduced the role that agriculture can play as a safety net for the rural poor and as a buffer against external shocks to a rural household's livelihood portfolio (BIDPA 2001).

Despite widespread recognition of the costs Chobe residents incur living near a protected area, conservation-development programs designed to mitigate these costs and provide local communities with benefits from wildlife have had limited success. These community-based natural resource management (CBNRM) programs are the product of a paradigm shift in the late 1980's in the field of conservation management away from 'fortress conservation' (Brockington 2002) and towards a model of resource management that linked the goals of conservation with social justice and poverty alleviation for historically marginalized peoples. Proponents of CBNRM aim to devolve management of and benefits from natural resources to communities so as to create incentives favoring sustainable use (Hulme and Murphree 2001). This model is now heavily endorsed by the Botswana government as a way to achieve sustainable rural development within communities living near wildlife (Ministry of Environment, Wildlife and Tourism 2007). In reality, the promises of devolved management and improved wildlife-based livelihood options to buffer against wildlife-related damages and dangers have failed to fully materialize (Rozemeijer 2009).

**Kachikau Case Study Findings**

Given that in most of the Chobe Enclave neither agriculture nor natural resources are a primary livelihood activity and that CBNRM has not provided a viable alternative, the question then arises, how are smallholder farmers responding to the decline of agricultural livelihood opportunities that results from living in close proximity to a protected area and protected wildlife? More specifically, what are the agrarian livelihood strategies of local residents and how have they been mediated by local political economic and environmental conditions?

To address these questions, data were collected during nine months (2009-10) in the village of Kachikau (population 1,072 ( Central Statistics Office 2001)) in the Chobe Enclave where I conducted participant-observation, focus group workshops, semi-structured interviews with both village residents and local government officials, and a household survey.[11] I also collected data in the Botswana National Archives.

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[10] The reasons for the decline of agriculture in terms of its productivity and contribution to livelihoods include decreased and/or less reliable rainfall (as reported by local Chobe farmers); rural-urban migration and the associated loss of manpower; and rising income inequalities and decreased access to the means of production (i.e. livestock for draught power) for many households (Barnhoorn et al. 1994, MacDonald 1989).

[11] The survey was administered to a random 30 percent sample of households (sample size: 49 households) selected from a list of village plot holders (all residential plots must be registered so the list is relatively comprehensive) from the district Land Board office using a random number generator. The survey was administered to the head of the household and the spouse of the head of the household if there was one. The survey data used in this article were

Most households in the Chobe Enclave rely heavily on external channels of support—namely, state transfers from the government and remittances from family members working outside the Enclave. The role of remittances in structuring livelihoods and kinship relations in Chobe Enclave is detailed elsewhere. In this section I present data on the contribution of state transfers to household incomes and explain how these state transfers influence the way in which villagers strategically engage in certain types of livelihood activities.

***The role of state transfers***

While the government of Botswana provides a large percentage of income to many households in Botswana in general, in northern Botswana in particular, people are especially reliant on state-provisioned safety nets to survive. A 1992 survey in the Enclave found that 52.4% of households reported receiving at least one form of government assistance (SIAPAC 1992). A 2001 survey revealed that government transfers make up 55% of the total income from all livelihood activities in northern Botswana[12] (BIDPA 2001). In my 2010 survey of Kachikau, 23.4% of Kachikau households' main source of income cited fell into the category of government assistance.[13] My survey also found that government assistance comprised on average a quarter of the livelihood portfolio of a typical Kachikau household. (Table 1) Thus government assistance is both widespread within the village and of considerable importance to households. Residents of Kachikau recognize this. In focus group discussions during which I presented data from the prior 2001 survey showing a high reliance on government support in northern Botswana, all participants agreed that this finding was correct given the lack of employment or agricultural opportunities in the village.[14]

Chobe residents access government transfers through three main categories of support programs: programs designed to boost income-generating activities such as farming and small businesses, safety net programs, and social welfare programs (i.e. entitlements) (BIDPA 2001). In Chobe, the primary programs in place to boost livelihood productivity are the national-level Citizen Entrepreneurial Development Agency (CEDA) that gives loans to Batswana wishing to start a small business and the Integrated Support Program for Arable Agriculture Development (ISPAAD). ISPAAD distributes seeds and fertilizer to farmers and provides them with farming implements. ISPAAD not only provides farming inputs and technical assistance but also essentially eliminates the need for household farm labor during the plowing season by providing farmers with tractors

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collected only from the head of the household, as prior comparison of spousal data indicated enough similarity to rely on the household head data as accurately portraying the household.

[12] In this survey, "Northern" referred to Chobe and Ngamiland districts. Disaggregated data for Chobe district alone are not available, but the data are still useful because they show the difference between reliance on government agricultural support in Naledi (and the northern region of which it is a part) compared to the rest of Botswana.

[13] The specific forms mentioned included pension money, other social welfare entitlements and money from *Ipelegeng*, the government sponsored day labor program.

[14] Further, one man born and raised in Naledi and now living in the capital, Gaborone, cited the decline of the *mafisa* system as the reason for the high degree of reliance on government welfare. Under the *mafisa* system in the past, cattle were lent or loaned in trust from cattle-owners to poorer people, in return for tribute, services, and allegiance. This system promulgated patron-client relations but also created a safety net for otherwise destitute households by providing them with access to cattle (Schapera 1966). With the decline of this cultural institution, the state has had to provide alternative types of safety nets to its poorest citizens.

and government-paid tractor drivers.[15] For registered farmers, it provides draft power in the form of a tractor to plow, harrow and plant five hectares of land for free and up to an additional 11 hectares at a 50% subsidy. Through ISPAAD, the government spends 700 pula (equal to US$106 at the time of writing) per hectare during the plowing season to prepare the soil, plow the fields and plant seeds for farmers in the Chobe Enclave. Farmers who do not use the ISPAAD tractor and plow using their own livestock are given money equivalent to the amount that the government would have spent to plow for them (pers. comm. 2010).

According to the Department of Agriculture (2011) records, ISPAAD expenses in 2010/11 in Chobe district totaled 1,642,509 pula (roughly US$250,000), with 457,032 pula (US$69,500) still owed to farmers.[16] This expenditure mainly covered payments to farmers for hectares plowed but also included expenditure for field extension agents and seeds. 2010/11 records also show that there were 54 plowing assistance beneficiaries and 102 seed beneficiaries in Kachikau, which has a population of 1,072, or roughly 200 households (2001 Botswana Population and Housing Census). Each beneficiary likely represents a household that as a unit is farming. Given that beneficiaries receiving plowing assistance potentially overlap with those receiving seeds, the data suggests that about half of Kachikau households (102/~200) receive ISPAAD support. In the context of data from my 2008 and 2010 surveys suggesting that somewhere between a third and a half of households (70 to 100 households) are farming their fields, these records indicate that farming is heavily subsidized for the households in Kachikau that decide to farm. This conclusion is supported by agricultural extension agents working in the Chobe Enclave who reported that all farmers in the Enclave who have farmed their fields in the past few years have received support from ISPAAD—in other words, all active farmers take advantage of the ISPAAD program.

In light of my findings on the widespread role of government support of agriculture in the Chobe Enclave, is not surprising then that the 2001 BIDPA study also found that only 13.8% of Northern households stated that government programmatic support for agricultural production was *not* an important source of income.[17] This percentage sharply contrasts to the national average of 70.5% of respondents who stated such support was not important (BIDPA 2001). Similarly, 72.4% of surveyed households in northern Botswana said that government support programs provided them with access to agricultural inputs in comparison to the national average of 40.5%. (Table 1)

The government of Botswana's labor-based public works program, *Ipelegeng*, provides a source of (at least temporary) employment and income to many Chobe Enclave residents. Records from the Chobe District Council show that in the year 2008/09, there were 284 beneficiaries of *Ipelegeng* in Kachikau, which represents roughly a quarter of the population of the village (1,072), or over one person per

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[15] While the government ostensibly provides tractors to all farmers in the Enclave, most farmers complain that there is always a long line to access these tractors, which results in some households plowing late in the season and missing the opportunity to plow at the optimal time when the first rains arrive.

[16] Records show that the government spent 648,6333 pula (roughly $US 100,000) on assistance to farmers in the Chobe district in 2008/09 and 276,080 pula (US$42,000) in the first half of 2009/10. Local officers from the Department of Agriculture explain that the increase in expenditure over the past few years is due to increased participation in the ISPAAD program (Pologolo, personal communication, April 7th, 2011).

[17] In this survey, "income" included the value to the household of its own production.

household working for *Ipelegeng*. In 2011, *Ipelegeng* employed 60 Kachikau residents during the month of March and 60 during the month of April alone ("Kachikau" VDC 2011). In interviews and focus group discussions, participants agreed that more than half of households in their village rely on *Ipelegeng* as an important source of income. Villagers emphasized the importance of *Ipelegeng* in providing temporary work especially to youth in the face of a lack of farming and formal employment opportunities.

Formal employment in the Chobe Enclave is minimal and mostly consists of working for the Botswana government itself. Botswana's government is the largest employer in the nation, employing roughly 43% of the formal labor force (Central Statistics Office 2007). In the Chobe District, the government employs almost 40% of the working population (Kemmonye 2009). My interviews with local officials showed that formal employment in Kachikau is available only through the local primary and secondary school, the police station, and the health clinic—state institutions that together employ 138 people, 59 of whom originate from within the Chobe Enclave.

While government-subsidized farming and government job creation target state resources towards the disadvantaged who are able-bodied, the government also provides welfare to those who are unable to work through a number of social welfare programs: entitlement programs such as the old-age pension scheme, World War II veteran grants, food packages for the very poor, supplementary feeding programs for vulnerable groups and primary school children, provision of food, clothing, education and protection to orphans, and assistance to the terminally ill through home-based care (Seleka et al. 2007). These social safety net (SSN) programs are particularly prevalent in Chobe—71.1% of surveyed households in northern Botswana said that government support programs provided them with direct access to food in comparison to the national average of 19.6% (BIDPA 2001). The Chobe District Council (2010) records show that for Kachikau, almost twenty percent (16.8%) of the population is a direct recipient of some form of direct state welfare support, not including the other indirect support programs through which residents can access state resources.[18] (Table 1) Clearly, these programs make a difference to people's survival, and to their household productive strategies.

State transfers in Chobe mean that villagers can either afford to stop farming their fields altogether because state forms of assistance contribute to household income directly through entitlements and/or indirectly through employment opportunities *or* they continue to farm at least minimally with low input and low risk because of government-sponsored agricultural subsidies. In this latter case, the continuation of farming in many cases means plowing, but not necessarily tending to or protecting one's fields in order to ensure a harvest. What is particularly interesting is that households in Chobe are not uniformly deciding to continue farming or to abandon it—some households choose to give up entirely on utilizing their arable land holdings while other households take advantage of government agricultural subsidies described above.[19] However, in both

[18] In Naledi there are about 70 beneficiaries of the Old Age Pension Scheme (which provides anyone over the age of 65 with 220 pula a month), 34 beneficiaries of the Destitute Persons Program (which provides destitutes with 81 pula per month and a food basket), 35 beneficiaries of the Orphans Care Program, 34 beneficiaries of the Primary School Feeding Program and about 7 beneficiaries of the Home-Based Care program.

[19] An analysis of the qualities that characterize the types of households that choose to utilize the available agricultural subsidies to continue plowing versus those that give up farming altogether is beyond the scope of this study and warrants further research.

cases, household livelihood decision-making can only be understood within the context of the financial and physical capital made available by the state in relation to the agricultural conditions resulting from living near protected elephants and other wildlife.

***The cessation of farming: the abandonment strategy***

Evidence suggests that the percentage of households in Kachikau who are farming their fields has decreased over the past three decades. In 2010, 61.1% of surveyed households from Kachikau with some type of arable land, either *molapo* or dryland fields or both, reported that they did not plow in the 2009-10 agricultural season. These numbers contrast with a 1984 agricultural survey of Kachikau, which found that approximately 11% of households in Kachikau with some type of arable land did not plow that year (Tsimako 1984). In other words, while in 1984 roughly 90% of Kachikau households with land were plowing, in 2010 only about 40% of Kachikau households with land were plowing (Table 2). This trend was confirmed by the Principal Technical Officer at the local Land Board, who reported that most arable fields around Kachikau are currently unutilized, as evidenced by the fact that lack of maintenance of fields results in difficulty for the Land Board to determine boundary lines between fields when they survey the land (L. Kebaitse, personal communication, April 7th, 2011). It was further confirmed by the comments of most of my interviewees, who, when asked about changes in the Enclave they had observed over their lifetime, reported that today people buy food from the stores and agriculture plays a much smaller role in village life. Not surprisingly then, my 2010 survey showed that both the sale and consumption of crops contribute on average only 7.3% to a household's survival in Kachikau (4% in the dry season and 10.5% in the wet season).[20] As one elderly lady commented during a 2009 focus group, ' in the past, we used to plow and harvest and eat what they get from fields…we didn't buy stuff like rice…but today we are suffering; we have to buy food and we are not working.' Further, in a 2011 focus group with eight elders from Kachikau, not a single participant had plowed his or her fields during the past agricultural season.[21]

Comparison of current and previous survey data on the percent of households who reported having land tenure over fields in the Chobe Enclave also indirectly suggests that the percent of actively farming households has decreased. A survey of the southern Enclave (comprised of three villages including Kachikau)[22] in 1988 (Polet 1988) found

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[20] However, this percentage refers only to crops harvested from the fields, and does not include fruits and vegetables more commonly grown in a household's backyard garden. Follow-up research in the spring of 2011 suggested that an increasing number of households are growing more crops than usual in their backyard gardens in lieu of planting at their fields. The degree to which these garden crops contribute to a household's livelihood portfolio and in particular food security warrants further research.

[21] That they did not plow cannot be explained by the fact that they are elderly because in Botswana, villagers continue to plow into their old age and in households where younger family members have gone to town to look for work, elder family members are responsible for tending the fields.

[22] Historical data is only available at the aggregate southern Enclave level and not for Naledi individually. The Enclave is conventionally grouped into two geographically distinct areas of the Enclave—the northern Enclave (including two villages nearer the floodplain) and the southern Enclave (including the three villages on the escarpment away from the floodplain). A1988 study (Polet) shows that the proportion of dryland versus *molapo* holdings differ between the southern and northern Enclave (meaning aggregated data from the entire Chobe Enclave would not reflect individual village-level data from Naledi), but that the villages within the southern Enclave exhibit comparable land holding and farming patterns, making Naledi and the southern Enclave comparable units of analysis for assessing change over time in Naledi.

that only 2% of households had neither *molapo* nor dryland fields. Results from my 2010 survey show that 23.4% of households in Kachikau have neither *molapo* nor dryland fields. (Table 3) This would mean that today, only 76.6% of surveyed households have some type of arable land (*molapo* or dryland). However, focus groups and interviews with both villagers and government officials during a follow-up trip to Kachikau complicated this initial finding. All informants agreed that there has not been a decline in the percentage of households who have de jure rights to agricultural land. This is supported by the fact that land is leased freely to all Batswana by the state and that selling or relinquishing fields is uncommon on tribal/communal land (Jones 1999). [23] The consensus among village informants was that the survey findings were incorrect regarding the percentage of families who have fields. They felt that households who still have de jure title deeds to their land but have abandoned this land (allowing bush vegetation to grow back so it no longer resembles an arable field) were answering this survey question based on this de facto abandonment. In this way, my survey finding as contextualized by local explanations) provides further evidence that farmers are increasingly giving up farming their fields.

While it is difficult to prove that elephants are the singular reason for a decrease in arable agricultural activities in Kachikau in comparison to a few decades ago, several pieces of evidence together suggest the presence of elephants and other crop raiders are at least one very important reason why many Kachikau villagers with fields are not farming their land. Farmers in Kachikau whom I interviewed individually reported that they and many of their neighbors no longer plant crops in their fields due to pressure from wildlife and in particular, fear of elephants raiding crops. Focus group discussions confirmed this finding, as residents of Kachikau repeatedly emphasized that wild animals were destroying crops and making farming an increasingly unviable activity. As one young man explained,

> *when I was growing, plowing*[24] *was main fact of life, so when wild animals attacked we killed them, but now if you kill an elephant you have to answer for that…we plow but get nothing…tomorrow you go early to the fields but find nothing because of elephants.*

Other studies in the Enclave have also found a similar sentiment amongst Kachikau villagers. For example, in a participatory community action plan Kachikau residents listed "increase in wildlife numbers" and "food problems caused by wildlife menace" as two of their top ten problems (1994). Frustration towards elephants who eat the crops meant for a farmer's family has thus at least in part caused many Kachikau residents to give up plowing their fields in recent years. This is further confirmed by results from my preliminary 2008 survey of Kachikau, in which only 48% of households with arable fields reported that they had planted crops that year. Seventy-five percent of the 2008 survey respondents who did not plow said they did not farm because of concerns about

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[23] Although as explained below, there has been an increase in land transactions in which a village resident applies for a plot of arable land from the Land Board and then covertly sells this land to a non-citizen. However this would not result in a decrease in the percent of households who have arable land because the land being sold represents additional land holdings that have only recently been applied for and acquired by villagers, rather than land that has been in a family for generations.

[24] In Setswana, the words for "plowing" and "farming" are used interchangeably. When an interviewee speaks in English, he or she also uses the word "plowing" interchangeably with the word "farming."

potential elephant damage. Furthermore, 55.2% of migrants originating from Kachikau cited in 2011 elephants as the cause of agricultural decline in their home village (N=67 unstructured interviews; no prompt regarding elephants or agriculture). These findings are corroborated by the aforementioned evidence from DWNP reports (K. Alexander, unpublished data) that human-elephant conflict incidents are rising in Kachikau. This is not surprising given ecological data showing that wildlife movement corridors run directly through Kachikau and the two adjacent Enclave villages, which together comprise the southern Enclave (Chobe Enclave Management Plan 2003). Elephants travel from the Forest Reserve to the Chobe river for water, especially during the dry season, and cut directly through the escarpment upon which Kachikau is situated.

A comparison of the Northern and Southern Enclave in terms of plowing intensity and wildlife movement also indicates that wildlife and/or fear of wildlife discourages Kachikau villagers from farming. Table 4 shows that over the past three years, the percentage of available arable land that is plowed has been consistently lower in the southern Enclave (the three villages including Kachikau that are situated in a wildlife corridor) than in the northern Enclave (comprised of two villages away from wildlife corridors). For example, in 2010/11, the southern Enclave plowed 5.4 percent of their available land while the northern Enclave plowed 19 percent of their available arable land. (ISPAAD 2011) In the three agricultural seasons from 2007/08 to 2009/10, the southern Enclave sold no surplus grain to the Botswana Agricultural Marketing Board while the northern Enclave sold maize during two of these seasons (and did not have excess maize in 2009/10 due to extensive flooding) (BAMB district officer, interview, May 14th 2010). Given that apart from elephant movement patterns the Northern and Southern Enclave face similar challenges to farming (Barnhoorn et al. 1994), these data suggest that there is an inverse correlation between wildlife disturbance and intensity of farming.

David Jones proposed in the 1980's that transfers and remittances explained why the unemployed in Botswana appear to prefer non-employment to arable agriculture and why they retain unutilized labor time that they cannot, or will not, devote to the arable sector. He argued that the network of transfers and remittances from those working in other sectors of the economy (e.g. mining, livestock) form a safety net that is 'sufficient to permit many people who have no other source of profitable employment to reject the low and risky returns of employment or self-employment in arable agriculture or to indulge in arable agriculture only on a minimum-effort-maximum-return-to-labor basis' (Jones 1981). This thesis is rooted in the fact that rural-urban linkages in Botswana are very strong and many rural dwellers depend heavily upon remittances to survive (Barnhoorn et al. 1994). This is certainly true in the Chobe Enclave where many men and women leave the Enclave, which has few wage earning opportunities,[25] as discussed above, to seek employment in the nearby town of Kasane or further away. While in Jones' analysis the network of transfers was based on kinship (from employed individuals to unemployed relatives or neighbors) rather than state support, his larger point is still salient and helps explain the livelihood strategies present in Chobe today. Returns to agriculture have always been risky in Chobe (Barnhoorn et al. 1994), which in part

[25] My primary research found that that 79% of households in Naledi have a family member living outside the village (N=47) and 50 percent of these migrants were reported to be sending remittances back to the village.

explains why historically farmers devoted minimal resources to their agricultural activities[26], but as returns become even lower, some households have been deciding that even low-input farming is no longer worth the effort and have been making the conscious choice to stop farming altogether. As one woman stated matter-of-factly, 'the number of wild animals has increased so people don't want to plow because when they plow animals destroy their crops.' Interview and focus group participants in Kachikau in 2010-11 expressed this same sentiment to me numerous times. The chief of Kachikau himself explained, 'people are slowly getting out of plowing because they realize that they waste time and energy to plow and after that elephants come and sweep up everything, so people are reluctant now [to farm]' (personal communication, April 1st, 2011). The risk of losing crops to elephants may be only the latest of many challenges to farming in Kachikau, but it is enough to push many farmers to a point of giving up entirely on agriculture. However, what interviewees did not explicitly say to me is that access to alternate sources of income provides them with the option to make this kind of decision.[27] Yet it is the combination of remittances from family members working outside the Enclave and state transfers that structures livelihood strategies in Chobe and allows some residents to stop farming their fields in the face of increasingly adverse ecological conditions such as increased elephant disturbance and erratic rainfall.[28] In contrast, farmers in other countries with few other livelihood options are forced to continue farming on marginal lands (Boafo 2004, Sitati 2003) in what frequently becomes a reinforcing cycle of ecological and economic marginalization (Blaikie and Brookfield 1987, Watts 1983).

This finding from Chobe runs counter to conceptual frameworks from agrarian studies, which explain contemporary rural livelihood strategies in terms of diversification of on-farm and off-farm activities. Diversification is defined as 'the process by which rural households construct an increasingly diverse portfolio of activities and assets in order to survive and to improve their standards of living' (Ellis 2000, 15). Agrarian scholars assume that rural 'peasants' living in a contemporary world combine on-farm and off-farm income to survive (Bernstein et al. 1992, Ellis 2000; Bryceson 1999). The notion that in some places farming may not even be part of this diversified rural livelihood portfolio also contrasts with national-level analyses of rural agriculture in Botswana, which suggest that arable agriculture on communal land is of declining economic significance but retains importance particularly for those who have no alternatives, such as the rural elderly (BIDPA 2001). Traditional agriculture may indeed still serve as a viable safety net in other parts of rural Botswana, and even within the Chobe Enclave itself where some villages in the northern Enclave produce enough surplus to sell to the Botswana Agricultural Marketing Board. However in the village of

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[26] For example, farmers primarily grow maize, the least labor-intensive crop (Hartland-Thunberg 1978) and are hesitant to adopt technology or infrastructure (e.g. fencing, irrigation) that requires capital investment (MacDonald 1989).

