

ABSTRACT

Title of dissertation: THE INFLUENCE OF PLACE
ATTACHMENT, ASPIRATIONS, AND
RAPIDLY CHANGING ENVIRONMENTS ON
RESETTLEMENT DECISIONS

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Resettlement associated with development projects results in a variety of negative impacts. This dissertation uses the resettlement context to frame the dynamic relationships formed between peoples and places experiencing development. Two case studies contribute: (a) the border zone of Mozambique's Limpopo National Park where residents contend with changes to land access and use; and (b) Bairro Chipanga in Moatize, Mozambique where a resettled population struggles to form place attachment and transform the post-resettlement site into a "good" place. Through analysis of data collected at these sites between 2009 and 2015, this dissertation investigates how changing environments impact person-place relationships before and after resettlement occurs.

Changing environments create conditions leading to disemplacement—feeling like one no longer belongs—that reduces the environment's ability to foster place

attachment. Research findings indicate that responses taken by individuals living in the changing environment depend heavily upon whether resettlement has already occurred. In a pre-resettlement context, residents adjust their daily lives to diminish the effects of a changing environment and re-create the conditions to which they initially formed an attachment. They accept impoverishing conditions, including a narrowing of the spaces in which they live their daily lives, because it is preferred to the anxiety that accompanies being forced to resettle.

In a post-resettlement context, resettlement disrupts the formation of place attachment and resettled peoples become a placeless population. When the resettlement has not resulted in anticipated outcomes, the aspiration for social justice—seeking conditions residents had reason to expect—negatively influences residents' perspectives about the place. The post-resettlement site becomes a bad place with a future unchanged from the present. At best, this results in a population in which more members are willing to move away from the post-resettlement site, and, at worse, complete disengagement of other members from trying to improve the community. Resettlement thus has the potential to launch a cycle of movement-displacement-movement that prevents an entire generation from establishing place attachment and realizing its benefits. At the very least, resettlement impedes the formation of place attachment to new places. Thus, this dissertation draws attention to the unseen and uncompensated losses of resettlement.

THE INFLUENCE OF PLACE ATTACHMENT, ASPIRATIONS, AND RAPIDLY
CHANGING ENVIRONMENTS ON RESETTLEMENT DECISIONS

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Dedication

To my husband for being my cheerleader from start to finish

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Chapter 1: Introduction

Development-induced displacement and resettlement (DIDR) directly impacts more than 15 million people each year worldwide (Bugalski and Pred 2013). In early 2015, Jim Yong Kim, President of the World Bank, described DIDR as an inescapable reality if countries are to meet demand for infrastructure and predicted that the number of displaced individuals will continue to grow (Donnan 2015). This is troubling news. Resettled populations quite often face a number of risks that can lead to even more impoverishing conditions in the post-resettlement community than had previously existed (Cernea 1997, 1998; Schmidt-Soltau 2003), including loss of income and increased vulnerability to external shocks (Wilmsen et al. 2011), declining mental health (Cao et al. 2012), damage to social networks and support systems (Zhang et al. 2013), and reduced social status and cultural wealth (Arnall et al. 2013). This is a huge burden for developing countries and funding partners to bear, notwithstanding the potential impact on the lives of so many already impoverished people. Guidelines exist to minimize the negative consequences of DIDR (World Bank 2001, 2004), but what if we, as researchers, could tap into the internal motivations that would influence an individual to voluntarily resettle? With this information, the potential would exist to design resettlement action plans (RAPs) that harness the power of these motivating forces and emphasize their fulfillment in the resettlement design, hopefully leading to reduced negative outcomes, a more convivial resettlement process, and greater development for the region and the population affected by the move.

Theoretical perspectives on the relationship between people and the environment they inhabit suggest resistance to DIDR should be strong and pervasive over time and across cultures (Scott 1985); however, critical assessments of the resettlement process have suggested this is not always observed (Fletcher 2001; Barney 2004; Evrard and Goudineau 2004; Rashid et al. 2007; High 2008). Research has shown that, in some cases, the poor may actually support mandatory resettlement. As Fletcher (2001) asks, “what are we, as academics, to do with this information?” (43). The quandary of how to respond to individuals willing to be active participants in a resettlement project, especially when research suggests resettlement outcomes have been so persistently negative (Robinson 2004), warrants further attention.

This dissertation began with the goal to explore Fletcher’s (2001) observation that not everyone resists the resettlement process, but it quickly became much more than that. A deep, personal relationship forms between people and place, what Altman and Low (1992) term *place attachment*. This relationship is a cross-cultural phenomenon nearly as common to humanity as the need to breathe (Tuan 1977), the loss of which can produce deep, emotional responses ranging from anxiety to grief to distress (Fried 1963; Fullilove 1996; Casey 2009). Therefore, identifying this relationship and its value to the person is important so as to minimize risks associated with the so-called *invisible losses* not readily nor routinely measured by resettlement planners (Witter and Satterfield 2014).

Based on data collected from two case study sites in Mozambique between 2009 and 2015,¹ I analyze how place attachment—formed when a person establishes

¹ I was fortunate to have access to data collected by my advisor, Dr. Julie Silva, in Gaza Province between 2009 and 2012 as well as my own data from fieldwork completed in 2015 in Tete Province.

a meaningful relationship to the environment—might influence decisions to move away from one’s home. Resettlement was not planned at either case study site used in this dissertation; however, one of the study sites had recently resettled and the other had familiarity with the resettlement of neighboring villages. Thus, I use the resettlement context to frame the dynamic relationships formed between people and place. With that in mind, this dissertation addresses a broad question in resettlement scholarship: *How do changing environments impact the formation of place attachment and aspirations?*

This chapter introduces the idea of development-induced displacement and resettlement and offers definitions of key concepts, like place attachment and aspirations, necessary to understand the empirical chapters that follow. The sections on the case study site and research methods explain the reasons that make Mozambique an especially appropriate context in which to address the research questions of this dissertation and describe the characteristics that tie the three empirical chapters together into a comprehensive whole. The structure of this dissertation adheres to the three-paper model, with Chapters 2-4 designed to stand-alone, so discussions of specific literature and methods will occur in the appropriate chapters. This introduction finishes with an overview of the dissertation’s organization.