[27] Although on occasion elders would blame job opportunities with *Ipelegeng* for the younger generation's lack of interest in farming. As one elder focus group participant said, "*Ipelegeng* is the thing which has made young people abandon plowing."

[28] Whether villagers' reports of increased elephant damage and decreased rainfall are supported by empirical data is less relevant than the fact that they have the ability to choose to discontinue farming in response to what they perceive to be challenges to productive farming. An examination of the basis of this general perception would warrant a separate study, though Department of Wildlife data does show that elephant populations have increased along with the number of problem animal control reports filed (World Bank 2009).

Kachikau, where elephants are particularly problematic, a number of households with access to arable land are choosing not to farm their fields, and receive no contribution of on-farm support to their livelihood portfolio.

***The continuation of low level 'farming'***

At the same time, government agricultural assistance also allows Chobe residents who wish to continue farming to do so with minimal inputs of their own, and thus with minimal risk. This creates a situation in which agricultural activities are performed under conditions that without the presence of state subsidies would discourage most risk-adverse households from participating. In fact, the local office of Crop Production reports that the number of individuals plowing and planting their fields has increased in the Chobe Enclave in the recent years since the introduction of ISPAAD in 2009, because farmers who formerly had given up on farming have now chosen to take advantage of the capital and labor provided through the program (F. Makete, personal communication, April 5th, 2011). However, ISPAAD only provides assistance with the initial stages of plowing and planting. It does not help farmers with the increasingly necessary and time-consuming activity of protecting crops from wild animals. As a result, while the number of farmers plowing their fields in Kachikau has increased since the introduction of ISPAAD (from 231 farmers in 2006/7 to 682 farmers in 2010/11), production levels have not increased (Mazila, personal communication, April 4th, 2011).

Villagers themselves emphasize that regardless of their efforts, elephants will ensure that they see no harvest. Yet the minimal input required by households to plow and plant crops under the ISPAAD program means that people have incentive to cultivate (though not necessarily tend to) their fields because they have little to lose. At best, they gain a modest harvest that contributes to food security; at worst, their fields yield nothing but they suffer minimal personal expense for the opportunity to potentially gain an additional livelihood stream. Even when the ISPAAD tractor arrives too late in the plowing season[29], some farmers still choose to participate in ISPAAD-assisted farming because such participation is at no cost to their household. As one focus group participant explained, 'some people do plowing knowing it's too late [in the season] just because the government is giving them free seeds.' Another interviewee added, 'some people plow because they believe maybe at the end of the day they will get something.' This belief is bolstered by the government, which people repeatedly mentioned is encouraging villagers to farm to combat national poverty and food insecurity.[30] Government agricultural programs provide hope and incentivize villagers to continue farming because many believe that 'the government is giving programs which might work [to improve farming] like chili pepper.'[31] When I asked a youth focus group directly whether people would continue to farm without ISPAAD all but one of the participants answered no. One of the young men explained that part of the reason they continue to plow is because they receive

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[29] In Botswana, dryland farmers plant crops at the first rainfall (usually around October) in order to take advantage of the peak soil and weather conditions. However villagers have to wait their turn to use the ISPAAD tractor and so some farmers do not have access to the tractor until well past the first rains of the season.

[30] As one elderly lady commented, '"the government is encouraging them [villagers] to eradicate poverty so the government is giving us a hand [to farm]."'

[31] The Department of Wildlife has created demonstration plots in each of the Enclave villages to test the effectiveness of planting chili peppers as a deterrent to elephants; however, this program has been slow to develop and is currently only in its trial stages.

government assistance—'we continue [to farm] because of tradition and because the government recognizes that some [villagers] do farming and that we have to be taken care of.'

While government assistance may provide Chobe farmers with the incentive to plow their fields and plant crops, many households are either not willing or do not have the labor to tend to their fields during the interim period between planting and harvesting. This situation reflects the history of migration of men out of the villages to the South African mines in the early 1900's that reduced the amount of available labor for full-time farming and resulted in lower yields and a switch to less labor intensive crops (Hartland-Thunberg 1978, Schapera 1966). In Chobe in particular, the prevalent low input-low output farming approach is a response to both labor constraints and the risks involved in farming in an ecologically marginal landscape (MacDonald 1989).

Since independence, seasonal migration between villages and agricultural lands in Botswana has decreased (Gwebu 1987, Silitshena 1983). Today, villagers and local government officials alike report that in Kachikau, far fewer farmers either stay out at the fields or check on their fields daily during the agricultural season than in the past. Villagers cite the extensive time required for daily travel between the homestead and the fields as the reason for low crop husbandry (MacDonald 1989). In my interviews, Kachikau villagers gave a number of reasons for the decline in arable land husbandry—youth prefer to look for jobs in the village (or nearby town) rather than to stay out at the household agricultural outpost, children are now in school, residents are drawn to the village on the weekends to drink 'shake-shake' (a local beer) and as re-iterated to me repeatedly, in Chobe, farmers see no point in tending to their fields when the chance of substantial crop destruction by elephants despite their best efforts to deter them is perceived to be high.[32] Kachikau residents express great frustration at the fact that current conservation law prevents them from killing problem animals like elephants and that elephants today are no longer deterred by traditional scare tactics such as beating drums and tin cans. Given this situation—a unique combination of environmental disincentives and government-initiated incentives to farm—farmers who previously had abandoned farming because of wild animal damages now are more likely to take advantage of the free plowing and planting provided through ISPAAD. At the same time, once the government subsidized farming activities (plowing and planting) have ended, these farmers do not necessarily pursue a livelihood strategy of labor-intensive field maintenance given both its opportunity costs (missed opportunities for stable employment elsewhere) and the high risk of failure. This means that agricultural productivity remains low, even if the number of 'farmers' appears to be increasing as indicated by increased numbers of beneficiaries of the ISPAAD program.

With increasing elephant disturbance, policy-makers concerned with reducing human-wildlife conflict in order to promote conservation and development emphasize that there is now more than ever a need for farmers to protect their fields and actively participate in farming activities in between the planting and harvesting period. For example, the Department of Wildlife and National Parks has embarked on a pilot project

[32] One exemplary story was related to me by an elder man who, in explaining to me why he did not farm anymore, described how despite the fact that his neighbor was keeping his fields in good condition for most of the agricultural season, elephant destruction of his crops towards harvest time meant that he reaped none of the fruits of his own labor.

to introduce chili pepper planting as an elephant deterrent strategy. A local NGO is also experimenting with various agricultural techniques designed to reduce human-wildlife conflict at a demonstration plot just outside the village. But the high cost[33] of such field maintenance combined with a long-standing low input-low output farming approach means that small scale farmers are hesitant to adopt such farming strategies, given that they are rarely able or willing to take on the full-time dangerous job of protecting their crops from wildlife raiding. The result is that some people in Chobe still 'farm,' but with inputs and yields that are so minimal that many village residents, especially the youth, consider agriculture to be a livelihood activity of the past.

Evidence also suggests that households and individuals are incentivized to plow their fields because of the access to state resources that participation in farming provides, regardless of the likelihood of failure of agriculture. For example, a number of youth interviewees expressed interest in applying for money from the Young Farmer's Fund in order to start small farming projects. However several key informants reported to me that the few youth recipients of the Young Farmer's Fund had either used the money for purposes other than farming or had devoted minimal effort to their proposed farming endeavors.[34] Similarly, the agricultural officer for Chobe explained to me that the 'less serious' farmers in Chobe who had previously given up on farming but were now plowing their fields under ISPAAD viewed the plowing and planting of their fields as a way to access an immediate source of cash (F. Makete, personal communication, April 5th, 2011). These farmers plow their fields themselves and then receive the government subsidy of 700 pula/ha (up to 5 hectares) that farmers who plow for themselves and do not use the government-provided tractor and labor are eligible to receive. Once they have finished plowing and planting however, many of these farmers do not continue to perform the necessary field maintenance (weeding, protecting from pests and domestic or wild animals) that is required to obtain a harvest. For these farmers, she likened farming to a waged job—farmers plow in order to receive cash from the government and then abandon their fields with little regard for the potential harvest that their fields could yield.[35] Project research assistants who were village residents confirmed this observation. While the prevalence of this livelihood strategy could not be accurately measured through survey data (due to the sensitivity of the subject), interview data at least suggest the possibility that some farmers in Chobe are plowing their fields in order to gain financially from the state rather than for agricultural outputs.

The local agricultural officer also reported that Chobe residents draw on state assistance for agriculture and then abandon their fields after plowing[36] in part because they can then return to the village to seek day wage labor through the village *Ipelegeng*

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[33] Cost here is understood in terms of both opportunity costs of labor time and actual costs of building materials like fencing or irrigation.

[34] A group of women in Naledi also formed that hoped to obtain funds for a vegetable garden project through ISPAAD, which provides fencing and assistance to people who cluster their individual fields together in order to encourage larger-scale (supposedly more "efficient") farming. At the time of writing, they had yet to submit a grant so the way they utilize government funds remains to be seen.

[35] She contrasted these "less serious" farmers who only receive one benefit—money from ISPAAD—with "serious" farmers who receive two benefits—money from ISPAAD and a harvest of crops that could contribute to household food security and self-sufficiency.

[36] Either choosing to have the state plow for them or plowing themselves and obtaining monetary reimbursement from the state.

program. Kachikau residents themselves reported that participation in *Ipelegeng* reduced the amount of labor available for plowing and maintaining family fields, which in most cases are far away from the village center where *Ipelegeng* activities take place.[37] While the agricultural officer was complaining that this behavior means people do not take care of their fields and thus limit their chances of obtaining productive yields, their strategy follows standard economic theory on livelihood decision-making in which households do their best to diversify their livelihood portfolio in order to spread risk and to mobilize all available assets—in this case, physical and financial capital that can be accessed simultaneously through various state channels (i.e. participation in ISPAAD agricultural programs and public work programs) (de Sherbinin et al. 2008).[38] In this case, state programs appear to work against each other—the presence of *Ipelegeng* might decrease rural crop production[39]—as households scramble to take advantage of whatever state resources are available to them that can potentially contribute to their livelihood portfolio.

At the same time, my research revealed that people plow not only for strategic reasons such as those mentioned above, but also because plowing one's fields provides a household or individual with a certain degree of cultural capital (Bebbington 1999). In my interviews with both residents and migrants originating from Kachikau, I was told repeatedly that farming is 'our culture', 'our lifestyle,' or an 'African tradition'—an activity that should be continued, despite the challenges. For example, one young man told me that he had interest in raising cattle because he doesn't 'want to lose [his] culture'. Likewise, another interviewee explained to me that 'as you know we are farmers, we grow crops, got cattle, during the day young guys look after cattle, evening we come back.' In this way, Kachikau residents, many of whom have stopped farming altogether or who farm minimally, emphasize the way in which farming is essential to the Batswana culture and an identifier of a true Motswana. This apparent contradiction is possible because of the physical and financial capital provided by the government, which offsets some of the costs of farming incurred by living near wildlife and encourages people to continue their agricultural activities. In this way, state support has prevented the

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[37] In a follow-up survey in 2012, 36.8 percent of households participating in *Ipelegeng* stated that participation in *Ipelegeng* reduced the amount of labor available for farming and another 36.8 percent of households participating in *Ipelegeng* stated that they had chosen not to plow their fields in the past three years (N=19). While the sample size makes it difficult to determine if these results are significant, the data at least suggest that *Ipelegeng* plays a role in causing some farmers to put minimal input into farming (low-level continuation strategy) and that *Ipelegeng* is in some cases associated with the cessation of farming (abandonment strategy).

[38] While participation in *Ipelegeng* may not detract from crop production for households without arable land (e.g. 23.4 percent of surveyed Naledi households stated they had neither molapo nor dryland fields), follow-up research in January 2012 showed that 73.7 percent of households participating in Ipelegeng had either molapo and/or dryland fields.

[39] While agricultural productivity is minimal at the fields in part because people are drawn to the state resources available in the village, follow-up research in the spring of 2011 suggests that villagers who remain in the village are increasingly planting a variety of crops in their backyard gardens. These gardens have historically been used to plant small amounts of vegetables (usually greens) to serve as "relish," while staple crops such as maize and sorghum are grown in the fields. However some villagers reported using seeds provided by ISPAAD to plant small amounts of staple crops in their backyard, suggesting that agricultural practices are shifting away from the traditional spatial divisions of farming. The degree to which different forms of government support under this emerging scenario are in fact complementary rather than conflicting, as well as the extent and the implications of backyard farming, requires further research.

complete disappearance of an agricultural way of life, and allowed the village to retain some semblance of an agricultural livelihood base.

**Conclusion**

The situation facing farmers in Kachikau today is unusual and important because it both calls into question the distinction between agricultural and non-agricultural livelihood strategies and complicates the role of the state in processes of agrarian change. First of all, it is notable that in Chobe, some villagers maintain the appearances of an agrarian lifestyle through nominal participation in subsidized relatively risk-free agricultural activities (plowing and planting), yet with little expectation of subsistence or cash crop production. Other farmers do not participate in farming at all and instead rely entirely on non-farm sources of income, in particular government safety net and entitlement programs. This suggests that the diversified livelihood portfolio that results from processes of de-agrarianization may in some cases not even include an agricultural component (c.f. Bernstein 1992; Ellis 2000). Second, and perhaps most relevant for policy analysis, is the fact that in Chobe, the state's role in the fate of smallholder agriculture is neither entirely benevolent nor malevolent. Marginalization of small-holder agriculture is frequently attributed to damaging state policies that in the colonial era dismantled self-sufficient family farms through forced labor migration and forced production of cash crops (Bernstein 2006, Watts 1983) and that in more recent years have privileged large-scale commercial farmers over small-scale producers or facilitated the acquisition of prime farmland by foreign countries or multi-national corporations (Cotula 2009, Kugelman and Levenstein 2009). However in Chobe, the state contributes to smallholder agricultural marginalization through prioritization of wildlife conservation while simultaneously providing small farmers with relatively extensive agricultural support. Farmers are prohibited by the state from shooting elephants that destroy their crops because wildlife is viewed as a national resource valuable for the tourism industry. Furthermore, land for agricultural expansion is limited due to extensive zoning of wildlife management areas. Yet at the same time, the government is encouraging farmers through programs like ISPAAD to participate in agricultural activities as a way to achieve food security and poverty alleviation. Unlike other African countries where subsidies to small-scale farmers have shrunk (Bryceson 1999), Botswana has in fact increased the level of support that it gives to small farmers and publicly stated its intention to promote food sovereignty and reduce its dependence on South African foodstuff imports. The conflicting conditions that result for farmers—incentives from the government that encourage farming but ecological conditions (i.e. high elephant populations) that make successful agricultural production nearly impossible—mean that production levels remain low despite farmer participation in agricultural programs. This finding adds a new dimension to literature on agrarian change by suggesting that the state can affect small-holder agrarian livelihoods in the Global South in multiple and even contradictory ways by putting policies in place that simultaneously contribute to and stymie processes of de-agrarianization.

This outcome can be understood on one level to be the result of countrywide implementation of a national policy to promote food security that does not necessarily take into account variable local conditions. From this perspective, the situation in Chobe represents failure on the part of the government to realize the mismatch between a

national policy to promote agriculture and local conditions resulting from wildlife conservation initiatives that discourage agriculture. This analysis would suggest the need for region-specific development policies and strategies that are developed to be appropriate for the local conditions and would raise the question as to whether a program like ISPAAD makes sense in a place like Chobe where conditions for farming are so challenging. However, what emerged during document analysis and interviews with local government officials in the Chobe district was that state support for smallholder agriculture in Chobe does not merely represent governmental oversight of local circumstances. Rather, the government under the presidency of Ian Khama has identified the agricultural sector as the main driver of poverty eradication and so improvement of national and household food security throughout the entire country, including Chobe, is now one of the main objectives of the state (Benza 2008).[40] Arable agriculture thus 'continues to be a priority in the Chobe district' (DDP 6), despite the recognized problem of land shortage and human-wildlife conflict that has resulted from the zoning of wildlife management areas in the district. While district development plans cite tourism as a means to develop local livelihoods in Chobe, the government in the past few years has at the same time been wary of applications to convert land designated for agricultural use to land designated for tourism purposes. In fact, local officials at the Chobe Land Board expressed concerns that such changes in land-use could threaten national efforts to promote food security and made repeated mention of a government directive that ordered Land Board officials to decline applications requesting a transfer of land-use from agriculture to tourism, in order to encourage villagers to continue farming their fields (Tshetlho and Kebaitse, personal communication, April 7th, 2011).

Given that the government is encouraging Chobe residents to farm their land while promoting a wildlife conservation policy that make such an activity difficult, residents and local officials alike have suggested that a possible solution to reduce agriculture-wildlife conflict would be to construct an electrified wildlife fence that would separate wildlife from farmland. However, the government is reticent to erect wildlife fences that might interfere with wildlife migratory routes and that would be difficult to construct given the annual flooding cycles. While few alternate solutions have been posed, in the meantime, agricultural support programs such as ISPAAD and other state support programs such as *Ipelegeng* appear to be having unexpected effects such as encouraging some farmers to plow yet not necessarily maintain their fields. Clearly then, state-led development policies do matter and do influence the livelihood decisions that people make—but in ways that reflect the fact that people respond to these policies *in conjunction* with other pressing local conditions, which in Kachikau is primarily the destructive presence of elephants. Similarly, the effects of conservation policy on rural livelihoods are mediated by other state policies at work—a finding that pushes

[40] In particular the government under Ian Khama, who took over the presidency in 2008 at a time when global food prices were skyrocketing, has made self-sufficiency in food production a national priority. The government has recognized that Botswana, which imports over eighty percent of its food requirements, has been left at the mercy of the rising international food prices. Efforts to reduce dependency on food imports include not only ISPAAD but also programs such as the presidential initiative to supply schools and other government institutions with locally grown produce (Benza 2008).

conservation studies towards the development of a more nuanced understanding of how and why the relationship between protected areas and livelihoods can vary across the globe. As the Kachikau case study reveals, the nature of agrarian livelihoods in sub-Saharan Africa is variable and complex, and macro-scale trends ranging from climate change to neoliberal policy adoption to green land grabs, often portrayed as monolithic forces, do not determine the fate of smallholder agriculture alone. Answers to the agrarian question regarding the future of smallholder agriculture can only be found through examination of the ways in which a constellation of various political, economic and ecological processes unfold in relation to each other to influence the type of livelihood options available to rural dwellers and the livelihood strategies that they then choose to employ.

| | |
|---|---|
| **NORTHERN BOTSWANA** | **55%** of HH income from govt. transfers |
| | **72.4%** HH get access to agricultural inputs through govt. support programs |
| | **71.1%** HH get direct access to food through govt. support programs |
| | **13.8%** HH report govt. agricultural support to be *not* important |
| **CHOBE ENCLAVE** | **52.4%** HH receive at least one form of government assistance |
| **KACHIKAU** | **25%** of HH income from govt. transfers |
| | **23.4%** HH cite government assistance as main source of income |
| | **16.8%** village pop. receive direct state support (i.e. entitlements) |

Table 1. Dependence on government assistance in Kachikau village and broader region (sources: BIDPA 2001, SIAPAC 1992, primary survey data)

| | 1984 | 2010 |
|---|---|---|
| Households plowing (either molapo or dryland or both) | 88.57%-89.74%[1] | 61.11% |
| Households with fields not plowing | 10.26%-11.43%[1] | 38.89% |

Table 2. Recorded levels of plowing over thee decades for Kachikau study site (sources: Tsimako 1984, primary survey data)

[1] These figures represent estimates because the Tsimako survey data regarding land tenure in the Enclave is only provided at the aggregate level, showing that four households of all five Enclave villages had neither *molapo* nor dryland fields. Tsimako surveyed 39 households in Kachikau so the number of households in Kachikau with some form of arable land can be estimated to be somewhere between 35 and 39 households. Her study found that four households in Kachikau were not plowing, allowing for an estimation of the percentage of Kachikau households with fields who are not plowing them.

| | 1988[1] | 2010[2] |
|---|---|---|
| Households with molapo and/or dryland fields | 98% | 76.6% |
| Households with no arable land | 2% | 23.4% |

Table 3. Recorded levels of agricultural land holdings over three decades for study site (sources: Polet 1988, primary survey data)

[1]Refers to data collected for southern Enclave (3 villages)
[2]Refers to data collected for Kachikau only

| **2010/11** season: | Hectares plowed | Percent of arable land plowed[1] |
|---|---|---|
| Southern Enclave | 269.49 | 5.39 |
| Northern Enclave | 951.08 | 19.02 |
| Total Enclave | 1220.57 | 12.21 |
| | | |
| **2009/10** season: | | |
| Southern Enclave | 42.88 | 0.86 |
| Northern Enclave | 483.90 | 9.68 |
| Total Enclave | 526.78 | 5.27 |
| | | |
| **2008/09** season: | | |
| Southern Enclave | 231.51 | 4.63 |
| Northern Enclave | 952.38 | 19.05 |
| Total Enclave | 1183.89 | 11.84 |

Table 4. Percent of arable land plowed for Southern Enclave (includes Kachikau) and Northern Enclave over past three years.

[1] Percent calculated based on data from Polet's 1988 that estimates 10,000 hectares of land to be claimed by Enclave farmers for arable purposes, divided into 5,000 hectares estimated to be subject to individual claims of the two villages in the Northern Enclave and 5,000 hectares subject to claims from Southern Enclave households.