1.1 What exactly is development-induced displacement and resettlement?

Development-induced displacement and resettlement (DIDR) refers to the collection of activities surrounding development that directly and indirectly create the spaces necessary to realize the development project. By far, the most common cause and

largest contributor to DIDR is the construction of dams, as well as other water storage and supply projects (Terminski 2013). Robinson (2004) describes seven other types of development projects leading to DIDR: development of transportation networks, urbanization and the transformation of urban spaces, mining and other types of resource extraction (e.g. forestry projects), the expansion of agriculture (largely achieved through deforestation and land cover/land use changes), nature conservation (e.g. creation of national parks), and population redistribution schemes.

Displacement can occur for a number of reasons unrelated to development, like political turmoil and environmental disasters. While these situations can be permanent, quite often it is possible for displaced communities to return to their home when the political unrest abates or rebuild their homes when the floodwaters recede or they have cleared the rubble. DIDR, on the hand, is often permanent and irrevocable (Brand 2001). It is impossible to return to one's home following the construction of a dam if that home is under water. It is unlikely that a community resettled to create a national park is going to live to see that park dismantled and the land returned to the previous residents. Once an extraction company moves a village to engage in open-pit mining, even if they finish, that village is now a giant hole in the ground. Though this is the far more obvious difference between DIDR and other types of displacement, another major difference is the purpose of the movement. When DIDR occurs, it is often touted as being necessary for the betterment of the whole at the unfortunate expense of a few (Dwivedi 1999). The general mantra guiding these projects recognizes that some individuals are harmed so that many more

may benefit whereas this does not usually exist in the other types of displacement presented.

DIDR is an outcome of projects designed to increase or enhance development, though development is sometimes a difficult concept to precisely define. Definitions of development have largely focused on expanding wealth (Hodder 2000), with undeveloped places characterized by low income, high population growth, high levels of inequality, imprecise information, limited international clout, and undiversified economic structures (Todaro 1997). Other definitions, like Amartya Sen's (1999), envision development as achieving the freedom to live life as one wishes, including the incorporation of subjective assessments of one's quality of life. This suggests that individuals may conceive of development differently depending upon their present quality of life (Clark and Qizilbash 2008).

Individuals are not the only agents that can define development. In fact, the definition of development used by a project planner is important because how development is envisioned strongly influences the outcomes. Many development projects aim to modernize populations through compensation schemes emphasizing the provision of goods and services, including things like cement houses, electricity, piped water, kitchens, toilets, and public services. Additionally, a modernization-oriented development discourse repositions affected populations as "perpetually out of place" (Prout and Howitt 2009, 402). Indigenous peoples encounter daily reminders that their continued presence impedes the enactment of the development project (Spiegel 2014), or as might be stated from the modernist perspective of these

projects, the presence of indigenous populations prevents the transition of the space from pre-modern to modern through the process of development.

From the developer's perspective, one commonly used method to overcome the challenge posed by individuals "lingering" in the spaces of development is to encourage and/or require resettlement. Like displacement, a common understanding of resettlement implies relocation; however, the World Bank's (2004) *Involuntary Resettlement Sourcebook* uses the acquisition of land (either physically or through measures taken to restrict access) to determine when resettlement has occurred, and thus, resettlement is sometimes conflated with the idea of displacement (Bartolome et al. 2000). Nonetheless, resettlement embodies a process orientation that emerges over time and in context (Milgroom 2012). Typically, this means that a resettlement involves consultation with the affected population to design a plan that guides the movement from one place to another that may or may not be accompanied by social support mechanisms in the post-resettlement site (Terminski 2013). Thus, resettlement requires movement whereas displacement does not.

Resettlement is not without its risks for the population being moved. According to Cernea's (2000) Impoverishment, Risks, and Reconstruction (IRR) Model, the risks of resettlement include: landlessness, joblessness, homelessness, increased marginalization, food insecurity, loss of indigenous knowledge, increased morbidity and mortality, loss of access to common property, and social disarticulation. Losses are not limited to tangible capital but include psychosocial outcomes, for example the loss of cultural benefits, diminished status within the community, and elimination of features contributing to one's identity (Cernea 2003).

This is true whether or not resettlement is voluntary or involuntary, though some scholars, with good reason, argue that no resettlement is ever truly voluntary (Milgroom and Spierenburg 2008; Dear and McCool 2010; Witter 2013). Instead, these authors describe voluntary resettlement as induced because they are conditioned upon negative experiences in the local environment, or, as Gebauer and Doeveenspeck (2015) describe, on the experience of significant loss in the immediate past.

Despite the diverse negative consequences accompanying resettlement, advocates of DIDR argue that resettlement can be enacted as a form of development (English and Brusberg 2002; World Bank 2004). The Chinese government used resettlement in Ningxia Autonomous Region as an effort to reduce widespread poverty (Merkle 2003) that, as part of the larger poverty alleviation resettlement program, appears to be nominally effective at providing services and raising incomes (Xue et al. 2013). Case studies in Laos (Petit 2008), Thailand (Mills 2005), and Sri Lanka (Chatterjee 2009) observed that the resettlement of populations, mainly from remote locations (e.g. highland regions) to the more heavily populated lowlands that are closer to roads, enhanced access to services and reduced poverty. Fletcher (2001) described the Chilean government's rationale for relocating the Pewenche as more than just a need to build a dam in the area; it also increased access to electrical power for thousands of families in the rural and under-connected region.

Thus, as observed in the case studies identified in the preceding paragraph, resettlement often serves a dual function: to free up the spaces for development to occur and to simultaneously modernize an unmodern population.² In highland Laos,

² My use of *modern* should not be interpreted to suggest that I view modernization as the goal of a resettlement project. Rather, the word resonates instead with the tenor of the development projects (and

High (2008) encountered residents relocated from forest fringe villages to settlements along roads connected to the rest of the country via infrastructure. The resettlement program studied by High permitted the Laotian government to promote logging in the central forest region while also claim it had lowered poverty rates of rural populations; expanded wet rice cultivation; and provided access to services, education, and other amenities for previously remote populations. In addition to serving as a strategy to open up the spaces of development, governments have employed resettlement to achieve a variety of socio-political goals: for example, to strengthen territorial claims (Kassymbekova 2011), to realize social policies (Ross 1999), to enhance conservation efforts (Schmidt-Soltau 2003), to mitigate future risk from changing climates (Gebauer and Doevenspeck 2015), to punish non-conformist rural populations (Neumann 2000), and to justify land grabs (Grajales 2013).

1.2 DIDR: From resistance to support

There is a long tradition of describing resistance to activities that would displace individuals from their home (Fried 1963). Tuan (1977) believes humans exhibit a nearly universal need to develop meaningful relationships to their surroundings. When this relationship is threatened, a sense of *placelessness* can occur (Relph 1976), leading to an anxiety-producing state termed *place-panic* (Casey 2009, ix). Many basic biophysical needs (e.g. food, shelter, safety) are met through engagement with the environment (Kellerman 2014) but higher-order needs—like those described by Maslow (1943)—can also be met. For example, the physical environment—once imbued with meaning through its transition to a place—can serve as the intangible

is consistent with the language they often employ) being discussed and thus is a reflection of the viewpoints assumed by the resettlement action plans guiding these resettlements.

container of memory (Trigg 2012) because places prompt recall of religious and sacred activities (Mazumdar and Mazumdar 2004), historical events (Marsh 1987), and specific life milestones (Manzo 2005). They are the sites of cultural heritage tied intimately to one's individual and collective identity (Wilson 2003; Baptista 2010) as well as the physical embodiment of spiritual relationships and mystical interpretations of the world (Rakotsoane 2009). These characteristics transform a physical environment into a place that meets higher-order needs described by authors like Maslow (1943).³

Understanding why certain places mean something to the people who inhabit them—and what that meaning is—offers clues to why they behave as they do (Janz 2005). A strong sense of connection to a place easily explains resistance to DIDR, and this resistance exhibits many forms that range from overt and violent protests (Dash 2009; Kazi 2013) to subtler, covert acts of rebellion (Gibson 1999; Kull 2004; Holmes 2007) to passive tactics, like non-compliance, foot-dragging, and deception (Scott 1985). Despite their subtlety, though, these so-named *everyday acts of resistance* are no less politicized than the more overt protests (Holmes 2007). When those resisting DIDR are physically close to the agents causing the displacement, resistance operates more covertly than it does when the opposite is true (Harkness 1998; Jacoby 2001; Campbell 2002; Nygren 2003) though it nearly always occurs against a known force, even when that force is not the actual agent responsible for the displacement experienced (Brosius 1997; Sivaramakrishnan 2005).

Given that resettlement so often results in negative repercussions, it would seem that many individuals and communities would fight resettlement whenever

³ I expand upon the idea of a “place” in the next section.

possible; however, this is not always true. This response is logical given that environments arguably unable to meet household needs are more easily abandoned (Guiliani 2003). If residents foresee greater land tenure security or land access, as Nyametso (2012) observed, they are more amenable to the idea of relocating. This is a prime reason why many women in Arnall et al.'s (2013) study reported dissatisfaction post-resettlement; access to viable farmland decreased, and farming is typically a woman's labor in Mozambique. Additionally, research suggests that cultural continuity exerts a strong influence on the resettlement process. Resettled communities often reproduce pre-resettlement cultural patterns in the post-resettlement sites (Lestrelin 2011) to minimize the reduced place attachment that results when socio-economic, ethnic, and/or racial diversity is introduced in communities (Billig and Churchman 2003; Putnam 2007; Greif 2009). And, given that conflict is a very likely factor in the resettlement process, it is important that resettlement plans seek to reduce intra- and inter-group conflict through social empowerment mechanisms that permit individuals a voice in the design of their final place (Arandel and Wetterberg 2013).

Perhaps the best explanation for the “unexplainable” behavior observed by Fletcher (2001), High (2008), and others rests in understanding how individuals reconcile their aspirations for the future with the strength of their place attachment. According to Arjun Appadurai (2013), the capacity to aspire is a forward-looking meta-capability that moves beyond Amartya Sen's (1999) basic capabilities. Appadurai (2013) notes, “The poor are neither simple dupes nor secret revolutionaries. They are survivors. And what they often seek strategically...is to

optimize the terms of trade between recognition and redistribution in their immediate, local lives” (185).⁴ The opportunity for a future marked by change from the present is a powerful motivating factor. Thus, as High (2008) would suggest, the hope that life might get better could exert a very strong influence on decisions to support resettlement. Before that is possible, though, individuals have to be willing to leave their present place and take a chance on a potential future elsewhere. In the next section, I describe various ways to conceive of a “place,” how to measure the relationship that develops, and the ways that an individual might use their aspirations to make comparisons between two places.

1.3 The power of places

1.3.1 Constructing a sense of place

Geographers describe place as bounded space that is meaningful to its user (Relph 1976; Tuan 1977). Thus, place is more than its location; it is also the product of an emotional connection to the environment (Cresswell 2004; Relph 1976; Trigg 2012), such that place transcends its mere spatial location to connect humans to space as “the center of felt value” (Tuan 1977, 4). With such a powerful purpose, it is immediately discernible how disruption to a person’s relationship with their place can be problematic, at the very least.