## CHAPTER THREE

## Wildlife Paying its Way?
## A Critical Analysis of Community-Based Natural Resource Management in the Chobe Enclave, Botswana

*Within the CBNRM paradigm, successfully reaching conservation and development goals relies upon the creation of markets for valuable resources such as wildlife. The cash or in-kind benefits received by households from these markets is meant to provide an incentive for communities with ownership rights to care about the fate of their resources. Most CBNRM programmes have failed to generate this kind of collective sentiment because it has proved difficult for communities to collectively access financial livelihood benefits from wildlife according to the same model that worked for private commercial landowners in the past. This chapter explains how restricted-use rights over wildlife, limited ways to participate in the mandated community wildlife management regimes (called community trusts) and a dearth of realistic revenue-generating wildlife-based opportunities for villagers make wildlife a relatively inaccessible source of livelihood support. It also discusses how norms regarding wildlife as the property of the state, in conjunction with sources of livelihood support that are easier for households to access – namely remittances from urban kin and state transfers – undermine the creation of effective community-based natural resource management regimes. This article concludes by calling on the conservation community to consider developing sustainable and socially just environmental governance in ways that build upon existing local conditions and institutions and involve thinking outside the conventional CBNRM model.*

### Introduction

For several decades, the conservation community has sought ways to transform the burden that wildlife represents to rural livelihoods into a benefit, particularly in areas where humans and wildlife come into conflict. Rural communities across Africa have witnessed the proliferation of community-based models of conservation – models intended to ensure that protected areas and species yield an economic return for local people in particular and the wider economy in general (Adams and Hulme 2001). Unlike those former protectionist strategies that have often been termed 'fortress conservation' (Brockington 2002), community conservation is based, in theory, on local participation and partnership. The model predicts that if communities are given management responsibility over their local natural resources and obtain economic benefits that exceed the costs of management, they will be encouraged to use these resources sustainably, so that both conservation and development goals can be met.

In most of southern Africa, the community conservation approach has fallen under the rubric of community-based natural resource management (CBNRM) (Child 2009a). CBNRM in Botswana represents an attempt to re-establish wildlife-based

livelihoods[41] in rural places where most traditional uses of wildlife (hunting for food or sale) were outlawed over a century ago and where agricultural activities are now frequently hindered by wildlife. The key principles of CBNRM in southern Africa draw from theories of wildlife economics and common-pool resource management (Child 2004). Evidence from southern Africa in the 1960s that devolving proprietorship over wildlife to private (mainly white) landholders allowed and encouraged them to maximize their profits from using the resource sustainably (through commercial hunting, ranching and tourism ventures) led to the slogan 'use it or lose it' as an effective market-based approach to wildlife conservation in Africa. It also led to the notion that if communities could be given similar rights, through which wildlife could become 'community private property', then a similar model of sustainable use for conservation and development purposes could be achieved on communal[42] as well as on private lands.

In Botswana, the first CBNRM project was implemented in 1993 through the United States Agency for International Development (USAID) as a strategy for achieving both conservation and poverty alleviation in the Chobe Enclave. This project established the Chobe Enclave Conservation Trust (CECT), a community organization set up to manage natural resources in the five enclave villages. As in most CBNRM projects in Botswana and much of southern Africa, the CECT's management of natural resources has come to mean engagement in wildlife tourism, either directly or through a joint venture business partner.

Case study research in 2009 and 2010 in the Chobe Enclave[43] revealed that despite 16 years of project efforts, villagers still associate wildlife with the decline of agricultural livelihoods.[44] This perception is driven by conflict with wildlife such as elephants and lions, which eat crops and cattle, respectively. The CECT's members are vaguely cognizant of the fact that safari companies lease land from their community and that their organization is involved in the management of tourism-related funds. However, few people interviewed in 2009 and 2010 indicated that CBNRM had contributed much to their own survival. The promises of the CBNRM project to devolve management and improve wildlife-based livelihood activities as a buffer against wildlife-related damages

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[41] In this paper a livelihood is understood to comprise 'the assets (natural, physical, financial, human and social capital), the activities, and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household' (Ellis 2000).

[42] Communal land in Botswana is referred to as tribal land and constitutes about 71 per cent of the country's total land area. Those who have been allocated land (through one of the land boards) do not own it but have usufruct rights (Jones 1999).

[43] The data presented in this chapter were collected during nine months of 2009 and 2010 in two villages in the Chobe Enclave, where I conducted participant observation, focus-group workshops, semi-structured interviews with both village residents and local government officials, and a household survey. The survey was administered to a random 30 per cent sample of households (sample size: 90 households) selected from a list of village plot holders (all residential plots have to be registered, so the list is relatively comprehensive) from the district land board office using a random number generator. The survey was administered to the head of each household (including female-headed households) and the spouse of the head of the household if there was one (for male-headed households). The survey data used in this article were collected only from the head of the household, as prior comparison of spousal data indicated enough similarity to rely on the household head data as accurately portraying the household. Data were also collected from the Botswana National Archives.

[44] Thirty-nine per cent of migrants originating from the two villages cited elephants as the cause of agricultural decline in their home villages (N = 147 unstructured interviews; no prompt regarding elephants or agriculture), and more than half of residents interviewed cited wildlife as either a disturbance to livelihoods (11 out of 40 respondents) or an inaccessible livelihood source, generally describing current restrictions against the hunting of wildlife (10 out of 40 respondents).

and dangers remain unfulfilled (Alexander et al. 1999, Ecosurv 1996, Jones 2002, Rozemeijer 2003). Villagers have not escaped a colonial legacy in which wildlife management remains primarily in the hands of state wildlife officials and wildlife is widely regarded as the property of the state. While wildlife tourism has developed in Chobe, its economic benefits accrue primarily to experienced non-local safari operations. Indeed, as this chapter highlights, CBNRM in Chobe plays a smaller role in compensating for wildlife-related damage to livelihoods in the Chobe Enclave than government welfare provisioning policies and the remittances that flow to villagers from family members working outside the villages.

Nevertheless, CBNRM remains the dominant paradigm for environmental governance in southern Africa (Blaikie 2006). The CBNRM model is particularly resilient because when CBNRM projects fail, CBNRM advocates interpret this as weak implementation of CBNRM principles rather than demonstrating weakness in the principles themselves (Child 2009b). This chapter challenges that narrative by suggesting that the fact that these principles have proven so consistently difficult to implement indicates that the CBNRM model *is* flawed and in need of revision to make it more appropriate for certain local realities.

CBNRM relies on a number of assumptions about resource tenure, market access, cultural plasticity and social organization that are seldom met. Using the case of Botswana's Chobe Enclave, I highlight one set of circumstances in which a CBNRM programme may fail to bring a community together to manage a given resource. I do this by examining the disabling conditions for this kind of collective action on two levels.

First, I analyze livelihoods in Chobe to demonstrate how in this region, residents are no longer dependent on wildlife: households here have other ways of diversifying their livelihoods that do not require them to re-establish collective natural resource management institutions and engage in modern markets. Specifically, because Botswana is a highly centralized developmental welfare state[45] and has a historical legacy of strong rural-urban linkages, social safety nets and remittances make a large contribution to household livelihood portfolios in the Chobe Enclave. These sources of income can be accessed by individual households and do not require collective action or the ability to develop profitable wildlife-based enterprises.[46]

Second, I use an access-analysis framework (Ribot and Peluso 2003) to explain how the resource property *rights* established under Botswana's CBNRM policy do not give communities the *ability* to use wildlife in ways that would allow them to derive benefits from wildlife that outweigh its costs. As a result, livelihoods based on direct wildlife use have not been re-created, and a vested interest in the sustainable use of wildlife has not materialized in village communities as it did in the private sector.

The findings presented in this chapter suggest that the conceptual underpinnings

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[45] I am using Bertram's (2011) definition of 'welfare-state regime' as government policies and expenditures aimed at securing, to individuals or groups, measurable benefits which those individuals or groups could not secure directly through participation in the market economy, including payment in cash of income transfers and the provision in kind of key basic services, such as health, education and housing.

[46] While wildlife-derived remittances may financially link wildlife to rural livelihoods, the employment is mainly with safari companies based in a nearby town or on land disconnected from the Chobe Enclave CBNRM program. As such they provide individualized indirect benefits from wildlife, and do not represent a livelihood derived from community-based wildlife management.

of CBNRM – which assume that the ecological and economic success that resulted from the devolution of land and resource rights to private landowners in Zimbabwe in the 1960s can be replicated in the context of a village or multi-village communal lands – may need revisiting. Specifically, a market-based model for wildlife conservation may not always be the most appropriate or effective alternative to fortress conservation. The failure of CBNRM forces us to consider whether, in some places, there may be more effective ways to achieve sustainable conservation than the 'use it or lose it' utilitarian approach that characterizes CBNRM in southern Africa and much of international biodiversity conservation today (McCarthy 2005, Büscher and Dressler 2007, Igoe and Brockington 2007, Igoe et al. 2010). This is a critical point because it challenges the discursive power surrounding CBNRM, whose proponents posit a compelling causal argument regarding the links between the devolution of ownership over natural resources, the creation of benefits and the successful conservation of wildlife (Blaikie 2006).

The fact that the local CBNRM project has done little to create a more socially just form of conservation makes clear the need to develop alternative practical strategies for environmental management that sustain both people and wildlife. The point of this chapter is not to argue that welfare provisioning and remittances provide an alternative conservation-development strategy that is better than CBNRM, but to highlight conditions under which CBNRM is particularly likely to fall short. It is also to encourage the conservation community to consider how programmes and policies for sustainable and socially just conservation might be designed to build upon existing conditions and institutions: a process that will involve thinking outside of the conventional CBNRM model.

## Background

### *Theoretical roots of CBNRM: Common property theory and neoliberalism*

CBNRM initiatives have gained popularity over the past two decades (Adams and Hulme 2001). However, the notion that communities are capable of sustainably managing their own resources according to local custom, knowledge and technologies is not new (Blaikie 2006). There is a long history of scholarship on the commons showing that resource users often create institutional arrangements and collective management regimes that help them allocate use rights and benefits over long periods (Berkes 1989, Ostrom 1990). Common property theorists argue that resources can be used collectively and sustainably provided certain principles are in place, including the recognition of local resource users by external governmental authorities, tenure rights for local institutions and incentives in the form of benefits that exceed the costs of managing resources (Bromley 1992, Ostrom 1990). This research has influenced how policy-makers think about and make policy regarding natural resource management (Agrawal 2001), particularly in the global South, where 'fortress conservation' and state-controlled management frequently have proved ineffective and/or inequitable.

Demands for 'local involvement' in the governance of resource commons have been strengthened by scholarship that has analyzed hundreds of case studies of successful common-pool resource governance (Agrawal and Benson 2010). Academics and practitioners use examples of successful self-governing common-pool resource institutions to suggest that if local people are given rights to own, use and manage natural

resources, they are likely to conserve them (Agrawal 2001, Brosius et al. 2005, Hulme and Murphree 2001, Mbaiwa 2011).

When CBNRM was introduced, practitioners assumed that 'community-based' natural resource management would entail a process of facilitating and building on local interests and management capabilities (Berkes 1989, Berkes 2004, Dressler et al. 2010, Western et al. 1994, Wittayapak and Dearden 1999). In theory, policies that devolved environmental governance to local communities would rebuild local natural resource management institutions and, in doing so, create more socially just relationships between communities, the state and access to natural resources. CBNRM advocates set out to rectify a situation in which centralized state control over resources resulted in communities' loss of ownership and thus of motivation to collectively manage resource sustainably.

The CBNRM movement's push to devolve natural resource management to local communities developed out of a rights-based approach towards democratic decentralization, but also intersected with the rise of a neoliberal faith in markets as a means to produce development globally, including in Botswana and sub-Saharan Africa generally (Duffy and Moore 2010). In the context of natural resource management, neoliberal ideology supposes market principles to be the best guide for the efficient management of resources, and a decentralized network of stakeholders to be able to govern resources better than the state (Hulme and Murphree 1999, Ribot 2004). Implicit in the southern African CBNRM model is the neoliberal premise that if institutions can be established that 'get the prices right' for natural resources, then landowners, including communities, that are given property rights over this resource will use it efficiently.

CBNRM's neoliberal roots in southern Africa lie in 1970s legislation that conferred strong proprietary rights over wildlife on owners of private land in the commercial sector. This legislation is credited with promoting successful wildlife conservation on private lands (Child 2009c), as ranchers began to sustainably utilize wildlife on their property for game ranching, hunting and tourism. After independence, leading wildlife officials argued for the extension of these policies beyond the commercial and largely white farming sector to black rural communities (Child 2009b). This effort led to legislative changes that paved the way for CBNRM programs to emerge.

Specifically, the search for an economic unit equivalent to the private landholder led to the concept of a collective property regime. Informed by common property theory, 'private community property' was understood to mean a common property resource collectively managed and exploited by a community group within an (ideally) self-defined jurisdiction. CBNRM proponents thus sought, and still seek, to replicate conservation-development success in the private sector on communal lands, through the devolution of rights to localized units and through the establishment of localized management regimes adapted to operating under modern market conditions (Jones and Murphree 2004).

While conservation initiatives in southern Africa were designed to be about wise land use overall rather than wildlife conservation specifically (Child 2009b), CBNRM programmes to date have focused on the wildlife sector in its various forms – hunting, game ranching and photographic tourism. CBNRM practitioners have worked to enact policies that enable the wildlife and tourism industry to be an economically competitive

form of land use through the establishment of the infrastructure and competitive pricing required for the wildlife and tourism industry (Jones and Murphree 2004). CBNRM is based on the idea that wildlife must 'pay its way' (Eltringham 1994) if it is to survive and presupposes the existence of an enterprising community ready to capitalize upon its newfound ownership of wildlife.

Within this framework, local communities living near wildlife are entitled to benefits from wildlife contingent upon their ability to successfully develop market-oriented strategies to profit from this resource. CBNRM, like broader neoliberal policies, thus places faith in market-based principles to achieve devolved community-based conservation (Büscher and Dressler 2010).

***Revisiting CBNRM: Lessons learned from common-pool resource institutional analysis***

As commons scholar Elinor Ostrom has noted, the probability that users will engage in collective action is high only when the expected benefits of managing a resource exceed the perceived costs of investing in better rules and norms (Ostrom 2009). Similarly, Robert Wade has shown that whether or not villages organize collectively to manage their common-pool resources is not just about the social structure of the community, but also particularly dependent on ecology – specifically scarcity and risk (1988). When the individual benefits of organizing to collectively manage a resource are big, and when there are high risks to individuals if they fail to come together to manage that resource, stakeholders are more likely to organize. In other words, they will organize when intensely felt needs cannot be met by individual responses (Wade 1988). Therefore collective action around CBNRM is unlikely in circumstances where households have alternative individualized means to meet their immediate needs.

These theories are useful because they help explain why common-pool resource regimes have failed to emerge endogenously in rural parts of Botswana such as the Chobe Enclave. In Chobe, traditional uses of wildlife have been outlawed for over a hundred years, so that people no longer consider wildlife to be an important means of survival. Moreover, wildlife-based livelihood benefits from CBNRM are relatively inaccessible compared with the availability of livelihood support from family members and the government.

Together, these conditions mean that people do not see new forms of collective wildlife management as necessary or beneficial. The availability of alternative institutions that provide financial support to livelihoods means that in Chobe, 'intensely felt needs' regarding livelihoods and household survival *can* be met by individual responses: that is, villagers can access channels of financial and physical capital either through government support programs or through remittances from family members, many of whom work in nearby safari camps and lodges. As Ostrom (2009) argues, in successful cases of self-organization, users are either dependent on the resource system for a substantial portion of their livelihoods or attach high value to the sustainability of the resource. In Chobe and much of the rest of Botswana, other sources of livelihood support remain easier and less costly for most households to access than market-based capital from wildlife tourism. Thus people are less likely to organize, because the costs of organizing and maintaining a self-governing system are not perceived to be worth the effort (Ostrom 2009).

**The decline of wildlife-based livelihoods in Chobe**

State conservation laws initiated when Botswana became a British protectorate in 1885 restricted wildlife hunting and use by the local human populations (Spinage 1991). In northern Botswana specifically, the creation of an extensive network of protected areas that culminated in the establishment of Chobe National Park shortly after independence in 1968 had major consequences for the lives and livelihoods of the human communities living in this region.[47] Apart from direct and indirect threats to people and livestock from wild predators that were now protected under conservation law, many farmers had to abandon grazing areas and cattle posts located within the boundaries of the game park and forest reserve. Hunting wild animals, fishing and collecting natural resources such as wood were prohibited within the nearby forest reserves. Outside of the reserves, villagers were required to buy a permit from the district government to conduct these activities (Gumbo 2002).

In Chobe, as in much of Botswana, households no longer rely heavily on wildlife and natural resources for their survival. In 2001, natural resources were estimated to contribute only five per cent of household total income (including the value to households of their own production) from all livelihood activities in the Ngamiland and Chobe districts of northern Botswana (BIDPA 2001). As one villager in Chobe explained, 'The natural resources which are supposed to be important to us are wildlife, but government took wildlife to make money. Now it's not important for us, it's only for tourists and government.' The Chobe case is characteristic of Botswana and other parts of southern Africa, where past state conservation policies and colonial histories largely eliminated human dependence on wildlife and community wildlife management.

The legacy of the state taking control over this 'national' resource is that today in Chobe, most residents do not have a sense of ownership over wildlife. Norms regarding reciprocity between villagers and collective responsibility for wildlife management have been replaced by an overall sentiment that wildlife is the property of the state and that the state, not the villagers, should be responsible for wildlife management. Interviews reveal that many younger residents do not remember a time when communities had collective responsibility for land and resource management, given that the colonial state took resource use and management rights away from communities a century ago. In the pre-colonial era, villages organized regiments of men to control flooding to prevent crop destruction, to kill lions harassing villagers or to scare elephants away from the fields. Elders in the village reported to me that such groups had gradually dissolved under colonial rule and no longer existed. When asked if village groups existed today to scare off crop-raiding wildlife, one woman from Kachikau explained:

> *There is no one. Such things are no longer there [for] my children … there are no people [in the village] who would do that. People have left. Even the chiefs have stopped practicing laws from the past … If they [villagers] would kill the animals, [they would] go to jail … it comes down to money. And Wildlife Department is the one that takes care of animals. (Personal communication, 2010)*

In Chobe today, not only have wildlife-based livelihoods been curtailed, but wildlife now

[47] See Gumbo (2002) for extensive historical and contemporary documentation of the effects of conservation policy on local economic activities in the Chobe region.

poses a threat to agricultural livelihoods. Chobe's abundant wildlife resources and the extensive Chobe-Zambezi river system make it a primary safari destination in southern Africa. This means that today, Chobe Enclave residents face the costs of living near a protected area and in a region zoned for wildlife management and oriented towards tourism.

Villagers complain that the presence of these reserves limits where they can graze their cattle and that their livestock continue to be vulnerable to predation by wild animals. Furthermore, the village's close proximity to wildlife prevents livestock owners from certifying their cattle against foot-and-mouth disease and has thereby halted the sale of their livestock to the subsidized European Union market (a lucrative market for other livestock producers in Botswana). Crop destruction by wild animals is a growing problem. The elephant population in the country has increased sixteenfold over the past 50 years to an estimated 133,829, with 70 to 80 per cent of the elephants living outside the national parks (World Bank 2009). Correspondingly, the number of elephant conflict reports for the Chobe Enclave has increased steadily from nine reports in 1994 to 144 in 2004 (unpublished data from Dr Kathy Alexander of the Center for African Resource: Animals, Communities and Land Use).

For the past 20 years, the Chobe CBNRM program has sought to recreate wildlife-based livelihoods and re-establish the collective will for sustainable wildlife management, but today most village residents still do not view wildlife as accessible or important to their livelihoods. Although people recognize that the CECT provides the village with a few community benefits, such as tractors for plowing and financial support for various civic groups in the village, most villagers reported in interviews that they did not see the CECT as a source of individual income or livelihood support.

In focus group discussions and informal interviews about the national park in my two village field sites (N =100), just 11 community members mentioned the benefits brought about by wildlife-based tourism in the region and only one directly mentioned the CECT as a stimulus for village development. In my 2010 survey of two Chobe Enclave villages, neither wildlife nor CECT/CBNRM was cited as one of the top three sources of income for a household. Village residents accept state-centralized control over natural resources, including land and wildlife. As a Kachikau man who had moved to the nearby town of Kazangula told me, 'This entire land belongs to the government. This government controls everything. They tell you where to stay and where to plough … the land is under government. It is not controlled by us.'

The failure of the CBNRM project in Chobe to galvanize residents to develop self-organized institutions for the collective governance of wildlife is typical of CBNRM programs in Botswana generally. In a recent assessment of CBNRM in Botswana, Rozemeijer reported that for all CBNRM projects in the country,

> *it is very unlikely that in these projects benefits to the average community member will exceed the costs to the same individual. It is therefore equally unlikely that this will prompt the conservation of natural resources, especially by those who have reduced access to them for subsistence purposes. (Rozemeijer 2009, p253)*

In other words, residents have little incentive to self-organize to manage and utilize

wildlife sustainably.[48] Not surprisingly, then, there is little evidence that land use patterns in resource-rich areas have changed to the benefit of wildlife (e.g. through the adoption of less damaging arable agriculture and livestock grazing models) (Rozemeijer 2009).

**Understanding livelihoods: The role of state transfers and remittances in household decision-making**

The Chobe Enclave is a place where wildlife is now more of a hindrance than an asset to livelihoods. Households in Chobe are poor, but have some mechanisms for buffering the costs of living near wildlife. Botswana's political economy is characterized by strong rural-urban linkages and robust social services provisioning. This section highlights the broader political economy within which the enclave is situated in order to explain in part why the Chobe Enclave CBNRM project has not been more successful.

In Chobe, household decision-making takes place in the context of a relatively well-functioning welfare state and in a rural locale tightly linked to the resources of Botswana's urban sphere. Rural household dependence on remittances and government support in Chobe is not unique to the region, but reflects rural livelihood strategies in Botswana generally. Chobe Enclave residents are able to draw upon these entitlement programmes and kinship networks in order to make ends meet. The relationships between the state and its citizens, and between urban and rural kin, mean that Chobe residents are able to sustain their livelihoods in ways that do not necessarily demand the time, effort and resources that would be required to make a common-pool resource regime function effectively.