⁴ Initially, Appadurai’s (2013) work suggests that even the poorest of the poor are capable of navigating complex social systems when they render possible opportunities to improve day-to-day life. Several pages later, he asserts that aspirational capacity is disproportionately distributed in impoverished groups, favoring individuals with greater social and cultural capital. The contradiction inherent in Appadurai’s work is easily surmounted if we remember that it is not the capacity to aspire that is disproportionately distributed but rather the capacity to express aspirations (often described as respondent voice) that is disproportionately distributed, and necessitates the incorporation of aspiration-increasing activities in resettlement action plans.

The power of place also permeates popular culture and shared understandings of what place means. Nowhere is this more evident than in the classic film, the *Wizard of Oz*. Despite Kansas as a black-and-white landscape of desiccated, tornado-prone flatness where an evil neighbor wants to kill her dog, Dorothy learns—through her adventures in Oz’s Technicolor dream-world—that *There’s no place like home*.⁵ In his *Poetics of Space*, Bachelard (1957/1994) posits that places follow a person from location-to-location, predisposing future encounters with similar locations to be unconscious comparisons of prior experience(s) within the places of one’s past. Encountering a place for the first time is both novel and not; the elements of the place are unique yet also notably familiar (Heidegger 1996). A really comfortable chair is only comfortable when compared to all the uncomfortable chairs of one’s past.

In a way, places exhibit a characteristic that resembles Soja’s (1989) spatiality. Place and memory are constitutive of one another, and their combination results in the uniquely third outcome of place-memory (Casey 1987). Memory not only influences the experience of place; it is also formed by the experience of place. Particularly poignant encounters with place become embedded within the spaces of the brain’s neural networks⁶ available for recall when the appropriate connotative signals draw them from the recesses of memory into the here-and-now of experience.

⁵ Though there is no room to discuss here, the contrasting visualization of Kansas compared to Oz alone is an interesting exposé on the power of place. Despite Kansas’ nondescript landscape, Dorothy expends all her energies seeking to leave a land of Technicolor-induced wonder, a land brimming with places she would never encounter in Kansas, in order to return to the devoid monochromes of topological sameness differentiated only by the regular punctuation of the landscape by farms, homes, and roads that could be both anywhere and nowhere.

⁶ Parapsychological theories of place-memory (e.g. Heath 2005) suggest that the environment can serve as a repository of experiences. In essence, the landscape can remember actions and emotions, and living beings can retrieve this information through paranormal means by channeling the energy stored in the landscape. While this is certainly not the focus of this work, it adds another dimension—literally and figuratively—to the study of place’s “spatiality.”

If we accept the power of memory to influence the experience of place, resettlement programs can only be successful when resettled populations are able to transform the post-resettlement site into a place so positive that it can overcome the romanticization of the places of the resettled population's past.

This perspective on place is a phenomenological view, and is often criticized as being too personal, too individualistic, and neglecting the social nature of place. A socially oriented perspective believes that social actors construct place from space so that it mirrors society's economic, cultural, and political structures (Harvey 1973, 1996, 2006; Lefebvre 1991). Lefebvre deconstructs space into a triad of perceived, conceived, and lived space: the sites of the (re)production of society, of systematic controls over the landscape, and of society's emotional bond with space, respectively. Geographers like Harvey (1973) and Lefebvre (1991) argue that the construction of place is a capitalist response to rapid change, an attempt to freeze space in time to create "conditionally permanent" (Harvey 2006, 293) authentic places (Relph 1976) in a global economy that increasingly reifies the flow of money, goods, ideas, etc. at the expense of conditionally permanent spaces/places (Castells 1989). The places in which fixed capital accumulates become sites of contestation framed by the dichotomy of us/them in which *the other* often becomes divested of usage of particular places (Lemanski 2007; Tranberg-Hansen 2004).⁷ Mining enterprises that

⁷ Such a result often leads to calls demanding the restoration of rights lost—for example, Mitchell's (2003) call for a *right to the city*. The need for Mitchell's (2003) call is disheartening, but Cresswell (1996) attributes such regulation of space to be more about behavior-in-place than attempts to truly divest individuals from the use of space. Cresswell asserts that there is a geographical-ness to behavior that becomes obvious only after the emergence of socially produced space. As globalization increases the interaction between distant places, different versions of acceptable behavior become spatially linked in a manner that prohibits formerly acceptable behavior (e.g. prohibition of informal vending in central Lusaka, see Tranberg-Hansen 2004) and permits formerly unacceptable behavior (e.g. emergence of gay neighborhoods in Cape Town, see Visser 2003).

relocate residents to enact the terms of mining concessions are one such example of how the accumulation of capital in space creates an *us* (miners/mining company/government) versus *them* (villagers) dichotomy that displaces residents through physical resettlement and/or the restrictions imposed on local land access and use. Another example is the way that national parks constructed for nature tourism monetize animals and landscapes for the consumption of *us* (tourists) at the unfortunate exclusion of *them* (rural populations).

Unfortunately, neither the individualistic nor the social perspective fully captures the nature of place. Places undergo persistent evolution through the changing identities of the individuals occupying it (Lippard 1997) as well as from flows emanating from its link to the network of global structures like capitalism, democracy, and diaspora (Massey 1994). Massey describes place as “open and hybrid—a product of interconnecting flows—of routes rather than roots” (quoted in Cresswell 2004, 53). Even though a sense of place can exist outside spatial boundaries, simultaneously inhabiting space and not inhabiting space, it remains a product of the “geographically bounded” social group in which the sense of place developed (Karplus and Meir 2013). Therefore, it is best to conceptualize places as both local and global (Massey 1994), framed by a person’s past experiences (Bachelard 1957/1994) and operating within a particular set of social relations (Harvey 1973; Lefebvre 1991) that may change over time (Lippard 1997).

1.3.2 Using place attachment to measure one’s sense of place

The complexity inherent in this much broader definition of what constitutes a place makes resettlement action plans very challenging to design, manage, and evaluate.

Places mean different things to different people and constantly evolve. Yet, in order to effectively capture a sense of place for the purposes of resettlement, it is important to utilize a measurable construct. Scholars across disciplines have used multiple terms that describe this relationship people form with the environment: topophilia (Tuan 1974), rootedness (Relph 1976), place identity (Proshansky et al. 1983), homeland (Nostrand and Estaville 2001), and place attachment (Altman and Low 1992). While each term implies a slightly different way of understanding the bond between humans and their environment, place attachment has emerged as one widely used construct. Place attachment is a measure of “the bonding that occurs between individuals and their meaningful environment” (Scannell and Gifford 2010a, 1). Lewicka (2011) offers an in-depth review of research on place attachment, including dominant quantitative and qualitative approaches to understanding the relationship that develops between people and place over time.

A variety of individual and group characteristics influence the development of place attachment. Women experience stronger place attachment to social environments (Mesch and Manor 1998), but there is little difference between men and women overall (Lewicka 2008). Children develop relationships to place that can last a lifetime but older individuals attribute greater meaning to the relationship they form (Hay 1998), though residency length, the most consistently positive predictor of strong place attachment (Fleury-Bahi et al. 2008), moderates the effects of age (Lewicka 2008). People who have positive relationships with their neighbors exhibit stronger place attachment (Brown et al. 2003), but only when social characteristics are homogeneous. Socio-economic diversity negatively influences the development

of place attachment (Billig and Churchman 2003) as does racial and ethnic diversity (Putnam 2007; Stolle et al. 2008; Greif 2009). This reflects how secure one feels in their environment, implying that a sense of community is important to the development of strong place attachment and that one cannot separate attachment to the physical place from attachment to the people who inhabit it (Lalli 1992; Woldoff 2002). For cultural groups, places are sites of heritage intimately tied to a particular cultural identity. The story of the place is easily conflated with the story of the group living there (Baptista 2010). Following resettlement, communities often re-create the social geography that had existed in their former home (Lestrelin 2011).

As a construct, place attachment is worthy of our attention because of the many benefits that accrue for those with a strong person-place bond. Merely being in a new environment where one feels out-of-place can produce anxiety (Casey 2009) so it is understandable that being forced to leave one's home without the chance to return can produce feelings of emotional distress (Fried 1963). Individuals generally feel safer in environments they are attached to (Billig 2006) as well as report fewer feelings of injustice in such environments (Brown et al. 2003). Measuring the reasons why someone might establish place attachment can help to better plan for and encourage the use of public spaces (Kyle et al. 2005). By extension, this same logic would imply that a knowledge of an individual's reasons for being attached to a specific environment can help in the design of a resettlement action plan that improves living conditions post-resettlement.

Scannell and Gifford (2010a) propose that place attachment arises in specific physical contexts because these places increase a sense of security, permit goal

support, and enhance individual and cultural continuity. Humans meet fundamental survival needs through engagement with the physical environment (Kellerman 2014) that becomes far more important when a knowledge of the area and familiarity with its physical setting permit the transformation of the landscape into a productive place (Owuor et al. 2005; Sulieman et al. 2012). Environments with a proven capability to sustain a family are preferred over those that cannot,⁸ and this is true even when there is risk arising from sporadic natural disasters (Arnall et al. 2013). As such, Scannell and Gifford (2010b) believe that attachment to the physical environment occurs before attachment to the social environment. Burley (2007) preempts this though by stating that attachment to the physical is merely a different way of viewing attachment to the social because the physical environment is a product of space-society relations (Harvey 1973; Lefebvre 1991). In this sense, how individuals use the land is as much a clue about their relationship to the environment as it is a clue to how they relate to one another (Brandt and Spierenburg 2014). After all, landscapes are, according to Greider and Garkovich (1994), “the symbolic environments created by human acts of conferring meaning to nature and environment, of giving the environment definition and form from a particular angle and vision and through a special filter of values and belief” (1). Therefore, while it is possible to view the impacts of changing physical and social environments on place attachment as separate processes, they are also linked to one another in complex ways.

Understanding how individuals aspire to utilize these environments, then, provides

⁸ In studying Limpopo National Park, Milgroom (2012) observed that individuals remain in places that regularly experience crop failures because when crop production succeeds, residents are capable of growing enough surplus to sustain them during lean years if alternative livelihood strategies are permitted (e.g. bush meat hunting).

information about what they want in life and what might induce voluntary resettlement, especially when it is not possible (or at least unlikely) they will fulfill those aspirations in the present environment.

1.3.3 Aspirations in resettling communities

In her study of resettled Laotians, High (2008) wrote that “the voices I heard...spoke of a desire for fertile fields, schools, hospitals, and roads. They spoke of a desire for change, a break with what were perceived to be old patterns of poverty and marginalization, and a future that was marked by change from the present” (534). The aspirations held by respondents interviewed by High illustrate the desires of an impoverished population undergoing resettlement. A person forms aspirations “in the thick of social life” (Appadurai 2013, 187); they are sometimes reported as individual hopes, dreams, or desires, but in the context of this dissertation, aspirations also represent shared community goals regarding what might lead to a “good life”. Notions of a good life exist in all cultures, but how an individual might specifically define the good life depends upon the values of the culture in which they live (Appadurai 2013) as well as that individual’s present living conditions and satisfaction with quality of life (Clark and Qizilbash 2008). Bernard and Tafesse (2014) describe aspirations of the good life as future-oriented, motivational, and multi-dimensional. An individual may not immediately be able to satisfy an aspiration but rather believes that they will be able to satisfy that aspiration at some point in the future; although, there is no guarantee they will ever succeed (Conradie and Robeyns 2013).