It is difficult to determine whether the dependence of Chobe Enclave households on the government and on family members working outside the village simply reflects national-level relations between the state and its rural citizens and between rural and urban kin, or has increased beyond the national norm because the community lives near land designated for wildlife conservation. However, the larger point is that the choices of Chobe Enclave residents regarding participation in CBNRM projects are very much mediated by the availability of and access to resources from the state and remittances from family. Below I elucidate how the political economy of Botswana makes it easier for Chobe residents, and thus gives them more incentive, to access capital from the state and urban kin than to do so from participation in community wildlife management institutions established under CBNRM.

***Social safety nets in Botswana***

Botswana is often described as a developmental state that provides for its citizens in a relatively efficient manner (Acemoglu et al. 2001). Botswana's lucrative diamond mining industry, good governance and relatively small population mean that it can provide a level of social services and financial support to its citizens that few other African countries can deliver. Since the discovery and exploitation of diamonds shortly after independence, and the subsequent surge in the economy (Colclough and McCarthy 1980), Botswana has strategically used its economic growth and access to donor funds to

[48] The Chobe Enclave falls short not in its general capacity for community organization, but in its community organization around wildlife specifically. A number of community organizations (church groups, lending circles and burial societies) are active in the enclave, demonstrating that Chobe village residents clearly have the capacity to organize.

achieve impressive levels of social service delivery. Since 1966 it has invested in the health and education of its citizens and guaranteed them access to a number of institutionalized social safety nets.

Today, Botswana's National Strategy for Poverty Reduction, adopted in 2003, comprises three clusters of targeted interventions: income generation strategies such as microcredit and agricultural support programs (e.g. the Integrated Support Programme for Arable Agricultural Development, ISPAAD); safety nets such as drought-relief food aid and labor-based public works (the Ipelegeng program); and entitlements such as old-age pensions and destitute allowances (BIDPA 2001). Other safety nets include school feeding, orphan rations and community home-based care for AIDS patients, all of which has become increasingly necessary since the HIV/AIDS crisis emerged in the late 1980s.

These social safety net programs are particularly prevalent in Chobe: 71.1 per cent of surveyed households in northern Botswana (Ngamiland and Chobe districts) said that government support programs provided them with direct access to food, in comparison with the national average of 19.6 per cent (BIDPA 2001). In my survey of the Chobe Enclave, approximately 17.8 per cent of households stated that their main income source fell into the category of government assistance. A 2001 survey conducted by the Botswana Institute for Development and Policy Analysis revealed that government transfers contributed 55 per cent of the total income from all livelihood activities in northern Botswana (BIDPA 2001).

Chobe residents access government transfers through a number of different support programs. For example, farming is heavily subsidized for Chobe Enclave households that decide to farm. Through the agricultural support program ISPAAD, the government spends 700 pula (equal to roughly US$100 at the time of writing) per hectare during the plowing season to prepare the soil, plough the fields and plant seeds for village farmers in the Chobe Enclave. Agricultural extension agents working in the Chobe Enclave report that all farmers in the enclave who have cultivated their fields in the past few years have received support from ISPAAD. Also, the Botswana government's labor-based public works program, Ipelegeng, provides a source of (at least temporary) employment and income to many Chobe Enclave residents. Recent records from the Chobe District Council show that in the year 2008/09, there were 572 beneficiaries of Ipelegeng in the two surveyed villages, or more than one person per household working for Ipelegeng. In interviews and focus groups, villagers emphasized the importance of Ipelegeng in providing temporary work, especially to young people facing a lack of opportunities in farming and formal employment.

***Rural-urban linkages***

Livelihood strategies in Chobe are influenced by the flow of resources, not only between the state and rural households, but also between urban and rural kin. Botswana has a long history of human mobility and rural-urban social and economic linkages dating back to the late 19th century (Kerven 1980). At the same time that colonial authorities were curtailing villagers' use of wildlife, urban migration was increasing, as men migrated to South Africa to work in the mines in order to pay the imposed colonial 'hut tax' (Schapera 1948). Ultimately migration and movement between the rural and urban or semi-urban areas determined the structure of family social relations and household livelihood portfolios in Botswana and southern Africa. Since the colonial era in the early

20th century, residents of Chobe Enclave, like most rural dwellers in Botswana, have relied on remittances from wage-earning family members in urban areas for their survival (Parson 1984).

The majority of surveyed households (54.4 per cent) in the Chobe Enclave in 2010 received remittances from family members, and these remittances made up, on average, 20 per cent of household income. Eighty-three per cent of households reported that they had at least one family member living and working outside the village. The actual percentage of households receiving remittances is likely to be higher than the recorded level, given the tendency for under-reporting of income in rural household surveys (Devereux and Hoddinott 1993). Past studies show that most migrants in southern Africa are expected to send remittances back to their family in their home villages (Kerven 1980, Lucas 1978, Pendleton et al. 2006). Two-thirds of migrants interviewed (including students, who are not expected to remit) stated that they regularly sent home remittances to their village families (66.7 per cent; N= 147).

The significant flow of funds from the state and from urban kin to the Chobe Enclave stands in stark contrast to the minimal contribution of CBNRM-related benefits to household survival. Chobe households are accustomed to accessing resources through subsidies and safety net programs provided by the state, and through remittances from family members. In comparison with CECT benefits, the delivery of social services to villagers in the enclave is regular, reliable and transparent (Seleka et al. 2007). Botswana is efficient in its social service provisioning (Acemoglu et al. 2002), and qualifying individuals and households can register relatively easily to receive entitlements and various forms of assistance. Norms regarding kinship obligations mean that family members who move away to work are expected to send money and/or goods home regularly. While social safety nets and remittances may not necessarily provide large sums of money, they both represent established institutions that villagers know how to access.

As noted above, community members must see great benefits in collective organization and great risks in failing to organize for such a community to come together to manage a resource (Wade 1988). In Chobe, it is not imperative for communities to manage wildlife enterprises collectively in order for households to survive. Even without collective action, they can access some indirect livelihood benefits from wildlife, including remittances from family members working in the safari industry. Some villagers even view government social safety nets as an indirect compensation for living near wildlife. Citizens thus have alternative sources of capital with higher (or at least less risky) perceived individual benefits (e.g. cash or goods flow to households) and relatively low transaction costs or barriers to entry compared with CBNRM engagement (discussed below). This scenario results in individualized household livelihood strategies that make it especially difficult to garner widespread community interest and involvement in CBNRM.

**Evaluating access to capital from wildlife under CBNRM**

Household decision-making is structured by the perceived availability of alternative sources of livelihood support *relative* to that provided through CBNRM. Collective resource management regimes have not emerged in Chobe and the rest of Botswana, not only because households are no longer dependent on wildlife and have alternative sources

of income, but also because households do not see the benefits of new forms of collective resource management.

CBNRM's failure to re-establish collective wildlife management and livelihood benefits from wildlife is generally agreed to be due to several key deficiencies: the lack of complete devolution of management authority, the lack of management expertise, and the lack of accountability and democratic participation (Agrawal and Gibson 2001, Blaikie 2006, Brosius et al. 2005, Songorwa et al. 2000, Twyman 1998). Below I review these key challenges in the context of Chobe through the lens of an access analysis (Ribot and Peluso 2003).

Access analysis is a method of studying people and resources that differentiates access from property. 'Access' is defined as the '*ability* to benefit from things' (i.e. resources), which broadens the definition of 'property' as 'the *right* to benefit from things' (Ribot and Peluso 2003). This theory of access gains traction when applied to settings where people may have rights to resources, but are part of broader social relationships that differentially constrain or enable people setting out to benefit from those resources. In these situations, an analysis of the set of factors that constitute and configure access provides a deeper understanding of social and environmental outcomes than a focus on property relations alone. An access analysis of the CECT is useful here because it highlights a shortcoming of the CBNRM model: that the devolvement of *rights* to a resource, especially highly circumscribed rights, by no means guarantees *access* to that resource. Access to livelihood benefits from wildlife is constrained under CBNRM in three primary ways. First, community access to wildlife is circumscribed because community rights to wildlife remain incomplete, despite policy shifts towards devolution. Second, mismanagement has deprived the majority of villagers of access to the financial benefits from wildlife that accrue to community trusts. Third, most villagers do not have access to the social and business networks that facilitate successful entry into wildlife-oriented enterprises (e.g. tourism, game ranching and commercial hunting).

***Barriers to access I: Circumscribed rights to wildlife***

As studies of common-pool resource regimes have shown, when users have full autonomy at the collective-choice level to craft and enforce their own rules, they are more likely to self-organize to manage the resource in question (Ostrom 2009). Successful commons management depends upon the rights of resource users to devise their own institutions without being challenged by government authorities and obstructed by minimal recognition of their rights to organize (Ostrom 1990).

While CBNRM policies in theory decentralize resource governance to local communities, village residents' management rights in Botswana are, in fact, still highly circumscribed. Villagers remain subject to strictly enforced laws prohibiting the hunting of globally and nationally protected wildlife species (including problem animals such as crop-raiding elephants) and the gathering of various forest products.

Communities in a controlled hunting area of Botswana like the Chobe Enclave may be granted resource leases over wildlife and tourism on their land for a period of up to 15 years by a tribal land board if they have formed a community trust. Holders of these leases can be awarded a wildlife quota for hunting purposes by the Department of Wildlife and National Parks (DWNP). Legally, they can decide how to use this quota: whether to put the quota and the tourism concession lease out to tender in the private

sector or to manage tourism operations themselves. However, the lack of local capacity to run the high-end hunting and tourism safaris that characterize the Botswana tourism industry means that there is essentially no option besides the former if the trust wants to maximize its income from wildlife and tourism. Also, the trust has no control over the quota-setting process itself. Instead, the centralized DWNP decides, based on its animal census data.

Chobe villagers cannot come together to decide, for example, to cull the local elephant population. Restrictions upon their ownership rights mean that the rights villagers hold to 'manage' wildlife are essentially limited to creating and managing revenue from the wildlife safari industry and related tourism enterprises. As a result, it has been difficult for CBNRM projects to engender motivation within the villages to self-organize to manage their community trust when the authority over wildlife use still remains primarily in the hands of centralized state institutions.

***Barriers to access II: Lack of financial management expertise and leadership***

Not only are rights to wildlife broadly circumscribed, but the few rights that are devolved to the community under CBNRM do not translate into *access* to the financial benefits from permitted wildlife use (i.e. tourist photographic and hunting ventures) for the average villager. Under CBNRM, the community trust is expected to manage the revenue generated from the rent paid by the wildlife safari industry as a cooperative business might. However, most village residents, including traditional village leaders, do not have the financial experience or skills needed to manage and invest large sums of money. To say that these tasks require a capacity to exercise management authority not present in the village is not to say that village communities cannot organize effectively: the thriving burial societies and lending circles are sufficient proof that they can. The real point is that the terms of rights granted under CBNRM came from above in the form of a complicated recipe (Rozemeijer 2009) not readily compatible with traditional or locally derived institutions already in place.

The resulting lack of sound financial management means that funds from the trust are frequently misused or inefficiently allocated. As Ostrom (2009) has explained, self-organization is more likely when some of the users of a resource system have entrepreneurial skills and have gained respected as local leaders through prior organizational activities. In Botswana, the village chief and headmen are still considered the 'leaders' of the village, but in actual fact have little power over resource management and generally no experience managing revenue from wildlife tourism. Those village residents who do possess these skills – those with higher education – generally leave the village for better opportunities to use those skills elsewhere. There is a dearth of individuals in the village with the expertise to help establish or lead a successful CBNRM trust, and those who are in charge often waste or misuse revenue.

Like a number of CBNRM trusts in Botswana, the CECT is prone to elite capture by the elected management committees (Suich et al. 2009). Involvement in CBNRM is complicated, and the CECT is made up of a board of trustees and representatives from each village that is not downwardly accountable to its constituents. Community trust meetings are transparent in theory (minutes are taken and made public), but most villagers have very little idea of what goes on during these meetings, especially since they are always held in the same village, making it difficult for most residents of the

other four enclave villages to attend.

As a result, although the CECT can decide how to use its income from the rent paid by wildlife tourism partners, which can be quite substantial, benefit distribution within the five enclave villages has been minimal. Under the CECT constitution, 85 per cent of revenue is supposed to be divided evenly among the five village trust committees, while 15 per cent is supposed to remain with the CECT for operating costs. Each village trust committee decides how to spend its share of the revenues, theoretically focusing on investments that provide community services or employment. However, in the 2009/10 fiscal year, despite generating over half a million US dollars in revenue, the CECT had a deficit of almost US$40,000, due to operating and administrative costs, many of which the trust could not account for (CECT Annual General Meeting 2010). These figures represent extreme financial inefficiency, and demonstrate that devolved (and admittedly limited) management rights do not guarantee access to benefits from wildlife tourism for the average villager, because skilled and accountable leadership within the trust is lacking.

***Barriers to access III: Lack of market-based networks and knowledge***

Not only is the CECT's revenue from leasing its land and wildlife quotas difficult for most Chobe villagers to access, but CBNRM also offers few viable opportunities for Chobe households to develop wildlife-based livelihoods. The CBNRM model emphasizes the importance of devolved ownership over resources as a precondition for the local entrepreneurial development of products and markets for wild resources (IRG 2009). But property rights over wildlife have little practical value if people do not have access to the skills or knowledge to develop that resource in the marketable, revenue-generating way that is permitted to and expected of them.

Botswana maintains a high-end, low-volume tourism policy that promotes the dominance of the tourism industry by foreign companies with tourism expertise (Rozemeijer 2009). These companies typically have connections to international markets and start-up capital that local villagers do not possess. This makes it difficult for villagers to start small-scale tourism businesses, as there is virtually no market for budget travel in Botswana. There are also few economic linkages between tourism operations and local businesses of any kind, because of the high quality of goods demanded by the tourist clientele. Handicrafts are often imported from wholesalers in neighboring countries such as Zimbabwe, and lodge employees are brought in from other districts of Botswana where training is superior (Chobe Game Lodge manager, personal communication, April 2010). There is a widespread sentiment among villagers that they are deliberately excluded from participating in the tourism industry and that hiring practices are characterized by nepotism. The District Development Plan for Chobe states that the tourism sector is still monopolized by foreign-owned safari tourism operators who are believed to be racist and intent on keeping the indigenous population away from their operations (Chobe District Development Plan 2003). The tourism companies that operate on land leased to them through the CECT have not facilitated the development of spin-off small enterprises supporting their larger operations, as CBNRM advocates predicted would happen. Wildlife tourism therefore remains primarily the domain of outsiders with business expertise.

The Chobe Enclave community thus lacks not only the leadership to manage trust

funds effectively, but also the knowledge to 'use' wildlife successfully through the type of resource use that CBNRM facilitates: wildlife-based tourism. CBNRM fosters the creation of wildlife-derived benefits contingent upon greater market integration and intensification, an approach that simply makes poverty more complicated (Büscher and Dressler 2010). As a result of these barriers to access, the perception of benefits from CBNRM remains low among community members. Unlike most government programmes or remittance networks, CBNRM is a complicated, risky and newly formed institution that to date has provided few household-level pay-offs.

**Conclusion**

Findings from Chobe, Botswana, challenge the conceptual underpinnings of CBNRM: that local people must find a way to benefit directly from a resource like wildlife if it is to be conserved. As Adams and Hulme (2001) have argued, there may be a number of circumstances in which CBNRM is in fact *not* the answer for conservation policy. The fact that CBNRM programs have so rarely succeeded in creating collective units of villagers that behave in similar ways to the private landowners who profit from wildlife in South Africa (and previously Zimbabwe) suggests that CBNRM's theoretical mix of economic instrumentalism and common property theory may contain problematic assumptions about collective engagement with markets. CBNRM assumes that the instrument of the market can and should be introduced to produce value from common property natural resources for local people (Büscher and Dressler 2010). However, most communities in CBNRM project areas do not have the knowledge, power or social connections – what Ribot and Peluso call 'structural or relational mechanisms of access' – that would give them the ability to benefit from (i.e. to access) a natural resource such as wildlife. In Botswana, the community trust is an institution in which village-level control over natural resources is still highly circumscribed, and in which the benefit stream that might come from collective organization is not guaranteed or obvious.

Instead, the case of Chobe shows that the state can provide a buffer against livelihood costs incurred by the presence of a protected area and its wildlife. It may be true that these state transfers merely alleviate poverty rather than develop productive livelihoods, but the fact that in Chobe state transfers contribute more to an average household's livelihood portfolio than does CBNRM calls into question, at the very least, the southern African CBNRM paradigm. It suggests that there may be other models for sustainable conservation, especially in places with strong central state provisioning and a mobile population that maintains social and economic links with its rural kin. While Botswana may be unique in its extensive provisioning of social services to its rural population, it still exemplifies how state-led rather than market-led mechanisms can play a role in the amelioration of conflicting wildlife and human interests.

Furthermore, remittances from family working in the safari tourism industry also provide the enclave with an indirect source of income from wildlife that is not contingent upon community-level organization and collective markets. To make this point is not to argue that welfare programs and remittances represent alternative pathways to sustainable conservation; what it does is identify the conditions under which CBNRM does not function effectively and emphasize that alternatives suited to local political-economic and social conditions must be considered.

State transfers and remittances are not, by any means, ideal vehicles for achieving a just form of conservation. While critical to household basic survival, they do not spur the creation of institutions for devolved environmental governance. However, governmental social support programs do compensate to a degree for living near wildlife, and remittances ostensibly represent an indirect benefit from wildlife (since a number of remitting migrants work in the tourism industry in the nearby town) – but these economic relationships do not give local villagers a sense of ownership or authority over wildlife. Within such relationships, residents of Chobe remain passive recipients of indirect wildlife benefits, and have little control over the nature or longevity of the benefit stream or over the lucrative resource (wildlife) itself.

Villagers may receive a relatively large amount of state support, but this support is often viewed locally as a way to placate villagers living near conservation zones, as the conservation of wildlife is given priority over other competing demands for land use in Chobe. While important, state transfers and remittances are undergirded by institutions operating within a centralized form of governance in which rural dwellers have little control over the economic health of the state, the tourism industry or the management of the natural resource that sustains it.

A socially just form of conservation still remains better formulated in theory than in practice. In theory, CBNRM provides a pathway for achieving environmental conservation in a socially equitable way, by designating local people living near wildlife to be the managers and beneficiaries of the resource and its market value. In reality, these empowered roles for local communities have often failed to materialize. Ultimately, to push back against the CBNRM model is to question the type of relationship that communities should have with their environment and to interrogate the normative view espoused by CBNRM proponents: namely, that for wildlife conservation to be effective and sustainable, local people living near wildlife must engage in market relations that make wildlife an economic asset. The case of Chobe reveals to us that in some places, it is the overlooked relationships – those between state and society or between urban and rural kin, for example – rather than market-based relations between communities and wildlife, that provide the safety net to bolster the livelihoods of those who suffer the costs of environmental and, in particular, wildlife conservation.

# CHAPTER 4

## What's Scale got to do with it?: Looking Across Spatial Scales to Assess the Influence of Protected Areas on Human Demography and Livelihoods in Botswana

*Protected areas have become the primary approach to conserving biodiversity across the planet. The large and growing body of "people and parks" literature examines the costs and benefits of protected areas for local communities. Much of this research has focused on broad social and economic outcomes for communities living on the edges (e.g., buffer) of protected areas. However, the economic and social effects of protected areas are not limited to their borders and can affect human dynamics hundreds of miles away. Here, I discuss linkages between rural and urban communities to create a more complete picture of the way in which protected areas can affect human populations, even those living far from park borders. I present a case study from Chobe National Park, Botswana to elucidate the potential mechanisms underlying social, economic and demographic outcomes associated with a large protected area. This study shows that the overall net growth around Chobe NP's edges does not preclude out-migration from certain buffer areas. Human movements towards, away from and within the Chobe National Park buffer zone have altered the demographic composition of rural villages and contributed to a new spatial patterning of people and associated livelihoods. Specifically, park-related tourism has led not only to the overall growth of the Chobe district but also to a qualitative change in the human population living around the park. Working age residents in search of work move from one edge of the park to another (rural to urban safari hub), or even to farther away urban areas that offer education and employment opportunities, while non-local more educated government workers move to rural villages along the park border as government social service provisioning expands. In illustrating these dynamics, this work contributes to a rich body of literature that examines the context-dependent mechanisms through which a protected area can alter socio-economic development and in turn, the ecology and biodiversity of a rural landscape.*

### Introduction

The relationship between parks and people, or more broadly, conservation and development, is an interdisciplinary topic around which the attention and interests of social and natural scientists converge. However the metrics economists, conservation biologists and social scientists use to assess the effects of protected areas (hereafter "PA") vary dramatically. Scholars who approach the study of parks and people from different theoretical and methodological frameworks have both critiqued and enhanced each other's work, by not only highlighting shortcomings (Wilkie et al. 2006, Shoo 2008) but also finding places where multiple methods can complement one another (Geisler and De Sousa 2001, Wittemyer et al. 2008). While this dialog is useful, it is limited in scope. Missing from this conversation is an explicit recognition of the way in which a protected area may influence the lives of people who are socially and economically linked to people near a park, but who are not themselves geographically close to a PA. Further, while broad assessments of people and park interactions provide an overall snapshot of how aggregate human populations respond to the presence of a PA (Wittemyer et al. 2008, Joppa et al. 2009), comprehension of the multiple mechanisms that drive these observed outcomes requires a more fine-grain approach. It is essential that we account for

the extended reach of a protected area's influence as well as the heterogeneity of human responses if we are to fully understand the social, economic environmental implications of conservation zoning.

As ecologists have long recognized, the spatial scale selected for the study of an ecological phenomenon is significant to the conclusions ultimately drawn about that system (Levin 1992). Similarly, for the study of people and parks, the scale at which we analyze settlement patterns or livelihoods dramatically affects how we interpret trends in human responses to protected areas. Here, I present a case study from Chobe National Park (NP), Botswana to illustrate why there is a need to simultaneously broaden and magnify the scale at which we examine the effects of a protected area on human populations. The case study both highlights the fact that the scope of a PA's influence can extend *beyond* its buffer zone and provides a finer-scale understanding of the complex dynamics *within* a protected area buffer zone. Specifically, I examine people and park relations in Chobe, Botswana, taking into account the fact that the edges of Chobe NP are linked to urban parts of Botswana in such a way that a tug on the social (or economic) fabric of one region ripples through to people and places further afield. I also take a fine-scale look at the way in which the protected area contributes to the movement of people not only in and out of buffer zones, but also within buffer zones. These movements vary based on age and other socio-economic characteristics and suggest that protected areas may selectively attract or repel people. This level of analysis makes visible the complexity of human responses to protected areas that a course-scale assessment is unable to capture. Ultimately, this study looks at how a park affects who lives where, and what the implications of such settlement patterns are for livelihoods, land use, and social relations in a web of interconnected geographical areas.

***The debate over people and parks***

The question of how protected areas affect livelihoods remains widely and contentiously debated. A variety of positions exist amongst scholars and practitioners as to whether it is possible to combine poverty alleviation and biodiversity conservation, or more specifically, whether protected areas contribute to or detract from human development in much of the Global South (Adams et al. 2004, Roe 2008). Political ecologists have documented the detrimental impacts that protected areas can have on local communities through displacement and unequal distribution of benefits that reinforce existing inequalities (Agrawal and Redford 2006, Brockington et al. 2006). They have argued that increased conflict and injustices are often the result of a disregard or ignorance on the part of conservation NGOs and practitioners for the social dynamics embedded in areas prioritized for conservation (West et al. 2006). Conservation scientists have countered these claims by providing evidence to suggest that protected areas exert either neutral (de Sherbinin 2008) or indeterminate (Wilkie et al. 2006) effects on local peoples' wellbeing and that protected areas have the potential to provide several benefits to local people (Child 2004). These benefits are hypothesized to be the result of the conservation of natural resources upon which livelihoods depend and/or the creation of poverty-alleviation schemes such as Integrated Conservation and Development Projects (Andam et al. 2010, WWF-UK 2005). Ultimately, the links between biodiversity conservation and poverty alleviation appear to be tenuous (Agrawal and Redford 2006, Holland 2012) and

the net impact of a protected area is context-specific and not always clear (Schmitz et al. 2012, Upton et al. 2007).

A more recent debate within the people-and-parks conversation has focused on population growth around park edges. This topic has renewed attention to the socio-spatial implications of protected areas by focusing not only on health and wealth metrics near parks but also on population trends around protected area buffer zones (10km) (Wittemyer et al. 2008). In suggesting that protected areas may attract rather than repel human settlement, Wittemyer et al. (2008) move towards recognizing that the implications of a protected area for movement of people and resources across space may not end with the displacement that can immediately follow the establishment of a PA. The Wittemyer et al. (2008) study provides a coarse-scale account of broad trends, but is unable to identify the exact mechanisms underlying their findings (Shoo 2008, Scholte and De Groot 2010, Estes et al. 2012) or to hypothesize about the demographic composition of who moves where around a protected area and with what social consequences (Adams and Hutton 2007, Hoffman 2011). As Igoe et al. (2008) have pointed out, there is a need to develop understandings of under what circumstances, and with what spatial patterns, protected areas might attract or repel people.

Remittances—the funds that migrants send back to their places of origin, usually from urban to rural areas—is one example of a spatially-complex factor that may mediate responses of local communities to PAs. Increased outmigration and non-rural income streams affect how land use decisions are made and can give rise to "remittance landscapes" (McKay 2003). From a livelihoods perspective, remittances have the potential to make areas habitable that would others be marginal or worse. This includes PA edges where land-use restrictions and wildlife conflict may limit livelihood options.

However empirical research on the precise mechanisms through which natural resources and land-use affect and are affected by remittances is sparse and variable (Lambin and Meyfroidt 2011). Remittances provide rural households with a source of non-farm and non-wildlife-based income that in some cases reduces dependence on the local natural resource base but in other cases increases investment in environmentally detrimental practices (Naylor et al. 2002, Gammage et al. 2002). Remittances can reduce poverty in sending areas but increase the incidence of poverty among migrants in destination areas (Adamo and Curran 2012). Varying motivations for sending remittances and differences in the way remittances are spent are likely to differentially influence and be influenced by land use, natural resource extraction, alternative livelihoods and other key social and environmental variables (de Sherbinin et al. 2008).

While studies that directly link environmental conditions to patterns of migration and remittances represent relatively new terrain within the coupled human-natural systems literature, human geographers and anthropologists, particularly in southern Africa, have long recognized the social and spatial interconnections between rural and urban environments (Hart and Sitas 2004). Migrants and non-migrants are linked through networks of obligation, normative expectations about remittances and shared understandings of kinship and friendship (Curran and Saguy 2001). Through a process in which the social relations that bind rural and urban kin are themselves altered, protected areas can have ramifications for the social and economic fabric of both rural and urban areas.

## Case Study: Studying Local Responses to Chobe National Park

### *The setting*

Chobe National Park, in the northernmost part of Botswana, provides an excellent opportunity to examine the intricacies of socio-economic and demographic responses of local communities to a large protected area. Botswana has a historically mobile population and, like populations elsewhere in Africa, migration in Botswana is viewed as an adaptive strategy to minimize livelihood risk, especially against an unremunerative and risky rural economy based on agriculture (Gwebu 2004). Members of each household venture out and exploit various niches of the economy simultaneously in order to safeguard family welfare against poor economic times and maximize returns by diversifying into different economic zones (Gwebu 1987). As a result, the typical household in Botswana is segmented into a number of components scattered around in different locations (i.e. towns, fields, cattle posts)—each of which operate semi-autonomously at certain levels but which coalesce at certain other levels (Kerven 1980).

Rural-urban linkages in Botswana are strong and greatly influence the livelihood portfolios of households that span the rural-urban spheres (Pendleton et al. 2006) (Table 1), including those around Chobe NP. One of the most urbanized countries in sub-Saharan Africa, Botswana's urban population jumped from 8% in 1971 to 54.1% in 2001 (CSO 2004). At the same time, a counter flow from urban to rural districts suggests that population movements in Botswana continue to be to a large extent circular, as urban dwellers maintain strong links with their rural origins (Lesetedi 2003). Land is viewed as security when there is no employment in urban areas or as a place to retire. Migrants also draw direct benefits from these connections in the form of crops from their families' fields, "babysitting" services for their children, and a "bank" to deposit accumulated capital in the form of cattle, which can be tended by the rural family members (Lesetedi 2003). In exchange for these services, rural dwellers rely heavily on remittances from urban kin to survive (Campbell 2009).

### *Local conditions in the Chobe District*

The Chobe District is one of the premier safari destinations in Botswana due to its abundant wildlife resources and the extensive Chobe-Zambezi river system. The district attracts about 18,000 to 21,000 visitors per year (Kemmonye 2009) and generates approximately 37 million dollars in tourism revenues annually (Department of Tourism 2001). Chobe NP itself generates the most revenue of Botswana's nine protected areas (Department of Wildlife and National Parks 2000). The district consists of the Kasane township (classified as an "urban village"), three smaller villages to the east, and the five villages to the west that comprise the Chobe Enclave—the focus of this study. Chobe NP (11,000 $km^2$), six Forest Reserves and the surrounding Wildlife Management Areas together represent 80% of the district land.

Over the past half century, the tourism industry has played a key role in the development of the remote Chobe area. Kasane became the gateway town for tourists embarking on safaris and has a growing number of lodges, hotels and restaurants (Suich et al. 2005). The steady growth of the wildlife safari industry around Chobe NP spurred the development of associated commercial institutions (e.g. wholesalers, construction industry), an increase in social and economic services such as improved roads and an

airport, and the expansion of government administration in Kasane, the district's headquarters (Gumbo 2002). Since Chobe itself was declared a fully-fledged district in 2006, public administration has become the largest employer in the Chobe District (33.1% of the working population), followed by hotels and restaurants at 14.4% (Kemmonye 2009).

The creation of Chobe NP in 1968 did not result in the removal of humans, as almost no human settlements existed within the boundaries of the protected area (Spinage 1991). Yet the park has dramatically affected the livelihoods of people living in the Chobe Enclave. These five villages are sandwiched between the Chobe Forest Reserve, Chobe NP and the riverine border with Namibia. They are accessible only via a single 80km road open during daylight hours that leads from Kasane through the park to the villages. Access to natural resources as well as land for grazing livestock is restricted, and human-wildlife conflict has increased, making crop and livestock production increasingly challenging (Jones 2002, Gupta unpublished data). The presence of the park also has an indirect negative impact on agriculture through the diversion of labor away from farming and towards tourism (BIDPA 2001, Gumbo 2002). For example, in this study's household-level survey, roughly one-third (33.1%) of family members were reported to be living outside of the Enclave. Almost half of this study's reported migrants live outside of the district, in the towns of Maun (8.8%), Francistown (5.6%), the capital Gaborone (12.1%) or another location (17.7%). Remittances from absentee household members provide a significant contribution to the local cash flow.

**Methods**

The data presented in this chapter were collected during nine months (2009-10) in two villages in the Chobe Enclave where I conducted participant-observation, focus group workshops, a household survey and semi-structured interviews with both village residents and local government officials. Secondary literature presented reflects most recent data available.

The household survey was administered to household heads from a random 30 percent sample of households (N= 90 households) selected from a list of village plot holders from the district Land Board office using a random number generator. In addition, I conducted 137 interviews with urban migrants identified in the household study who were living in Kasane, Maun, Francistown and Gaborone. In Botswana, "urban" is defined as an agglomeration of 5 000 or more inhabitants where 75% of the economic activity is non-agricultural.

My study approach employed a fine-grained analysis of the demographic trends in movement *within* Chobe NP's edges in order to illustrate the complexity of the mechanisms underlying human settlement-related responses to a protected area (part 1). I then telescoped out to assess how the park affects the livelihoods of those socio-economically linked yet *spatially separated from* the park edge (part 2).

**Results**

***Part 1 Population movements within the Chobe NP buffer***

In line with the "protected area attractiveness" thesis, the population of Chobe District has grown rapidly. Chobe was recorded to have the highest district population annual growth rate (4.03%) for any district in Botswana—and almost double the national rate of

urbanization—between the 1991 and 2001 census (CSO 2001). Chobe had the third highest (out of 28 districts) net rate of in-migration from 2000-2001(8.0), which is attributed to employment opportunities associated with the tourism industry (Gwebu 2004). Preliminary results from the 2011 census indicate that the current population of the Chobe District is 23,449 (CSO 2011), which would represent a 28% increase over the ten-year period from 2001 to 2011, and an annual growth rate of 2.53% (compared to the national projected annual rate of 2.3%).

Yet the park edges within the district are not all experiencing the same high levels of growth. The Chobe Enclave has experienced less growth than the "safari gateway" town of Kasane. As tourism developed, accompanied by the growth of related industries and public administration, the population of Kasane almost doubled between 1991 and 2001 (CSO 2001). As of 2011, 42 percent of the Chobe District population lives in Kasane, which is more than twice the population size of the entire Chobe Enclave and accounts for the highest proportion of the district population of all administrative units in the district. Housing pressures have developed in Kasane as people have moved from Chobe's more rural villages to "urban" Kasane (Gumbo 2002). This is widely recognized to be the result of relatively higher employment opportunities from public service and the tourism industry in Kasane (Kemmonye 2009, interview data, Nov-Dec 2009).

While Kasane's population increased 75 percent between 1991 and 2001 (5.83% annual population growth rate), the Chobe Enclave had only a 25 percent increase in its population (2.27% annual growth rate) during the same period of time. Furthermore, though the population of the Chobe Enclave is growing, there is a noticeable lack of men and women in the working-age group of 20 to 44 years. In the Chobe Enclave, working-age (20 to 44 years) residents comprise only 26.4 percent of the overall population, while in Kasane, the same age group comprises 49.7 percent of the population (CSO 2001). The rise of the district-level population thus masks the movement of working-age residents from one edge of the park (the rural villages of the Chobe Enclave) to the other edge (the urban village of Kasane), which indicates that park buffers are not uniformly attractive.

Neither do all people move uniformly towards or away from a protected area. The net population growth in the Enclave despite out-migration of job-seeking residents to Kasane and beyond is in part because of the increase in infrastructural development and social service provisioning in the Enclave. A new police station and clinic have been built and there are plans for additional government offices to be decentralized. This kind of infrastructural development does increase employment opportunities in the Enclave villages, but the positions often require skills and education that village residents do not possess. Chobe residents held less than half (47%) of the 168 employment positions available in the clinic, schools and police station in the two study villages. The rest of the positions were filled by workers originating from other regions of the country where there is greater access to higher education and professional development.

On one level, the presence of these white-collar workers and the overall growth of the Chobe district support the hypothesis that a protected area can "attract" human settlement. However more fine-grained data suggest that the settlement patterns around edges of a protected area are not uniform—different types of people are moving towards, away from and between various areas within the border zones of Chobe NP for different reasons. The influx of new Enclave residents resulting from the growth of government service provisioning is accompanied by the continued out-migration of working-age

village residents in search of viable employment. Human responses to protected areas are thus not homogenous, and closer attention must be given to the question of for *whom* are the edges of a protected area attractive or repellant, and why certain buffer areas experience different patterns of growth than others.

***Rural-urban linkages and spatially extended park effects on livelihoods***

The park affects not only Enclave residents living on the edge of the park, but also migrants who may not live in close physical proximity to the park, but whose livelihoods are linked through social and economic relations to those of Enclave dwellers. Specifically, one of the park's indirect effects has been a shift in the historically mutually beneficial relationship between rural and urban kin towards a greater burden of obligation upon urban migrants. Urban migrants, many of whom make relatively low wages especially in the context of a high cost of urban living (CSO 2003), are still expected to remit substantially back home to their dependent kin. Yet because agriculture is so challenging in the Enclave, in part because of the protected area, these migrants receive few of the agricultural economic benefits (e.g. farm produce to supplement grocery purchases, investment opportunities in cattle) that historically were available to Batswana migrant workers (Kerven 1980).

Today, the practice of migrants sending remittances to family remaining in the Enclave is still prevalent; 75.3% of migrants who left the Enclave in search of work (N = 146) were reported by their families to remit either money or goods (Figure 1). Of those who sent money (N=89), 75.3% sent another type of remittance (e.g. food or clothes) as well. In addition to the money and goods sent by a migrant to the entire household, roughly one third (34.5%) of the heads of households interviewed stated that they received money or goods individually from migrant family members in addition to the remittances sent for the entire household. As elsewhere in Botswana, Enclave households rely on remittances to meet their basic needs. 84% of surveyed households receiving cash remittances (N= 49) reported that they used these remittances to purchase food.

While migrants support the day-to-day needs of their rural family, most migrants are not investing in their home village, as migrants did in the past in order to secure their own futures and bolster their livelihoods. Only 27.9% of migrants were reported by their families to be investing in some capacity in their home village (Figure 1). Of those migrants who were reported to have invested, almost half (45%) of these individuals invested in building a house for future retirement, while only four out of 215 migrants were reported to have obtained arable fields and only eight to have purchased cattle. These numbers suggest that migrants still see their rural homes as a place to eventually "lay their head" (James 2001) but not necessarily as a place for lucrative or livelihood-enhancing investment anymore. In interviews, migrants emphasized that agriculture was no longer a wise investment, now that elephants had made it nearly impossible to get a decent harvest and the presence of wild buffalo from the park precluded the opportunity to sell their cattle on the lucrative (and highly subsidized) international market, due to European Union health regulations. As one man summarized, "people have left their fields because of the elephants and wild animals – buffalos and warthogs. People saw it better to work rather than plough. Working brings in money" (personal interview, May 7, 2010). This money is then used to support rural family members' daily expenses rather than one's own agricultural holdings. One female migrant explained, "People they do

send remittances but they don't send so much money to buy cattle, they just send 1000 pula to buy food or clothes, they don't send 1000 to buy cattle, no. There is now something called budget—this is for water, this for electricity, this for mom and dad" (personal interview, May 8 2010). Migrants from Chobe referred to the bank as a better place to store one's savings than cattle, making statements such as "people are not spending what they earn on the cattle, they put in the bank. Because…[cattle] it's not a good investment…there are national parks that side, they [cattle] can be attacked by wild animals" (personal interview, March 24 2010).

Not only did migrants explicitly state that the village provided fewer investment opportunities, but their responses also indicated that few migrants received material goods from back home. Only 6.8% of interviewed migrants reported receiving either money or agricultural goods such as fish or produce from their family in the Enclave. Yet migrants still continue to remit substantially, even building modern houses for their parents in the village, countering the theory that migrants remit primarily out of self-interest (Lucas and Stark 1985, Piorine 1997). Migrants repeatedly expressed in interviews that integral to Batswana culture is the concept of *tshwaragano* ("unity"), which refers to the idea that kin and neighbors should support one another. One migrant explained, "In town, we must not forget the people who are at home-when we have something to eat, we must share because we know life that side is hard, the problem is money "(Interview ID 87, personal interview, May 10, 2010).

As a result of this increasingly one-sided transaction, urban workers are placed under additional economic strain. While migrants continue to remit out of a sense of family obligation and a desire to retain a connection to their rural roots (a rich topic beyond the scope of this paper), they face significant economic pressures as they struggle to meet both their urban costs of living and rural family demands. In interviews, migrants despaired over the way in which low wages combined high urban living costs and demands placed upon them by rural kin in the Enclave made it difficult to survive. One female migrant explained that from the outside, it appears as though urbanites are not capable of saving money but that "it's not like that; its just because we are helping [back home]. The little that I have, I am sharing it with parents and family, so I'll be not doing anything for myself. Sometimes I can't save because when I receive 1000 pula, after rent and buying food and transport to work, then that little amount left I am sharing with other people" (personal interview, March 20 2010).

While the pressures that urban workers face today are due to a constellation of factors that affect rural-urban dynamics in Botswana more broadly, for migrants from Chobe, these pressures are exacerbated by the decline of agricultural opportunities and resources that are due in part to the Enclave's proximity to a wilderness area. The important finding here is that the effects of a protected area are not restricted to a localized area. In the Chobe case, because the protected area and protected wildlife make agricultural-based livelihoods less viable in the Enclave, there is a ripple-through effect to urban areas, where migrants are expected to support their family back home without receiving the agricultural benefits (i.e. goods or investment opportunities) that characterized past rural-urban household transactions. This finding reaffirms the need for research on people and parks to expand its scope of inquiry beyond human populations living adjacent to protected areas.

**Conclusion**

Wittemyer et al.'s 2008 findings regarding population growth around protected area edges received attention because of its implication that protected areas provide enough livelihood benefits to attract migrants—a claim numerous scholars have refuted (Estes et al. 2012, Igoe et al. 2008, Shoo 2008). Yet ultimately, as this study shows, the answer to the question of whether or not parks attract people because of enhanced livelihood options depends on the scale of analysis chosen. A fine-scale analysis of population and livelihoods around the Chobe NP reveals that the park is selectively drawing some people towards and repelling others away from different areas within the buffer. This represents a level of differentiation and complexity that aggregate population data is unable to capture, yet awareness of these complexities is critical for effective conservation policy-making and management.

In the Chobe case, the presence of the park further restricts already marginal agricultural livelihoods. This drives working-age residents to move from the Chobe Enclave to urban areas within the district (i.e. Kasane) or out of the district entirely in search of work. Selective migration affects livelihoods in the Enclave by increasing reliance on remittances and/or government social safety nets, and exacerbating labor shortages for village-based activities such as agriculture. Yet while the park hinders certain livelihood activities in the Enclave, it has spurred the creation of safari and related service industry employment opportunities in the nearby town of Kasane, which draws many Enclave migrants. At the same time, an entirely different demographic of people—non-local educated Batswana—have moved to the Enclave to take advantage of the jobs available through the expansion of government services that has accompanied the growth in safari tourism.

The fact that the park has qualitatively changed (rather than entirely eliminated or provided) the livelihoods of Chobe Enclave families highlights the need to shift from a debate about whether parks help or hinder rural livelihoods to one that investigates how protected areas shift who lives where and how such changing demographics affect the welfare of communities and the environment. Such information will provide a much more precise picture of the relationship between protected areas and people. For example, park-related tourism indirectly subsidizes the livelihoods of local Chobe Enclave residents, as remittances come partly from family members working in the safari industry and government transfers are funded in part through the wildlife tourism industry's contribution to central government coffers (Leechor 2005). Yet these park "benefits" arguably come at a price—rural residents are stripped of their capabilities to control their own livelihoods and their freedom to engage in livelihood activities of their own choosing (which many residents state would ideally be farming). Rural residents are no longer capable of producing their own food and sustaining themselves, and now must depend on inconsistent support from urban kin to survive. This shift in livelihood means a change in land-use, which has direct implications for environmental conservation in and around parks.

Indeed, in order to accurately assess the ecological implications of human settlement around park borders, further research must also attend to the different ways various settlers interact with the land, in relation to previous residents. The outcome of increased population growth around parks is not clear without an understanding of the demographic profile of migrants and the ways in which they are using (or not using) local

natural resources. Simply put, farmers and schoolteachers do not use or depend on flora and fauna in the same ways, and so population growth is not a perfect proxy for threats to biodiversity. In the case of Chobe, as members of farming families move out of the Enclave and educated workers move in, it is likely that there will be a corresponding shift in resource use around the park. While this study makes clear the complexity of human mobility around a protected area, there is a now a need for future research on the sustainability of protected areas to examine more closely not only population change but also associated changes in land and natural resource use in PA buffers.

There is also need for research on people and parks to expand the scale at which the "conservation and development" relationship is considered. As this article demonstrates, the costs of living near a park ripple through to urban migrants, who are expected to support their rural kin back in the Enclave without the likelihood of future agricultural benefits or opportunities in return. This finding is important because it shows that the scope of a protected area's influence may extend much farther than is normally recognized. It suggests that conservation can affect the development of livelihoods of both rural and urban dwellers, as well as the socio-economic linkages that bind these spheres. Indeed, conservation may have implications for national development if investment patterns of urban workers change as a result of altered socio-economic linkages to rural kin near parks—a question that warrants further study. A scale of analysis that can encompass these kinds of dynamics will broaden conversations about the tensions and synergies between conservation and development.

Ultimately, the park matters to peoples' lives not only because it creates certain economic costs and benefits to the livelihoods of those who live nearby, but also because it re-structures everyday social relations—who within a family lives where, how and why intra-household exchanges are made, and what forms of control individuals have over their own lives. As the conservation and development community continues to debate the dangers and merits of biodiversity conservation for human communities, it is critical that we pay attention to these changes in the fabric of everyday life for those who live near, and in some cases far, from protected areas.