Many factors influence the specific aspirations a person develops (Ray 2006). Males and highly educated individuals express higher aspirations (Kosec et al. 2012). Individuals with larger incomes generally have higher aspirations (Ashby and Schoon 2010; Kosec et al. 2012) but lower aspirations when they experience health problems (Barr and Clark 2009; Snow et al. 2013), low self-esteem (Correll 2004; Knight and Gunatilaka 2013), lack of positive role models (Macours and Vakis 2009; Beaman et al. 2012; DiRenzo et al. 2013; Rametse and Huq 2015), and a limited sense of agency (Coleman and DeLaire 2003; Bernard et al. 2011; Kosec et al. 2012).

Appadurai (2013) describes the capacity to aspire as “nurtured by the possibility of real-world conjectures and refutations” (189). Individuals develop aspirations inspired by what exists in the local environment (Ray 2002) or by what they learn about via telecommunications infrastructure (Hyll and Schneider 2013). In this way, the capacity to aspire is a reflection of the social condition within a particular community as individuals have a difficult time aspiring to achieve a good life with which they have no familiarity (Stutzer 2004; Mookherjee et al. 2010). Unfortunately, the social condition also exerts a downward impact on the capacity to aspire as well. Pervasive local poverty decreases aspirational capacity (Appadurai 2013) and individuals rarely aspire to achieve goals they believe are impossible to fulfill given local conditions (Crocker 1992; Sen 1999). Opportunity needs to be perceived as both present and possible before individuals act on their aspirations. As Fischer (2014) describes, “The *will* is important, but there also has to be a *way*” (6, emphasis original).

The belief that someone might use their aspirations to seek the good life elsewhere is not unfounded. Though resettlement is largely portrayed in the literature as involuntary movement (cf. Milgroom and Spierenburg 2008; Dear and McCool 2010; Witter 2013), looking at cases where the decision to move involves a much greater degree of personal choice (e.g. migration studies) can provide evidence for how individuals might use aspirations in making decisions about moving away or staying in place.⁹ Beliefs about the future environment are often very influential. Blacklock et al. (2014) observed that African healthcare workers relocated when they envisioned the post-migration environment would offer them increased opportunities. Beliefs about the future environment may also make an individual disinclined to relocate. In Sudan, the children of refugees were hesitant to return to South Sudan following independence because they believed their opportunities would be greater if they remained in Khartoum (Schultz 2014). The desire for education (Boyden 2013; Docquier et al. 2014), better or permanent employment (Rashid et al. 2007), and land tenure security (High 2008; Nyametso 2012) promote decisions to migrate. Even the desire to simply live somewhere else (Benson and O'Reilly 2009; Creighton 2013; Alpes 2014) was a powerful enough reason to relocate. For all these individuals, the means to relocate was already present or possible, but for some rural, impoverished individuals, the means to relocate may not exist. For those individuals who lack the ability to relocate independently, government-sponsored resettlement action plans provide the *way* that Fischer (2014) describes as important when the will is already

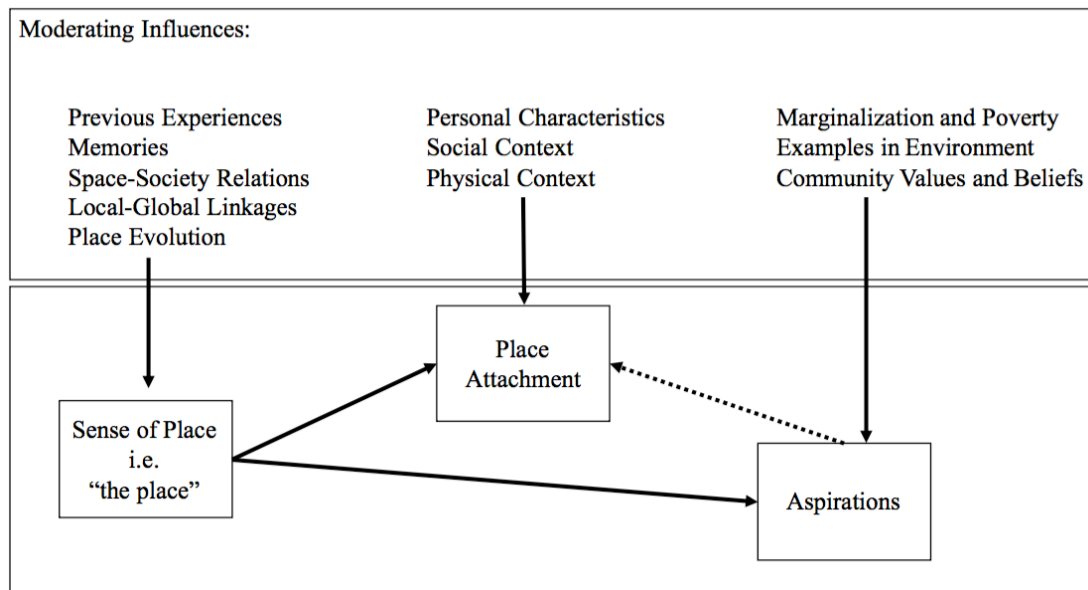
⁹ This does not conflate migration with resettlement. They are two very different forms of movement. The former is voluntary movement with a relatively high degree of personal choice, including when to move, where to move to, and whether or not the move will be permanent or temporary. On the other hand, resettlement is externally-induced with little or no choice given to the resettled peoples.

present; and thus, resettlement becomes one possible pathway an individual may take to fulfill the aspiration for a better life.