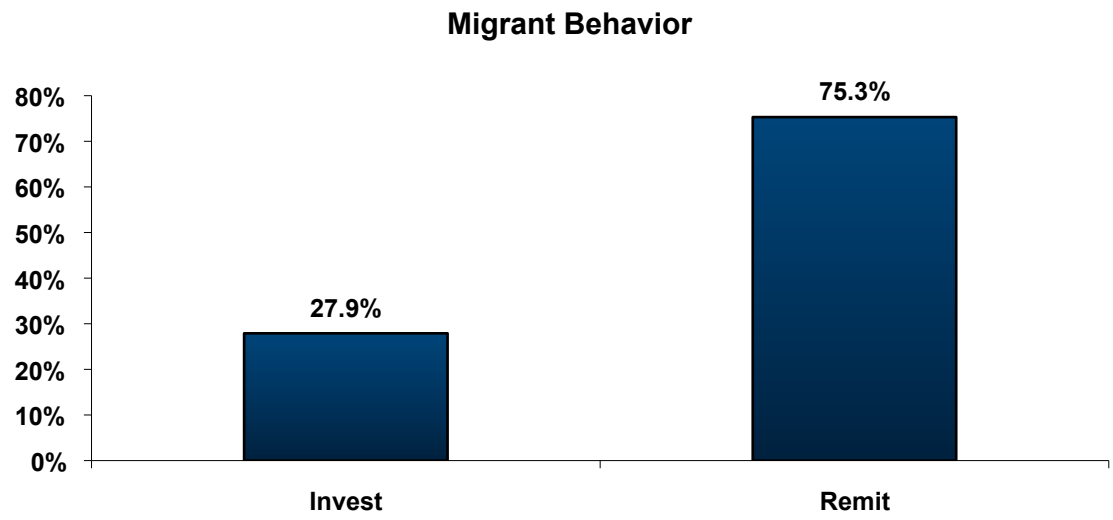


Figure 1. Behavior of migrant household members as reported by rural household heads surveyed in Chobe Enclave.

| Previous Survey Results | Study Sample | Year | Source |
|---|---|---|---|
| 76% Migrants Send Remittances to Rural Family | National | 2004 | SAMP* |
| 18% Household Income From Remittances | National | 2004 | SAMP* |
| 72.8% Migrants View Village as "Home" | Regional | 2003 | Lesetedi |
| 91.9% Migrants Own Rural Property | Regional | 2003 | Lesetedi |
| 82.2% Migrants Involved in Rural Economic Activities | Regional | 2003 | Lesetedi |
| 86.2% Migrants Send Goods Home | Regional | 2003 | Lesetedi |

* Southern Africa Migration Project

Table 1. Results from previous surveys of rural-urban linkages in Botswana. National data drawn from migrant-sending households across Botswana. Regional data drawn from migrant interviews within Broadhurst district of Gaborone (capital city).

# CHAPTER FIVE
# Concluding Commentary: Improving our Understanding of the Protected Area-Human Wellbeing Relationship

## Introduction

As the debate over the relationship between biodiversity conservation and human wellbeing persists, conservation scientists have become increasingly concerned with measuring the social as well as ecological effects of land set aside for conservation. Recent studies have sought to quantify the socio-economic consequences of such "protected areas" (PAs) on local communities (Andam et al. 2010, McNally et al. 2011, Naughton-Treves et al. 2011). However, economic indicators alone have been shown to be incomplete measures of human wellbeing (Brockington and Holmes 2010, Sen 1999a). Here I use the case of northern Botswana's Chobe National Park and the nearby villages of Chobe Enclave[49] to illustrate the limitations of PA impact assessments that focus solely on economic measures of human wellbeing and to explain why a broader conception of wellbeing is necessary to advance our understanding of the relationship between human wellbeing and protected areas.

As the interdisciplinary nature of conservation science develops, this field must begin to expand the concepts and methods it uses to assess wellbeing. Taking a step in this direction, the recent Millennium Ecosystem Assessment lays out a framework for assessing how ecosystems affect humans that accounts for the multi-dimensional, context-dependent and experiential nature of wellbeing (MEA 2005). Yet many evaluations of protected area effectiveness that examine human wellbeing around PAs still remain largely restricted to the realm of economic concerns (Dudley et al. 2008, Leverington et al. 2008). To improve their analyses of wellbeing, conservation scientists can draw from the rich body of literature on this subject within related social science disciplines, especially geography and economics. These scholars challenge us to include elements such as security, gender equality and access to meaningful employment in our conceptions of wellbeing. For example, eminent economist Amartya Sen (Sen 1999b) has suggested that the capabilities of people to control their own lives are central to wellbeing, and that increased "freedoms" are a more holistic measure of the quality of people's lives.

The concept of "cultural capital" also helps to capture the subjective as well as objective dimensions of wellbeing. Anthony Bebbington (1999) in particular has used the term cultural capital to refer to the fact that the maintenance (or loss) of cultural practices are an important dimension of the meaning of poverty or wealth to rural people themselves. Sense of place and the reproduction of cultural practices comprise part of a household's assets and the ability to maintain cultural identities and particular patterns of interaction contribute to a sense of wellbeing. With the recognition of cultural capital[50], analyses of wellbeing around PAs can better account for people's access to all types of capital assets and the ways in which people use them to build livelihoods that as far as

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[49] Findings are based on nine months of dissertation research in the Chobe Enclave and five months of research in the four towns where migrants from Chobe Enclave primarily re-locate. Primary methods included a household survey, focus groups, interviews, archival research and extensive participant observation.

[50] Bebbington calls for explicit awareness of the role of cultural capital in conceptions of wealth and poverty but warns that it cannot, nor should not, be quantified.

possible meet their material and their experiential needs.

## A Case Study: Qualitative Effects and Responses to a Protected Area

### *Shifting Capabilities*

While poverty indices provide useful data for assessing park impacts, researchers must examine not only *levels* of income but also where income comes from and how changes in livelihood activities bear upon people's overall wellbeing. The case of the Chobe Enclave shows how a PA can affect rural residents' livelihoods and more specifically, their capabilities to provide for themselves. Rural residents are now increasingly reliant on remittances (the funds that migrants send back to their places of origin), which are external sources of income over which they feel they have little control.

The Chobe Enclave consists of five villages sandwiched between the Chobe Forest Reserve, Chobe National Park and the riverine border with Namibia. In the Enclave, the presence of the nearby Chobe National Park has increased human-wildlife conflict, which has contributed to the decline of rural agricultural production. Simultaneously, the park has indirectly increased the availability of remittances through the development of the wildlife tourism industry. The implications of this shift for human wellbeing are ambiguous, and hinge on how this concept is assessed. On the one hand, remittances are clearly integral to household income and play a role in poverty alleviation. An assessment of PA effectiveness based on economic indicators alone might determine that the benefits of remittances from family employed in tourism outweigh the costs of reduced agriculture near a PA. Yet this perspective of wellbeing would overlook the fact that remittances represent a source of income over which rural residents feel they have little control. In focus groups and interviews, residents repeatedly reiterated that while migrants are "expected" to help out their family back home, they can not always rely on urban kin to support them and that remittances are not a dependable source of income. Residents, especially elders and women, recognized that urban workers often have their own expenses that make it difficult to send money back home. In this way, the park has contributed to livelihood insecurity, as rural residents now must depend on this inconsistent support from urban kin to survive.

### *Cultural capital as a factor in livelihood decision-making*

An expanded definition of wellbeing is important to the conservation community not only because it allows for a more comprehensive assessment how PAs affect humans, but also because it guides us towards a better understanding of how and why humans respond to the presence of a PA in the ways that they do. An approach to the study of human wellbeing around PAs that incorporates the concept of cultural capital recognizes that people make choices that are not based solely on economics. It makes visible the broader motivations that underlie the livelihood decision-making patterns of people who live near, and sometimes far, from a protected area. This kind of information on human behavior is critical for sustainable resource management.

Despite the low returns from agriculture around Chobe National Park, most villagers see farming as a main element of life. Both residents and migrants originating from Kachikau consistently say that that farming is " an African tradition" that should be continued, despite the challenges. There is a strong collective sense that personhood is

deeply rooted in a tradition of involvement in agricultural activities. One elderly man remarked, "if you don't plow, it is like you are dead." Similarly, a local government land administration official explained that people apply for arable land because of "pride, just to say I have a field…as a Motswana, you have to have a residential plot and a field."

It is notable that as village residents talk about the significance of farming, they simultaneously emphasize the declining role of agriculture as a subsistence or income-generating strategy in Chobe as a result of proximity to the park. One interviewee summed up the situation aptly:

> *The problem with farming is the elephants, because they destroy it. In the past years, it was okay, people were farming, depending on it, eating it, and even our father who was farming took us to school using that money. Nowadays the problem is the animals…but I can't say I can't farm because I am Motswana. I will just try to get them [elephants] away from my farm.*

This desire to farm was expressed frequently and emphatically by interviewees of all ages, despite a reality in which agriculture provides few material benefits and non-agricultural livelihood activities have become increasingly important to villagers' survival. If as one elder man stated, "life comes from the fields," conservation planners must recognize that farmers continue farming, despite grim agricultural prospects, as a way to maintain an identity that is tied to engagement with traditional agricultural means of production.

Just as those who are near to the park want to continue the cultural practices of a traditional agrarian lifestyle, migrants originating Chobe who now live in Botswana's towns and cities also value their rural-based identities and relationships. These migrants find ways to maintain such forms of 'cultural capital' through the sending of remittances. Indeed, I have shown elsewhere that the "cost" of conservation is born in part by urban migrants from Chobe who support their families back home but receive few economic benefits or investment opportunities (e.g. land and livestock) in return, as agriculture continues to decline. Yet as shown in South Africa, today it is identity that largely connects urban workers to the rural areas (James 2006). Migrants rely monetarily on the urban areas and lay claim to rural landholdings more for the purpose of home building rather than farming. Similarly, in Chobe, migrants continue to send remittances home to their families and visit their village, as a way to maintain a sense of belonging and an identity in which personhood is associated with farming and village life. Migrants recognize that agriculture is no longer a viable livelihood activity (blaming human-wildlife conflict and proximity to the park) yet emphasize that it is an activity Batswana are "supposed to do." As one young man explained, "If you are Motswana, you are supposed to have cattle, goats and chickens, you are supposed to have a garden for *merogo* [greens]. Those are the things I want…because I feel its my culture and I'm not supposed to change it." Migrants reported that involvement in farming and family matters back home is an important way to avoid "losing culture" or "forgetting where you come from." In this way, what urban migrants get in return for sending remittances has shifted to become less about material capital gains and more about cultural capital in the form of an intact agrarian-rooted identity.

**Conclusion**

Holding fast to an agrarian lifestyle on the edge of a national park, where wild animals pose significant challenges to farming activities, may not appear to "make sense" on a purely economic level, but signifies a more complex story, when livelihood strategies are understood as both material and meaningful. Paying attention to these livelihood complexities matters to conservationists for two reasons. First, those concerned about the welfare of humans affected by protected areas will capture of fuller understanding of this causal relationship if we acknowledge that conservation zoning can shift livelihoods in immaterial yet life-altering ways. Second, by recognizing that an individual's or household's assets include cultural as well as other material forms of capital, we can better understand, and thus predict, human behavior around protected areas. The value that both people near and far from Chobe NP ascribe to the cultural practice of farming, despite its low economic returns, is significant because it drives the human activities that occur next to the park—in this case, the continuation of farming and settlement in areas prioritized for wildlife conservation. Just as ranchers in the United States continue to raise livestock as a way of life despite low economic returns, farmers in Chobe are not likely to abandon farming anytime soon, despite increasing human-wildlife conflict as a result of living near a park. As conservationists work to develop effective land-use and natural resource management regimes, it is important that planners and policy-makers acknowledge that not all livelihood decisions are based solely on financial profit. Plans will be more sustainable if they are realistic.

## EPILOGUE

*When I started graduate school, I assumed that by the time I finished, I would have a list of clear policy recommendations for resolving human-wildlife conflict in northwestern Botswana. I didn't expect that my dissertation would provide a universal roadmap for marrying conservation and development, but I did think I would at least be able to put forth potential approaches to wildlife conservation that would help rather than harm the livelihoods of people living near Chobe District's vast network of protected areas. Six years later, I now often feel at a loss when I describe my work and am asked what I think could or should be done to make life better, or more "sustainable" (the new buzz word), for both the people and animals living in Chobe. Partly this is because my graduate training has made me wary of overly technocratic solutions to problems that have much deeper structural roots. Yet at the same time, I find my own uncertainty frustrating because I truly would like my research findings to be of practical use to the communities that shared so much of their time, insights and kindness with me.*

*Part of my hesitance to make prescriptive statements stems from that fact that the more I studied people and park relations in Chobe, the more various shades of grey began to appear. People often ask, hoping for a clear-cut answer, whether or not Botswana is doing "a good job" with conservation and development. But it is clear to me that the Botswana state is neither a purely beneficial nor malevolent force in the lives of Chobe residents. Similarly, the park is neither unequivocally "good" nor "bad" for local livelihoods, though its presence has certainly contributed to major shifts in the spatial and socio-economic dynamics of Chobe households.*

*On the one hand, I believe the Botswana government deserves to be commended for the way in which it has supported its rural areas through a variety of state safety nets ranging from entitlement programs to agricultural subsidies and public works labor programs. Through these developments Botswana has achieved impressive levels of social service delivery to many of its rural areas, especially in comparison to most other African countries (Acemoglu et al. 2002). Ultimately, it is this state support together with remittances that allow Botswana's rural areas, while not particularly economically productive, to provide a place for the non-working segment of the population to live. This state-society relationship contributes to the survival of rural households but also allows those who want to retain a rural agrarian lifestyle to do so.*

*This observation is particularly true for Chobe Enclave households, whose proximity to protected areas and wildlife make village-based livelihoods (especially agriculture) particularly challenging. Indeed, one way to think about state-provisioned safety nets in Chobe is to view them as compensation for living near an area prioritized for wildlife and safari tourism. As one focus group participant astutely commented, the goods provided through the national agricultural support program (ISPAAD) "are like compensation for the problem of wild animals...because when elephants attack fields we report to the Department of Wildlife; then the government sees that people are suffering and says, 'let us give them seeds and tractors so that maybe they can't kill our animals." The physical and financial capital provided by the government, which offsets some of the costs of farming incurred by living near wildlife and encourages people to continue their agricultural activities, allows the village to retain some semblance of an agricultural*

*livelihood base (Chapter 1). This state-supported agriculture is important not only because it shapes villagers' livelihood choices and allows them to continue at least nominally farming, but also because engagement in farming then enables villagers to maintain an individual and village identity rooted in an agrarian past, as I discuss in my concluding chapter. Agricultural subsidies in Chobe do little to increase agricultural production—as one elder lady said, "the government is giving almost everything [for farming] free so then we do the plowing but at harvest we get nothing"—but they do permit villagers to engage in a livelihood activity considered integral to a proper Setswana lifestyle. The fact that state-supported agriculture allows for a certain degree of continuity and deflects a rupture between an increasingly non-agricultural lifestyle and sense of self tied to rural agricultural production may indeed help explain why Chobe residents exhibit less resistance to Chobe National Park than do other rural African communities living near protected areas (Neumann 1998, Peluso and Watts 2001, Brockington 2002). In any case, it is clear, as I explain in Chapter 2, that these forms of state support bolster livelihoods against the costs of the park to a greater degree than the local CNBRM program, despite all its promises and rhetoric.*

*However, another way to read state support for rural livelihoods in Chobe, and in rural Botswana more broadly, is to interpret it as way to 'manufacture consent' and buy acquiescence to lasting structural inequalities. Critics of Botswana have laid forth these kinds of arguments already (Samatar 1999), and their criticism is particularly apt in the Chobe District, where the prioritization of wildlife conservation has benefited the tourism sector and national coffers at the expense of the rural population, whose agricultural interests have been marginalized. While the government is in the process of establishing a service center for the Chobe Enclave, and the tarring of a main road from the Enclave to Kasane has just been completed, it is difficult to imagine how growth will occur in villages hemmed in by wildlife reserves without an increase in conflict between human and wildlife interests. As a Chobe district planner stated to me, "because tourism for our country is one of the income-generating activities in our country, we can't encourage the rapid growth of human settlement at the expense of tourism."*

*These tensions reflect the fact that regardless of the state's overt intentions, Chobe is a place where state policies converge in opposing ways. Perhaps the most obvious contradiction of government policy in Chobe is the simultaneous protection of wild animals that destroy crops and livestock and implementation of national-level agricultural programs designed to increase agricultural productivity and bolster agrarian livelihoods. As one interviewee living in the capital, Gaborone, succinctly explained, "even as the government tries to encourage agriculture, the government cannot encourage agriculture and at the same time conserve elephants side by side. Basically it's [the land policy and the agricultural policy] conflicting." Such observations make visible a mismatch between national-level agricultural policy and locally targeted conservation policy. It is perhaps not surprising that interviews with Department of Agriculture officials and Department of Wildlife and National Parks officials revealed a lack of coordination between the two departments.*

*This lack of departmental coordination and oversight of mismatched policies may have seemingly straightforward solutions, but the fundamental question remains of whether state transfers to households living near a park represent a 'good' model for addressing human-wildlife conflict. Even if these safety nets allow some residents to*

*maintain a rural existence and prevent an entire household's upheaval, they are by no means a complete solution. The rural economy, despite the promises of a longstanding CBNRM program, provides few pathways to viable local livelihoods, which means that household breadwinners must migrate to work in the more urban areas of Botswana and remit back home to help subsidize rural living. As I show in Chapter 3, these socio-economic linkages place financial strain on urban workers—a cost of conservation that to date has gone unrecognized in the conservation literature. Indeed, when we think about the external costs of conservation in this way, it becomes difficult to separate out forms of rural versus urban dispossession (Hart and Sitas 2004), as rural land questions related to land rights, tenure and use (e.g. should land be set aside for cattle grazing or for wildlife conservation?) have become inextricably linked to urban labor questions related to the definition and provisioning of a living wage (e.g. what is a living wage if an urban worker is supporting both an urban and a rural household?)*

*My own ambiguity over the role of the state in relation to conservation and development policy and practice reflects many of Chobe residents' own mixed feelings. People lament that the government does nothing to protect them from elephants or create village-based jobs, but they do recognize that the presence of the park provides tourism jobs in the nearby town of Kasane and safari camps. Some villagers even make direct connections between the lucrative wildlife-based tourism industry and the central government's ability to provide social services to their village. From the Enclave to Kasane to Gaborone, friends, informants and interviewees constantly challenged me to complexify my analyses and conclusions.*

*As I prepare to return to Botswana to give presentations at various governmental offices, conservation-development NGOs and the Enclave itself on the findings of my research, I am faced again with the question of policy implications. While I could offer up my own thoughts on the need to reconcile contradictory national policies or change the market-based conservation and development paradigm, I don't presume that my suggestions will hold much sway. Instead, I view my own situated and inherently partial synthesis of the opinions, beliefs and trends I documented to be an entryway into further insight rather than an end point. I am eager to hear the responses of various local audiences to my findings. I hope this process will at the very least spark some interesting discussions and forward momentum amongst the people who live and work in the place where I was lucky enough to be a visitor.*

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## APPENDIX I: A Brief History of Wildlife Conservation in Chobe

The first conservation policies in Botswana enacted under British colonial rule were game laws, intended to stem the steep decline of wildlife due to hunting and prevent the total destruction of game as had occurred in neighboring South Africa. Starting in the mid nineteenth century, visiting sportsmen—primarily white hunting parties from South Africa—began intensive hunting that resulted in the disappearance of the Rhinoceros throughout the entire country and the reduction of other species in certain areas to levels above which they could never rise naturally (Campbell 1973). Significant pressure was also placed on wildlife when the massive trade in game products, encouraged by European traders, began to develop in the latter half of the nineteenth century. In reaction to such widespread decimation of wildlife, the British Government introduced legislation in 1891 in the form of the Game Law Amendment Act that was designed primarily to curb the trade. While initially statutory law was to be applied only to Europeans ("foreigners") and not over indigenous inhabitants of the Tribal Reserves, in 1934 the administration assumed the power to issue through the chiefs any order thought desirable for the protection and preservation of game.[51] In Chobe inhabitants had even less control over their land than communities in Tribal Reserves because the British government had conferred a Crown land status on the entire Chobe District through the Order-in-Council of 1904, which excluded the indigenous people from any rights or security of tenure over the land they occupied (Gumbo 2002). Chobe residents were subject to strict restrictions regarding hunting, which caused difficulties on a number of grounds. First, villagers were not able to protect themselves against marauding wildlife. When the first hunting regulations were passed, Chief Sinvula Nkonkwena of the BaSubiya in Chobe wrote to the District Commissioner in 1932, decrying the new rules and requesting that the commissioner "speak on our behalf to the Government that the country has become hard and bad. We your people have been accustomed to carry guns where-ever one wishes to go, we will not be able to walk with only hands…Lions [are around] this time in winter and we shall be finished, we shall be killed by lions" (Nkonwena 1932). Second, they could not protect their cattle against tsetse fly-carrying wild animals—Chief Nkonkwena later complained at a meeting of the African Advisory Council in 1952 that "Tsetse fly has come into the Chobe because of the game: they are in the grazing areas and we wonder how our cattle will be able to live on account of the game. We are forbidden from shooting the game in the Chobe even if we have rifles, for we would land ourselves in difficulty and be arrested" (Nkonwena 1952).

Along with hunting regulations, the colonial government's conservation efforts included legislation enabling game reserves and sanctuaries to be established in order to preserve various game species. In the Chobe region, Resident Commissioner Charles Rey first proposed the establishment of a game reserve in the early 1930's in order to preserve game for its aesthetic value and develop a tourism industry that would contribute to the national economy. The Chobe Game Reserve (10,100km$^2$) was finally established in

[51] By 1979, Batswana in the Tribal lands were no longer exempt from statutory wildlife law and hunting regulations, and principal law of universal application became both *de jure* and *de facto* law throughout a newly independent Botswana (Spinage 1991). With this move, local Batswana found themselves subject to the exact same rules initially targeted towards foreign (European) hunting parties who had been responsible for the destruction of all big game in Botswana, for either sport or trade purposes.

1960 and elevated to the status of a National Park in 1968 (see Gumbo 2002 for detailed history of CNP), along with several other protected areas throughout the country.