1.3.4 Synthesis of place, place attachment, and aspirations in a DIDR context

Many factors contribute to how individuals relate to and interact with their environment. A sense of place emerges from interpreting an environment using previous experiences and memories that transform that environment from space into place. This is further contextualized by the dynamic nature of places as they evolve to reflect the characteristics of the person/society inhabiting them. If a sense of place arises, it is possible that an individual may develop place attachment if that particular place enhances feelings of safety or security, provides a context in which to fulfill specific goals, and/or promotes cultural continuity. Individual characteristics and the social context determine how strong this place attachment will eventually become but they also provide clues to how the person-place bond might change over time. Within the local context, individuals develop aspirations for a better future that they derive from experiences with and observations about their specific place. Individuals who seek to fulfill those aspirations require both the will and the means; thus, individuals who believe it is unlikely they can fulfill their aspirations where they live might experience a decline in place attachment and become more amenable to the thought of moving elsewhere. Resettlement offers one such probable means, and this may explain why some individuals support resettlement despite the many negative outcomes reported in the literature. Figure 1.1 is a graphical representation of this synthesis. The dashed line indicates only a possible influence rather than one reported in the literature.

Figure 1.1: Proposed relationship between sense of place, place attachment, and aspirations



Note: This diagram shows the proposed relationships between the variables investigated in this dissertation (excluding rapidly changing environments) as a means to summarize the literature discussed in §1.3 of this introduction. The variables presented here are by no means the *only* possible influences; however, they reflect the likely relationships given the data collected in this dissertation.
Source: Author

1.4 Research context

1.4.1 Selection of Mozambique

I selected Mozambique, a developing country of 26.5 million people in southern Africa, as the location for this dissertation research because of its high poverty rates, rapid economic growth, and the use of resettlement as a response to a variety of challenges facing the country, like economic development, nature conservation, and natural disaster mitigation. The confluence of these three features position Mozambique as an excellent location for a study that focuses on how changing environments impact the formation/maintenance of place attachment and the development of goals and aspirations. First, Mozambique remains one of the poorest and most underdeveloped countries in the world on measures of economic and social

welfare (United Nations [UN] 2014; World Bank 2015). With nearly two-thirds of the population living below the poverty line (UN 2014), it is fair to say that poverty constricts opportunities for many individuals included in the study sites. The statistics presented in Table 1.1 provide a snapshot of additional economic and social measures for Mozambique that describe a relatively uniform poverty across Mozambique that, sadly, is also representative for much of Sub-Saharan Africa (World Bank 2015).

Table 1.1: Measures of economic and social development in Mozambique

Measure of development	Value
<i>Measures of economic development</i>	
Employment in agriculture (% of total employment)	80.5
Foreign direct investment, net inflows (% GDP)	42.8
Gross national income, per capita (2011 PPP\$)	1,123.40
Gross domestic product, per capita (2011 PPP\$)	1,069.60
Income inequality (Gini coefficient)	45.7
Internet users (% of population)	5.9
Mobile phone subscriptions (per 100 people)	69.7
Population living below income poverty line, PPP\$1.25/day (%)	60.7
Population living on degraded land (%)	1.9
Remittances, inflow (% of GDP)	1.4
Total employment rate (% of labor force)	22.5
<i>Measures of social development</i>	
Adult literacy rate (%)	50.6
Expected years of schooling	9.3
Female share of parliamentary seats (%)	39.6
HIV prevalence rate, adult population 15-49 (%)	10.8
Human Development Index score	0.416
Human Development Index rank (of 188)	180
Infant mortality rate (per 1,000 live births)	61.5
Life expectancy at birth	55.1
Pupil-teacher ratio, primary school	54.5

Source: UN (2014)

Second, despite its low human development and widespread poverty, Mozambique has seen impressive economic growth over the last decade unlike many of its African neighbors (African Economic Outlook [AEO] 2015). Between 2006 and 2013 Mozambique's GDP grew at rates between 6.5% and 8.7%, and this growth is projected to continue through 2016 (AEO 2015). Foreign direct investment inflows have risen from 0.592 billion in 2008 to 5.935 billion in 2013, making Mozambique

the second greatest recipient of FDI inflows in Africa. In 2014, the fastest-growing sector in the Mozambican economy was the extractive industries, though this has slowed in the past two years as the international price for coal has declined.

According to the AEO (2015), the country remains heavily dependent upon primary sector activities, especially agriculture and forestry. Additionally, the prevalence of illegal logging and trafficking in banned wildlife products, like elephant ivory and rhino horn, has increased, emphasizing the continued need for greater rural development combined with nature conservation.

Finally, Mozambique's emphasis on growth through development projects, specifically those focused on conservation and extraction of natural resources (the specific types of DIDR present in the two study sites respectively), has necessitated the use of resettlement across Mozambique. Unfortunately, Mozambique's use of resettlement as a strategy to respond to challenges is certainly not novel. In fact, resettlement has a long history. Prior to independence, the Portuguese colonial government embarked upon an *aldeamentos* (villages) program to solidify control over rural communities that the post-independence Frelimo government continued (Borges Coelho 1998). During the Mozambican Civil War, the government relocated rural residents to communal villages as a means to ensure the protection of civilians from Renamo fighters (Lubkemann 2008). After the signing of the 1992 peace accords, many individuals returned to their original homesteads to escape the "concentration camps" of the communal villages (Borges Coelho 1998, 66).

Today, resettlement continues to be a routine practice of the Frelimo government: to mitigate risk following flooding (Stal 2011; Artur and Hilhorst 2012;

Arnall et al. 2013), to promote conservation efforts (Milgroom and Spierenburg 2008; Witter 2013), and to permit mining companies to exercise mining concessions (Kirshner and Power 2015; Lillywhite 2015). While the Resettlement Decree (Republic of Mozambique 2012) provides for compensation schemes that address both tangible and intangible losses, the Mozambican government fails to adequately compensate for the invisible losses experienced by populations affected by DIDR (Witter and Satterfield 2014), like the personal relationships people develop to specific places and the ability to (re)-create those relationships in the post-resettlement site that this dissertation investigates.