A few years later, proposals were made for a category of land termed Wildlife Management Areas (WMA) that that would exclude forms of land use such as agriculture or grazing in order to maintain viable wildlife populations. These areas were extended to cover 22.6% of the country under the 1986 Wildlife Conservation Policy, which stated that "in WMA's…sustained wildlife utilization will be actively encouraged. Some WMA's adjacent to National Parks/Game Reserves will act as buffer zones to prevent conflict between the latter and areas of more intensive agricultural uses. Others will provide protection to migrating wildlife by safeguarding migratory corridors" (1986). Subsequently, the WMAs were subdivided into Controlled Hunting Areas (CHAs), which are zoned for various types of wildlife utilization (including non-consumptive use), under either commercial or community management. The Chobe Enclave itself—consisting of five villages hemmed in between the national park, forest reserves and the Linyanti-Kwando riverine border with Namibia—was zoned into CHA 1 and 2 and is managed by the Chobe Enclave Community Trust, established in 1993.

## APPENDIX II: Methodology

I employed a mixed method approach that combined qualitative data from interviews, focus groups and participant observation and quantitative data from a household survey in order to explain how Chobe National Park has articulated with other local socio-economic and political conditions to structure the livelihood and settlement patterns of Chobe Enclave village residents. While there are epistemological and theoretical tensions that exist between qualitative and quantitative approaches (Bardhan and Ray 2006, Kanbur and Schaffer 2007), and mere combination of data collection methods doesn't guarantee stronger internal validity (Atkinson and Coffey 2003), the two approaches can still be complementary. Specifically, my survey provides evidence regarding the degree to which various factors are correlated—household wealth and remittance levels, for example—but the mechanisms underlying these relationships are better explained through my interview and ethnographic data. Additionally, the anthropological component of my study revealed some of the built-in biases and assumptions in my survey instrument and allowed me to qualify and better make sense of some of the quantitative results. Lastly, in collecting archival documents and conducting an extensive literature review, I have been able to situate interviewee responses—many of which offer up proximate causes for change—in the larger social, economic and political structures that have created local conditions of existence. Below I describe each of my methodologies in greater detail.

### Focus Groups

During the beginning stages of my fieldwork, I conducted eight focus groups—an elder female group, an elder male group, a youth male and youth female group in each of my two village sites. Discussion topics included observed changes in the village over time (relating particularly to livelihood and migration patterns), local understandings of the concept of a "household" and local opinions on livelihood data collected by previous researchers working in the Chobe Enclave region. During this time period I also conducted 40 informal interviews with village residents (5 female elders, 5 male elders, 5 female youth and 5 male youth in each village) on similar topics of discussion. Focus groups and interviews were translated by research assistants in real time as well as recorded and transcribed/translated for a second time for cross-validation purposes.

### Survey

After spending three months living and researching in Kachikau, I conducted a household survey in my two village sites (see Appendix III for survey instrument). The primary focus of this survey was on household livelihoods and the role of migrant family members in household income and expenditure. I trained a team of research assistants in each village (comprised of one male and one female) to administer the hour-long survey to the selected households.

A sample of random households was selected from a list of residential plot owners and a map of their plot locations in each of the two villages. This list was obtained from the office of the Land Board in Kasane, the administrative capital. Accurately enumerating a population of village households can be very difficult given the frequent occurrence of migration, over/underreporting, mortality, assimilation and fission

(Olsen 1993). Accordingly, I asked my local research assistants to review the record of plot holders obtained from the Land Board in order to verify its accuracy and eliminate plot holders who did not reside at their village plot holding. From the final list of households (proxied by the name of the plot owner), I used a random number generator to select one third of the households to survey, stratified by village. This resulted in 49 households selected in Kachikau and 46 households selected in Parakarungu. Still, despite my attempt to verify the Land Board list with local knowledge, we found that as we ran the survey with the selected household list, some households could not be surveyed as the owner had either moved to Kasane (or another town), or had passed away, or was staying out at the cattle post, or in some cases, the plot was in fact occupied by renters while the owner stayed somewhere else. In cases where the plot was completely unoccupied, I selected an additional random sample from the remaining names on the Land Board list to replace the non-existent households we had originally selected. In cases where a different household was staying at a given plot, we interviewed the current household residing at that plot.

Rather than viewing these enumeration difficulties as merely problematic to our survey design, I also chose to look at our household enumeration process as a form of data in itself—evidence of the high mobility people in this region, many of whom hold plots in multiple locations and move between them in complex yet strategic ways. The difficulty in establishing a list of households at a certain point in time also re-affirmed a criticism of household studies made by many feminist development scholars—that the concept of "the household" is often an inappropriate construct imposed by foreign researchers and ill-suited to rural African sociological studies. More specifically, these scholars point out—and my own research confirms—that the group of people who might be found on a certain physical plot at a certain point in time (e.g. when a survey is administered) may not necessarily correspond perfectly to the organizing unit around which a group of family members might pool and distribute their resources (Guyer and Peters 1987, Hart 1992, Moore 1992). For example, almost all household surveys conducted in Botswana define the household (or "lolwapa," as translated into Setswana) as "one person or several persons living together who share most of their income (if any) and who eat together" (CSO 1986). In reality however, households in Botswana tend to be quite fluid and individual members of the households are distributed between a number of different physical locations at any particular time; cattle posts, farming lands, villages, urban centers and industrial areas such as mines (Lesetedi 2003). Therefore, a limited definition of the "lolwapa" is often not synonymous with and thus not an accurate representation of the social unit at which inter-personal economic interaction and interdependence occurs in Botswana (Kerven 1979). To address this issue, in the household composition portion of our survey we allowed the interviewee to list "lolwapa" members as he/she saw fit and did not constrain the list to only members who ate and lived consistently in the same physical dwelling. In this way, we collected information that privileges local analytical understandings over externally imposed categories (Bardhan 1989) and that ultimately better represents the relevant social unit at which people are organizing their livelihoods.

Given the well-established problems with interviewing only the household head as a proxy for household level information, we decided to administer the survey to both the household head and to the spouse. The goal of this additional data collection was to

avoid potential false assumptions regarding the perfect knowledge of the household head in regards to household income and expenditure. For example, if members of the household are receiving or sending remittances individually, we cannot assume that the head of the household will be aware of all of these transactions. We also cannot assume that remittances received at the household level will be distributed and utilized equally within the household, given the typical dynamics of intra-household allocation (Guyer 1997, Hart 1997). Ideally one would interview all household members regarding income and expenditure, but given time and resource constraints, we chose to interview the household head (generally the male) and his wife, or in cases where the household was headed by a single female, we conducted a single interview only with that female household head. While an in-depth analysis of the data to determine intra-household dynamics in this region would warrant a separate study, the information did prove useful as it provided a way to establish the relative accuracy of using information collected from the household head to represent information about the entire household. Large discrepancies between a husband's and his wife's answers would serve as an indication that interviewing only the household head is not a sufficient data collection method, and small discrepancies between the husband's and wife's data points would suggest that analysis of household livelihoods based on household head interviews is methodologically acceptable. Ultimately, using the statistical software package STATA to check for correlation between male and female responses (within a given household) for several different questions, I was able to determine that male and female responses were not significantly different. This meant that in my survey analyses, I used the male head of household data points to represent household data (and female head of household data for female-headed households) in order to avoid duplicate records for a given household.

Within the survey itself, the relative contribution of various types of livelihood activities to a household's income was estimated through an established survey technique in which one can proceed from asking respondents to *list* all activities and then compare them, to asking them to *rank* activities according to relative importance (vis-à-vis time or income), to finally asking them to *construct proportions* of time spent/income earned for each livelihood activity (Venkateshwarlu 1993). To do this, participants were given 21 beans and asked to divide the beans into three piles that corresponded to their top three income sources, with the amount of beans in each pile reflecting the importance of that livelihood source. Following standard rural sociological procedure (Christensen 1993), questions regarding sensitive information—which in Botswana would include livestock and agricultural assets—were asked towards the end of the survey once a general rapport had been established between the interviewer and interviewee.

**Migrant Interviews**

Upon completion of the village survey, I conducted semi-structured interviews with migrants from Kachikau and Parakarungu residing in Kasane (the nearest town and the administrative capital of Chobe district), Maun, Francistown, and Gaborone—the four primary destinations for Chobe Enclave migrants, as revealed by our survey data. (See appendix for interview instrument).

The focus of these interviews was on the social and economic links maintained by migrants to their home village and family there. I also asked questions regarding their

thoughts on the future of their home village and their own plans for the future. My approach in these interviews was informed by a reflexive feminist methodology that pays attention to the roles that the interviewer and the contextual factors surrounding the interview play in influencing the interview process. The responses I received from interviews were predicated as much upon the ways in which I asked questions and explained my research project as upon any measure of the objective "reality" of their situation. In analyzing my interview data, I am less interested in distinguishing the "truthfulness" or "accuracy" of their accounts of rural-urban migration and more interested in examining what the migrant interviews reveal about the society in which the interviewees live—the cultural resources people use to construct narratives, the way cultural categories shape what is thinkable or noteworthy, and the shared categories of representation that structure interviewee responses (Atkinson and Coffey 2003). In addressing discrepancies between my own interpretation of my subject matter and my interviewee's interpretation of my subject matter, I seek more to explain what it says about each of our life-worlds than to establish one as more truthful than the other.

I transcribed all interviews and coded each interview through the software coding program, Atlas. Again, following a reflexive feminist epistemological approach, I make no claims regarding the neutrality of my coding process and instead recognize that my data analysis is a product of my own positionality. However, in admitting to the situatedness of my own knowledge and research skills, I am *not* dismissing the entire idea of objectivity in scientific inquiry. My research still seeks to give a better account of my subject of study that currently exists, but it also refuses what Haraway refers to as "the god-trick"—the assumption that scientific research is necessarily unbiased and all-knowing (1991).

**Key Informant Interviews and Archival Research**

In addition, I conducted and recorded unstructured interviews with roughly 20 key informants, ranging from relevant government officials (e.g. the Chobe member of Parliament, Chobe councillors), tribal officials (chiefs and headmen), and civil servants (officers at the Department of Lands, Department of Agriculture, Department of Wildlife, Department of Economic Planning) to local traditional doctors, village elders and NGO leaders. These interviews were conducted in English except a few interviews with village elders where I had a translator present and for which I subsequently hired a University of Botswana student to transcribe and translate all audio recordings.

I also collected archival data about the Chobe district and labor migration in Botswana from the National Archives (Gaborone, Botswana), the Botswana Room at the University of Botswana, Rhodes House (Oxford University, England) and the National Archives at Kew Gardens, England. Other relevant background literature was collected and compiled from government departmental libraries in Gaborone, Botswana, University of Botswana general collection, and several NGO libraries in Gaborone.

**APPENDIX III: Village Household Survey**

**Date of Interview: [Izuva lya makande]**

**Place (Where): [Kwihi]**

**Time [Inako]**

**Interview code:**

PART I. BACKGROUND INFORMATION

*I am first going to ask some general background questions about yourself and this household. [***Muni muvuza ipuzo kahenu ne rapa lyeenu***]*

1.

| | |
|---|---|
| PRE-Q: Is this household from the Chobe Enclave ? (*if no, STOP interview)* [**Aa unwe ne ve rapa lyenu mu zalwa mwa Chobe Enclave?]** | |
| a. Are you the head of household or spouse of head of household? (*if neither, STOP interview)*[**Aa unwe nje mu mutwi we lye rapa naandi mu sesetwa?]** | __ H of H/**Mutwi** __ Spouse/**Nisesetwa** |
| b. Date of birth [**Mazaalo**] | |
| c. Sex [**Mukwame/Mukulwakazi**] | __ Male/**Mukwame** __ Female/**Mukulwakazi** |
| *If female head of household, ask:*<br>d. Are you married? [**Musesetwa?**] | __ Yes/**Eeni** __ No/**Nee**<br>__ Mufwirwa __ **uvakanwa** |
| e. Education level/**Mu venjiri chikoro kukazima hae**?] | |
| f. Is this the household's home village? (*If yes, skip g and h)* [**Aa mu muzalwa mwelyenu irapa**?] | __ Yes/**Eeni** __ No/**Nee** |
| g. *If no,* from which Enclave village does this household originate? [**Chukuti ka muzalwa mwelyenu irapa muzwa ku muzi uhi wa Chobe Enclave** ?] | _____: village of household head/ muzi o mutwi we irapa<br>_____: village of spouse/ muzi wa yo sesetwa |

| | |
|---|---|
| h. *If no,* when did you move and why?<br><br>[**Chukuti kwina vulyo, mu va ka kuulye lyeri mane; chiinzi ha mu va ka kuulyi**?] | Year: /**Chirimo**/**Mwaka**_____<br><br>Reason:/**Mavaka** _____ |
| i. Are you employed? (*if no, skip j and k)* [**Aa muteenda?]** | __ Yes/**Eeni** __ No/**Nee** |
| j. *If yes*, what type of employment? [**Chukuti kwina vulyo muteenda, musevezi nzi**?] | |
| k. *If yes*, what is location of employment? [**Muteendera kuhi**?] | |
| l. Are any of the people who are members of your household staying outside Chobe Enclave? (*if yes, make sure to ask part III q's*) [**Aa kwina vasirapa lyenu vakeena ku imwi muzi kuunze lya Chobe Enclave?**] | __ Eeni ___Nee |
| m. Does your household own a cattle post? [**aa mwiina muraka?** | __ Yes/**Eeni** __ No/**Nee** |
| n. *If yes, where?* **Wina kuhi muraka wenu**?] | Location/**kwihi**: _____ |
| o. Does your household have dryland and/or molapo fields? *If yes,* where? (*if no, skip p, q and r)*<br><br>[**Aa mwina luwa lwe ngolo ne muzuka**?] | __yes/**eeni** __ no/**nee**<br><br>__ **Muzuka**/Dryland (location/**kwihi**: _____) __ **Ngolo**/Molapo (location/**kwihi**: _____) |
| p. *If yes*, did you plough last year? [**Aa mu va lyimi mwaakalyi?**] | **Muzuka**/Dryland: __ yes/**eeni** __ no/**nee** **Ngolo**/Molapo: __ yes/**eeni** __ no/**nee** |
| q. *If no ploughing last year*, why did you not plough?<br><br>[***Chukuti kana mu va lyemi,* Chinzi ha musana muva lyemi mwaakalyi**?] | **Muzuka**/Dryland reason/**ivaka**: _____<br>**Ngolo**/Molapo reason/**ivaka**: _____ |
| r. *If yes to ploughing*, what do you grow?<br><br>***Chukuti mu valyemi,* Muva lyimi nzi** | **Muzuka**/Dryland crops/**zivialo**: _____<br>**Ngolo**/Molapo crops/**zivialo**: |

| | |
|---|---|
| **mwaakalyi**? | _____ |
| s. The Botswana government provides assistance to many of its citizens. Does your household receive money or other help from government in any form? *If yes,* what type? **Hurumeende wa Botswana utusa vaantu vaakwe. Aa irapa lyenu lye hewa malyi naadi ituso zihi ku zwa kwa hurumende? *Chukuti ku zina*, nze zihi ituso zi muhewa?** | __ Yes /**eeni** __ No/**nee** **ituso nzi**/Type: _____ |

2. HOUSEHOLD COMPOSITION [**Mu vongayi mwi irapa lyeenu**?]

*I am now going to ask you some basic questions about each member of this lolwapa.*
[**Muni mu vuuza ipuzo kaha vasi irapa lyeenu**]

*Have respondent list all members of lolwapa: relation to him/herself, sex, age, primary economic activity and location)*

| Relation to interviewee<br>**Luzuvo nanwee** | Sex<br>**Mukwame/ mukulwak azi** | Date of Birth<br>**Chirimo cha mazaalo** | Primary economic activity<br>**Kulyi hazwa che chinzi?** | Present in village?<br>**Veena mu muzi naandi?** |
|---|---|---|---|---|
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PART II. GENERAL LIVELIHOOD INFORMATION [**Mu hala vulye**?]

*I am now going to ask a few questions about the ways in which your household makes a living and supports itself.* [**Mu ni muvuuza ipuzo kaha nzira zi mulyi haza chaazo**]

3. What is the primary source of income for your household here? [**Inzira inkaando imu wana malyi chayo nje ihi**?] _____

4. Do you have any other sources of income?[**Aa mwiina imwe nzira imu wana malyi chaayo**?]

__ Yes/**eeni** __ No/**nee**

*If yes*, what? [**Nko kwihi kumwi ku mu wana malyi**?]

_____

5. (*IF THEY OWN CATTLE/**Chukuti mwina ingoombe***): What are the primary uses of your cattle? [**Ingoombe zeenu muzi teendesa ahulu ku chitanzi**?] (check more than one if applicable)

___milk/**kukama masaanza**

___live animal sales/**kuzi wuza ni zihala**

___live animal gifts/**kuzi wava ni zihala**

___ meat/**inyama**

___ draught power (plowing fields)/**kuzi huleha (chuku lyema)**

___ manure/**musitero**

___ store of value (cattle as savings) /**chintu china musevezi (chintu chuvutokwa)**

6a. What are the top three activities most important to your household for survival **in the dry season** (*mark accordingly)*: [**Nje ihi misevezi yotatwe mikulu imulyihaza chaayo mu nako ye yiku zumine? Musalye mwezi ziichirira]**

__ sale of crops/**kuwuza zi mwa siinza**

__ crops for consumption/**kulya zi mwa siinza**

__ sale of livestock/**kuwuza zirerantu**

__ livestock (consumption and draught power)/**zirerantu (kuzilya ne kuzihuleha**]

__ veld/forest products/**kuchera zihaantu zo munkaanda**

__ money from waged jobs in your household in Kachikau/Paras/**malyi azwa ku vasi irapa va teenda mwa Kachikau/Paras**

__ money from waged jobs from family members outside of Kachikau/Paras (i.e. remittances)/**malyi azwa ku vasi irapa va teendera kunze lya Kachikau/Paras**

__ self-employment/**kulyi teenda**

__ piece jobs/**mesevezizaana/mapisiweki/**

__ drought relief program jobs/**mesevezi ya drawuti**

__ money from government (pension, orphan, etc.)/**malyi azwa kwa hurumeende—ipenshini, malyi ava siwa kana a mwi vulyo**

__ fishing/ **ko wonda enswi**

__ other**/zimwi**

6b. Pretend this pile of beans represents your livelihood—the three activities that you just mentioned combined together. Now divide the pile into three piles so that each pile represents each of the three activities you mentioned. More beans in a pile means that activity is more important. [**Muhiinde kuti izi nyaangu zi zimanine mesevezi yo tatwe mikaando imu lyihaza chayo. Mukaohanye izi nyaangu muzi butu zo tatwe zi yendirinzana ne ina misevezi. Inyaangu ziingi zi shupa vutokwa vowo musevezi]**

**Musevezi**/Activity type: _____ **ipalo ye nyaangu**/No. of beans:_____

**Musevezi**/Activity type: _____ **ipalo ye nyaangu**/No. of beans:_____

**Musevezi**/Activity type: _____ **ipalo ye nyaangu**./No. of beans:_____

6c. What are the top three activities most important to your household for survival **in the rainy season** (*mark accordingly)*: [**Nje ihi misevezi yotatwe mikulu imulyihaza chayo mu nako ye nvula**?]

__ sale of crops/ **kuwuza zi mwa siinza**

__ crops for consumption/ **kulya zi mwa siinza**

__ sale of livestock/ **kuwuza zirerantu**

__ livestock (consumption and draught power)/ **zirerantu (kuzilya ne kuzihuleha**

__ veld/forest products / **kuchera zihaantu zo munkaanda**

__ money from waged jobs in your household in Kachikau/Paras/ **malyi azwa ku vasi irapa va teenda mwa Kachikau/Paras**

__ money from waged jobs from family members outside of Kachikau/Paras (i.e. remittances)/ **malyi azwa ku vasi irapa va teendera kunze lya Kachikau/Paras**

__ self-employment **/ kulyi teenda**

__ piece jobs/ **mesevezizaana/mapisiweki/**

__ drought relief program jobs/ **mesevezi ya drawuti**

__ money from government (pension, orphan, etc.)/ **malyi azwa kwa hurumeende—ipenshini, malyi ava siwa kana a mwi vulyo**

__ fishing/ ko wonda enswi

__ other**/zimwi**

6d. Pretend this pile of beans represents the three activities that you just mentioned. Now divide the pile into three piles so that each pile represents each of the three activities you mentioned. More beans in a pile means that activity is more important. [**Muhiinde kuti izi nyaangu zi zimanine mesevezi yo tatwe mikaando imu lyihaza chayo. Mukaohanye izi nyaangu muzi butu zo tatwe zi yendirinzana ne ina misevezi. Inyaangu ziingi zi shupa vutokwa vowo musevezi]**

**Musevezi**/Activity type: _____ **ipalo ye nyaangu**/No. of beans:_____

**Musevezi**/Activity type: _____ **ipalo ye nyaangu**/No. of beans:_____

**Musevezi**/Activity type: _____ **ipalo ye nyaangu**/No. of beans:_____

PART III. MIGRANT QUESTIONS [**Ipuzo kaha vuyeenzi**]

*I am now going to ask a set of questions about lolwapa members who are living and working outside of Chobe Enclave.* [**Muni mu vuuza ipuzo kaha vasi irapa lyeenu vekala ne kuteendera kunze lya Chobe Enclave**]

7. Do you have any lolwapa members working or living outside the Chobe Enclave?[**Aaa mwina vasirapa lyeenu vateende kana vekala kunze lya Chobe Enclave**?] __ Yes/eeni __ No/nee

(*If no, end interview. If yes, proceed to chart and explain you will be asking questions regarding each lolwapa member who is working outside the village in order to understand the relationship between family members who stay in the village and family members who go away to work)*

| | Migrant #1<br>**Muyeenzi we ntanzi** | Migrant #2<br>**Muyeenzi wo vuveri** |
|---|---|---|
| a. Relation to interviewee/**luzuvo nanwe/munzi wenu?** | | |
| b. Gender/**mukwame/mukulwaka zi** | | |
| c. Year of birth/**chirimo cha mazaalo** | | |
| d. Education level/**Va venjiri chikoro kuka sika hayi?** | | |
| e. Current location/ **mweinu nako?** | | |
| f. Current employment/**Vatende hi mweinu nako?** | | |
| g. When did he/she leave Enclave?/**Vava yeendi lyriri**? | | |
| | **Migrant #1 continued** | **Migrant #2 continued** |
| h. Why did he/she leave?/**Chinzi chi vachiti kuti va yeende?** | __ **chikoro**/school<br>__ **kusaka musevezi**/job seeking<br>__ **maseso**/marriage<br>__**zimwi**/other: _____ | __ **chikoro**/school<br>__ **kusaka musevezi**/job seeking<br>__ **maseso**/marriage<br>__**zimwi**/other: _____ |
| i.Who made decision for he/she to migrate?**Njeni yava zumini kuti va yeende**? | __ **irapa lyonse**/whole household<br>__**muntu umwina** /individual<br>__ **vazaaz**i/parents<br>__**vamwi**/other:_____ | __ **irapa lyonse**/whole household<br>__**muntu umwina** /individual<br>__ **vazaaz**i/parents<br>__**vamwi**/other:_____ |
| j. How did s/he contribute to the household in year before s/he left?/**Vava kutusa irapa vulye ni vaseni kuyenda?** | | |

| | | |
|---|---|---|
| k. What role did he/she play in agricultural activities of household before he/she left?/**Vava ku chita nzi mu zokulyima ni va seni ku yeenda?** | | |
| l. Does he/she send or bring remittances? (*if no, skip to aa)*/**Aaa va tumina malyi ne zelyo***?* | _ Yes<br>_No | _ Yes<br>_No |
| m. *If yes*, in what form? **Chukuti vatumina malyi, vaatumina che ihi nzira?** | __ **malyi**/money __ **zilyo**/food __**zizavalo**/clothes __**zitendeso mu kulyima**/agricultural inputs __**zizakiso**/building materials __ **zimwi**/Other: _____ | __ **malyi**/money __ **zilyo**/food __**zizavalo**/clothes __**zitendeso mu kulyima**/agricultural inputs __**zizakiso**/building materials __ **zimwi**/Other: _____ |
| n. Who does he/she usually send the money to?/ Va tuminanga ine malyi? | __ head of household/ **mutwi we irapa** __ spouse of HofH/ **yo sesetwa** __ other/**zimwi**: _____ | __ head of household/ **mutwi we irapa** __ spouse of HofH/**yo sesetwa** __ other/**zimwi**: _____ |
| o. In last year, has he/she given money to the household for a special purpose? *If yes,* for what?[**Aa mwaakalyi vava tumini malyi kwi irapa o musevezi u teede? *Chukuti kwina vulyo,* e chinzi?** | _ Y/eeni _N/nee<br>__ **iseso**/wedding __l**ufu**/funeral __**muzaako we nzuvo**/build a house __ **kuwula ingoombe**/buy cattle __**isinyehero ze chikoro**/school expenses __ **zimwi**/Other: _____ | _ Y/eeni _N/nee<br>__ **iseso**/wedding __l**ufu**/funeral __**muzaako we nzuvo**/build a house __ **kuwula ingoombe**/buy cattle __**isinyehero ze chikoro**/school expenses __ **zimwi**/Other: _____ |
| p. Aside from special purposes, does s/he give money to the household on a regular basis? [**Kunze lyo musevezi uteede, aa va tumina malyi kwi irapa inako zoonse? (if no, skip to <u>v</u>)** | _ Y/**eeni** _N/**nee** | _ Y/**eeni** _N/**nee** |
| | **Migrant #1 continued** | **Migrant #2 continued** |
| q. *If yes to p*, is this money given for general or specific budgeted purposes? [**Aaa malyi a hewa misevezi eteede naandi nge** | __ **chimwi ne chimwi**/general __ **ziteede**/specific | __ **chimwi ne chimwi**/general __ **ziteede**/specific |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **misevezi yoonse**? | | | | | | | | |
| r. *If yes to p,* how often does he/she send or bring this money? [**Va tumina kana ku lyeeta malyi ko ngae**?] | __ x1 / **nsuunda**/week<br>__x1 /**mweezi/** month<br>__ x1/ **chirimo**/year<br>__ **zimwi/**other: _____ | | | | __ x1 / **nsuunda**/week<br>__x1 /**mweezi/** month<br>__ x1/ **chirimo**/year<br>__ **zimwi/**other: _____ | | | |
| s. *If yes to p,* how much did he/she give last time? *Give out cards and have interviewee pick one* [**Vava tumini vukae mu nako iva mani**?] | __ 100-400 pula<br>__ 401-700 pula<br>__ 701-1000 pula<br>__ more than 1000 pula | | | | __ 100-400 pula<br>__ 401-700 pula<br>__ 701-1000 pula<br>__ more than 1000 pula | | | |
| t. *If yes to p,* was this last time he/she gave money at Christmas? {**Chiva tumina malyi lwa mamanimani ivalyi ma zuva e Christmas**?] | __ Y /eeni __ N/nee | | | | __ Y /eeni __ N/nee | | | |
| u. *If yes to t,* how much did he/she give the last time that was *not* Christmas? *Give out cards and have interviewee pick one* ***[*Malyi avava tumini lwa manimani ni isalyi he Christmas vukae*?/*** | __ 100-400 pula<br>__ 401-700 pula<br>__ 701-1000 pula<br>__ more than 1000 pula | | | | __ 100-400 pula<br>__ 401-700 pula<br>__ 701-1000 pula<br>__ more than 1000 pula | | | |
| v. How often has he/she sent or brought each type of goods to the household? [**Koolye ni va tumina naadi ko lyeeta zivya kwi irapa mu chirimo cha a mana?]** | | Less x1/mo | x1/ mo | More x1/mo | | Less x1/mo | x1/ mo | More x1/mo |
| | **Zilyo**/Food | | | | **Zilyo**/Food | | | |
| | **zizavalo/** Clothes | | | | **zizavalo/** Clothes | | | |
| | **zitendeso mu ku lyima**/Agricultur-al inputs: | | | | **zitendeso mu ku lyima**/Agricultur-al inputs: | | | |
| | **zizakiso/zivya ze mizaako**/Building materials | | | | **zizakiso/zivya ze mizaako**/Building materials | | | |
| | **zimwi**/Other: | | | | **zimwi**/Other: | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | _____ _ | | | | _____ _ | | | |
| | **Migrant #1 continued** | | | | **Migrant #2 continued** | | | |
| w. Apart from the money and goods sent to the household that you just mentioned, in last year, has he/she given money or goods to you individually just to you? {**Kunze lya malyi ne zivya ziva tuminwa chirimo chaamana, kwina malyi kana zimwe zivya zi va tuminwa kwenu vulyo nonwena?** | _ Y/eeni _N/nee | | | | _ Y/eeni _N/nee | | | |
| x. If yes, what did he/she send to you individually? (*check all that apply*) **Chukuti kwina vulyo, va va tumini nzi kweno nonwena?** | __ money/**malyi**<br>__ other items/**zimwi**: _____ _____ | | | | __ money/**malyi**<br>__ other items/**zimwi**: _____ _____ | | | |
| y. Apart from you, do any other individuals in this lolwapa receive remittances individually from him/her?[**Kunze lyeenu njeni umwi mw irapa yo tuminwa malyi?** | __ Y/ee __ N/nee | | | | __ Y/ee __ N/nee | | | |
| z. *If yes to y*, who?**Njeni**? | | | | | | | | |
| **IF NO REMITTANCES SKIP TO HERE** | __ Y __N<br>***luvaka***/Length of stay:_____ | | | | __ Y __N<br>***luvaka***/Length of stay:_____ | | | |
| **aa**. Last year did he/she come home for Christmas? *If yes,* for how long? **Chirimo chaamana vave zite ku muzi kwi Christmas? Lo vaka lo sika hi?** | | | | | | | | |
| bb. Did she/he come home at any other time last year? *If yes*, for how long?**Aa vave zite imwi nako mwakalyi? Luvaka lusika hi?** | __ Y __N<br>***luvaka***/Length of stay:_____ | | | | __ Y __N<br>***luvaka***/Length of stay:_____ | | | |
| cc. Apart from sending money/goods to this household, is he/she contributing or | __ Y __N<br>**__munzuvo yaavo**/ his/her own house **__mu mawa** | | | | __ Y __N<br>**__munzuvo yaavo**/ his/her own house **__mu mawa** | | | |

| | | |
|---|---|---|
| spending money in this area in any other way? *If yes,* how so? **Kunze lyo kutumina malyi naandi zivya kwi irapa, aa va tusa cha malyi?** | **aavo**/own arable lands<br>__**mu ngoombe zaavo**/own cattle<br>__ **mwi bisinese yavo**/own business __**kutumina malyi ku vamwi mu muzi**/sending remittances to others in village<br>__**zimwi ituso**/other contributions: _____ | **aavo**/own arable lands<br>__**mu ngoombe zaavo**/own cattle<br>__ **mwi bisinese yavo**/own business __**kutumina malyi ku vamwi mu muzi**/sending remittances to others in village<br>__**zimwi ituso**/other contributions: _____ |
| | **Migrant #1 continued** | **Migrant #2 continued** |
| dd. Does he/she plan to move back to the Enclave? **Aa va zeza ku ka voola mu muzi**? | __ Y /ee __N/nee<br>__ don't know/**Ka niizi** | __ Y /ee __N/nee<br>__ don't know/**Ka niizi** |
| ee. What is this person's contact details (i.e. phone number)? **Ifone yavo njeni**? | | |

| | **Migrant #3**<br>**Muyeenzi we 3** | **Migrant #4**<br>**Muyeenzi wo 4** |
|---|---|---|
| a. Relation to interviewee/**luzuvo nanwe/munzi wenu?** | | |
| b. Gender/**mukwame/mukulwaka zi** | | |
| c. Year of birth/**chirimo cha mazaalo** | | |
| d. Education level/**Va venjiri chikoro kuka sika hayi?** | | |
| e. Current location/ **mweinu nako?** | | |
| f. Current employment/**Vatende hi mweinu nako?** | | |

| | | |
|---|---|---|
| g. When did he/she leave Enclave?/**Vava yeendi lyriri**? | | |
| h. Why did he/she leave?/**Chinzi chi vachiti kuti va yeende?** | __ **chikoro**/school<br>__ **kusaka musevezi**/job seeking<br>__ **maseso**/marriage<br>__**zimwi**/other: _____ | __ **chikoro**/school<br>__ **kusaka musevezi**/job seeking<br>__ **maseso**/marriage<br>__**zimwi**/other: _____ |
| i.Who made decision for he/she to migrate?**Njeni yava zumini kuti va yeende**? | __ **irapa lyonse**/whole household<br>__**muntu umwina** /individual<br>__ **vazaaz**i/parents<br>__**vamwi**/other:_____ | __ **irapa lyonse**/whole household<br>__**muntu umwina** /individual<br>__ **vazaaz**i/parents<br>__**vamwi**/other:_____ |
| j. How did s/he contribute to the household in year before s/he left?/**Vava kutusa irapa vulye ni vaseni kuyenda?** | | |
| | **Migrant #3 continued** | **Migrant #4 continued** |
| k. What role did he/she play in agricultural activities of household before he/she left?/**Vava ku chita nzi mu zokulyima ni va seni ku yeenda?** | | |
| l. Does he/she send or bring remittances? (*if no, skip to **aa)*/**Aaa va tumina malyi ne zelyo***?* | _ Yes<br>_No | _ Yes<br>_No |
| m. *If yes*, in what form? **Chukuti vatumina malyi, vaatumina che ihi nzira?** | __ **malyi**/money __ **zilyo**/food __**zizavalo**/clothes __**zitendeso mu kulyima**/agricultural inputs __**zizakiso**/building materials __ **zimwi**/Other: _____ | __ **malyi**/money __ **zilyo**/food __**zizavalo**/clothes __**zitendeso mu kulyima**/agricultural inputs __**zizakiso**/building materials __ **zimwi**/Other: _____ |
| n. Who does he/she usually send the money to?/ Va tuminanga ine malyi? | __ head of household/ **mutwi we irapa** __ spouse of HofH/ **yo sesetwa** __ other/**zimwi**: _____ | __ head of household/ **mutwi we irapa** __ spouse of HofH/**yo sesetwa** __ other/**zimwi**: _____ |
| o. In last year, has he/she given money to the household for a special purpose? *If yes,* for what?[**Aa mwaakalyi vava tumini malyi kwi irapa o** | _ Y/eeni _N/nee<br>__ **iseso**/wedding __l**ufu**/funeral __**muzaako we nzuvo**/build a house __ **kuwula** | _ Y/eeni _N/nee<br>__ **iseso**/wedding __l**ufu**/funeral __**muzaako we nzuvo**/build a house __ **kuwula** |

| | | |
|---|---|---|
| **musevezi u teede? *Chukuti kwina vulyo,* e chinzi?** | **ingoombe**/buy cattle<br>**__isinyehero ze chikoro**/school expenses __ **zimwi**/Other: _____ | **ingoombe**/buy cattle<br>**__isinyehero ze chikoro**/school expenses __ **zimwi**/Other: _____ |
| p. Aside from special purposes, does s/he give money to the household on a regular basis? [**Kunze lyo musevezi uteede, aa va tumina malyi kwi irapa inako zoonse? (if no, skip to <u>v</u>)** | _ Y/**eeni** _N/**nee** | _ Y/**eeni** _N/**nee** |
| q. *If yes to p*, is this money given for general or specific budgeted purposes? [**Aaa malyi a hewa misevezi eteede naandi nge misevezi yoonse**? | __ **chimwi ne chimwi**/general<br>__ **ziteede**/specific | __ **chimwi ne chimwi**/general<br>__ **ziteede**/specific |
| r. *If yes to p,* how often does he/she send or bring this money? [**Va tumina kana ku lyeeta malyi ko ngae**?] | __ x1 / **nsuunda**/week<br>__x1 /**mweezi/** month<br>__ x1/ **chirimo**/year<br>__ **zimwi/**other: _____ | __ x1 / **nsuunda**/week<br>__x1 /**mweezi/** month<br>__ x1/ **chirimo**/year<br>__ **zimwi/**other: _____ |
| | **Migrant #3 continued** | **Migrant #4 continued** |
| s. *If yes to p,* how much did he/she give last time? *Give out cards and have interviewee pick one* [**Vava tumini vukae mu nako iva mani**?] | __ 100-400 pula<br>__ 401-700 pula<br>__ 701-1000 pula<br>__ more than 1000 pula | __ 100-400 pula<br>__ 401-700 pula<br>__ 701-1000 pula<br>__ more than 1000 pula |
| t. *If yes to p,* was this last time he/she gave money at Christmas? {**Chiva tumina malyi lwa mamanimani ivalyi ma zuva e Christmas**?] | __ Y /eeni __ N/nee | __ Y /eeni __ N/nee |
| u. *If yes to t,* how much did he/she give the last time that was *not* Christmas? *Give out cards and have interviewee pick one* **[Malyi avava tumini lwa manimani ni isalyi he** | __ 100-400 pula<br>__ 401-700 pula<br>__ 701-1000 pula<br>__ more than 1000 pula | __ 100-400 pula<br>__ 401-700 pula<br>__ 701-1000 pula<br>__ more than 1000 pula |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Christmas vukae?/** | | | | | | | | |
| v. How often has he/she sent or brought each type of goods to the household? [**Koolye ni va tumina naadi ko lyeeta zivya kwi irapa mu chirimo cha a mana?]** | | Less x1/mo | x1/ mo | More x1/m o | | Less x1/mo | x1/ mo | More x1/mo |
| | **Zilyo**/Food | | | | **Zilyo**/Food | | | |
| | **zizavalo/** Clothes | | | | **zizavalo/** Clothes | | | |
| | **zitendeso mu ku lyima**/Ag inputs: | | | | **zitendeso mu ku lyima**/Al inputs: | | | |
| | **zizakiso/zivya ze mizaako**/Building materials | | | | **zizakiso/zivya ze mizaako**/Building materials | | | |
| | **zimwi**/Other: __ | | | | **zimwi**/Other: ___ | | | |
| w. Apart from money /goods sent to the household that you just mentioned, in the last year, has he/she given money /goods to you *individually*? {**Kunze lya malyi ne zivya ziva tuminwa chirimo chaamana, kwina malyi kana zimwe zivya zi va tuminwa kwenu vulyo nonwena?** | | _ Y/eeni _N/nee | | | | _ Y/eeni _N/nee | | |
| x. If yes, what did he/she send to you individually? (*check all that apply*) **Chukuti kwina vulyo, va va tumini nzi kweno nonwena?** | | __ money/**malyi** __ other items/**zimwi**: _____ _____ | | | | __ money/**malyi** __ other items/**zimwi**: _____ _____ | | |
| | | **Migrant #3 continued** | | | | **Migrant #4 continued** | | |
| y. Apart from you, do any other individuals in this lolwapa receive remittances individually from him/her?[**Kunze lyeenu njeni umwi mw irapa yo tuminwa malyi?** | | __ Y/ee __ N/nee | | | | __ Y/ee __ N/nee | | |

| | | |
|---|---|---|
| z. *If yes to y*, who?**Njeni**? | | |
| **IF NO REMITTANCES SKIP TO HERE** | __ Y __N<br>***luvaka***/Length of stay:_____ | __ Y __N<br>***luvaka***/Length of stay:_____ |
| **aa**. Last year did he/she come home for Christmas? *If yes,* for how long? **Chirimo chaamana vave zite ku muzi kwi Christmas? Lo vaka lo sika hi?** | | |
| bb. Did she/he come home at any other time last year? *If yes*, for how long?**Aa vave zite imwi nako mwakalyi? Luvaka lusika hi?** | __ Y __N<br>***luvaka***/Length of stay:_____ | __ Y __N<br>***luvaka***/Length of stay:_____ |
| cc. Apart from sending money/goods to this household, is he/she contributing or spending money in this area in any other way? *If yes,* how so? **Kunze lyo kutumina malyi naandi zivya kwi irapa, aa va tusa cha malyi?** | __ Y __N<br>**__munzuvo yaavo**/ his/her own house **__mu mawa aavo**/own arable lands<br>**__mu ngoombe zaavo**/own cattle<br>**__ mwi bisinese yavo**/own business **__kutumina malyi ku vamwi mu muzi**/sending remittances to others in village<br>**__zimwi ituso**/other contributions: _____ | __ Y __N<br>**__munzuvo yaavo**/ his/her own house **__mu mawa aavo**/own arable lands<br>**__mu ngoombe zaavo**/own cattle<br>**__ mwi bisinese yavo**/own business **__kutumina malyi ku vamwi mu muzi**/sending remittances to others in village<br>**__zimwi ituso**/other contributions: _____ |
| dd. Does he/she plan to move back to the Enclave? **Aa va zeza ku ka voola mu muzi**? | __ Y /ee __N/nee<br>__ don't know/**Ka niizi** | __ Y /ee __N/nee<br>__ don't know/**Ka niizi** |
| ee. What is this person's contact details (i.e. phone number)? **Ifone yavo njeni**? | | |

8. *Lay out pile of beans.* If your total income is represented by this pile of beans, remittances from these migrants altogether make up how many beans? **Ha mu kunganya inyaangu, malyi azwa mu vasi irapa a kwana inyaangu zoolye? (*if no remittances, skip to #11)***

Ipalo ye nyaangu/No. of beans: ___

9. What do you use the cash remittances for that you receive? (check all that apply)**Mu teendesa nzi malyi a mutuminwa**?

___ **zilyo**/food ___ **zi salyi zilyo**/non-food daily expenditures __ **ziteendeso mu ku lyima**/agricultural inputs __ **kuruwera chikoro**/school fees __ **kulyivikira**/savings ___ **musevezi we bizinesi**/business activities ___**zimwi**/other :_____

10. What is the most common way for you to receive remittances? **Inzira izivinkene yo ku tambula malyi nje ihi**?

__ **kupoterwa**/visit from migrant __**che banka**/bank transfer __**che poso** post office __ give to trusted friend to bring/kuha molyekani yo sepahala chikulyeeta __ **zimwi/**other____

11. Do you send remittances to migrants working or living outside the village? /**Aa mutumina malyi ku va teendera kunze lye muzi**?

__ Y/Ee __N/Nee

*If yes,* who?/**Vaani**? _____

12a. Do you receive remittances from anyone outside the lolwapa not mentioned on this list?**Kwiina zumwi yo mutumina malyi kunze lya va vatwa wamba kahavo**? __Y __ N

12b. *If yes,* from whom? ***Chukuti mbo vulyo,*** **njeni?** _____

13a. Does anyone else in this lolwapa receive remittances from anyone outside the lolwapa not mentioned on this list? **Kwiina umwi mwirapa lyenu yo tuminwa malyi ku umwi muuntu kunze lya va va twa wamba kahavo**? __Y __ N

13b. *If yes,* who in the lolwapa receives these remittances ? ***Chukuti mbo vulyo,*** **njeni yo tuminwa**? _____

13c. *If yes,* from whom? ***Chukuti mbo vulyo,*** **njeni yo tumina**?_____

14. Does any member of this household own any of the following? (they need to be in working condition and to be in this household) **A kwina muntu we lye rapa wina ne zi zintu (zo swanezi kunti zi kutenda mane zina mwirapa)**

__ truck/**emoota inkando** ___television/**Etv**

__ car/**emoota inini** ___ refridgerator/freezer/**frige**

__ tractor/ **etractor** __ donkey cart/ **chikochikara**

__ bicycle/**ebasekere** ___ electric/gas cooker/ **chitofu cho motlakasi ne gasi**

__ motor cycle/**esekuta** ___ stereo hi-fi system/**e gumba gumba**

__ wheelbarrow/**egriva** ___ personal computer/**e computer**

__ sewing machine/**munchine o loka** ___ telephone (landline)/ **ephone**

__ radio/cassette/CD player/**e radio ye cassette/ne CD** ___ cell phone/**ephone**

__ video cassette recorder/DVD/ **munchine o zaana dvd ne cassette ye tv**

__ grinding machine/ **monchine o kosola zi sipi**

14b. **Mwirapa kwina**?:

__ chimbuzi

__ motlakase

__ ipompi

__ nzuvu ya masenke

15. How many cattle are in your household? [**Mwina ingoombe zoolye mwi irapa lyeno**?]

Number/**ipalo**: _____

*Were other people present during this interview?* __ *YES* __ *NO*

**** Extra Notes:*