Ultimate authority to enact a resettlement rests with the federal government leaving little choice for the communities the government slates for resettlement. Issues surrounding eminent domain are not present in Mozambique because its Constitution, approved in 1990, vests official ownership of all land and natural resources with the federal government.¹⁰ Under the Land Law (1 October, No. 19/97), the sale, transfer, trading, mortgaging, or pledging of land is strictly prohibited; however, local communities can petition the government for the exclusive right to access land and resources, but so can corporations. Foreign investors seeking to implement a development project must obtain a *Direito de Uso e Aproveitamento das Terras*, commonly called a DUAT. Resettlement is prescribed when the project cannot proceed without moving residents away from the land. This was true for the second of this dissertation's study sites: Bairro Chipanga¹¹ in Tete Province. For the

¹⁰ The relevant text is contained in Articles 98 and 109.

¹¹ Though official documentation refers to this as the 25 de Setembro site, the neighborhood has spent five years fighting for the right to separate from Bairro 25 de Setembro and form an independent bairro. I detail this struggle more thoroughly in Chapter 3.

first case study site, the *zona tampão* (border zone) of the Limpopo National Park in Gaza Province, neighboring villages had been relocated but there were no plans to resettle the villages included in this study (Figure 1.2). Thus, both study sites (Bairro Chipanga and the *zona tampão*) are familiar with the process of resettlement either through first-hand experience or observations made as neighboring villages resettled. Before describing how the two sites fit together conceptually, the next two subsections provide some local context.

Figure 1.2: Location of the two study sites



Source: Map created by author

1.4.2 Zona Tampão, Massingir District, Gaza Province

Mozambique's government has invested a significant amount of money into the conservation of wildlife through the creation of national parks. One such project is the

incorporation of the Limpopo National Park (LNP) as part of the Greater Limpopo Transfrontier Park conservation area in South Africa, Zimbabwe, and Mozambique. The LNP encompasses an area greater than 10,000 km² in Mozambique's Gaza Province. A wildlife barrier fence separates 4,292 km² from the park for inclusion in the park's *zona tampão*, the buffer zone (Everatt et al. 2014). There is a population cluster in the southeastern edge of the park's buffer zone, in which are situated two villages.

Agriculture in this area is rain-fed, but residents grow crops in both the low-lying plains near the rivers and in upland fields (Giller et al. 2013), with good harvests obtained approximately every five years (Milgroom 2012). Though adjacent to a tourism area, few individuals have formal employment in the tourism industry; approximately 6% of the villagers are employed by the park (Silva and Khatiwada 2014). Other sources of income include livestock sales, items made from locally harvested products, and charcoal production (Giller et al. 2013; Milgroom 2012). Villages tend to be small—the entire case study area has just over 1,700 people (USAID 2010)—with average density in the border zone between 2 and 8 people/km² (Giller et al. 2013). Neither of the two villages included in this study were resettled; however, park authorities resettled the first village in the region, Nanguene, in 2008 (Milgroom 2012).

1.4.3 Bairro Chipanga, Moatize District, Tete Province

In the past decade, Mozambique's government has also prioritized FDI-led growth in the extractive industries as the industrialized core and rapidly expanding BRICS nations seek new sources of fuel for continued growth (Kirshner and Power 2015).

Though the British imperialist David Livingstone wrote of the coal reserves he found in the Moatize district of Tete province during his visit in 1859, it was not until the last decade that major international companies began investing in the region (Bryceson and MacKinnon 2012). The World Bank (2010) believes the mining potential of Tete province to represent a significant growth pole for Mozambique because the Moatize-Minjova coal seam is estimated to be among the largest remaining coal seams in the world (Curvilas et al. 2012).¹² Such potential wealth has transformed Tete city into Mozambique's fifth-largest urban center, with nearly continuous urban in-fill along the N7 highway between the provincial capital and Moatize, the administrative center of Moatize district located approximately 20 km east along the main route between Zimbabwe and Malawi. Much of the non-residential construction in the area has focused on improvements to infrastructure that promotes extraction of the coal reserves (Robbins and Perkins 2012). This includes rehabilitation of the Sena railway to connect Vale's Moatize coal operations with the port at Beira, construction of a second bridge over the Zambezi River to bypass the congested provincial capital and link Rio Tinto's Benga coal operation with Beira, and the planned relocation of Tete's Chingodzi International Airport (Kirshner and Powers 2015).

To extract these rich deposits, international mining giants, Vale and Rio Tinto, have invested more than \$12 billion USD on coal mine infrastructure since 2008,

¹² Despite this, there is reason to suspect that coal will not play as large a role in Mozambique's economic growth in the near future. On July 28, 2015, the Indian newspaper *The Economic Times* reported that "Mozambique's coal rush is officially over" due to continued issues getting the coal to market. By the end of 2015, all of Mozambique's coal mining projects were operating at a loss (African Economic Outlook 2015).

leading some to refer to the region as Mozambique's *El Dorado*¹³ (Mosca and Selemene 2011; Kirshner and Power 2015). The local and regional government created a Resettlement Commission in early 2006 to monitor the resettlement of villages in this area to permit Vale to begin extracting coal. By 2009, Vale had begun to resettle households to one of two sites in Moatize District: Cateme, a rural village approximately 40 km east of Moatize where farming households could continue practicing farming and 25 de Setembro, a neighborhood on the western edge of Moatize where households linked to the district market could find formal and informal employment.

1.4.4 Linking the two study sites

Selection of two study sites was purposeful. Individually they provide information on how changing environments impact the ability to form or maintain place attachment in that particular environment; however, considered together, they provide the opportunity to make comparisons about how the formation and maintenance of place attachment might change under different environmental conditions. These two sites differ in that the *zona tampão* represents a population that was not resettled (but witnessed first-hand the resettlement of nearby villages) while Bairro Chipanga represents a population that was resettled. By considering the first case, I remove the effects of resettlement on residents' place attachment that is reintroduced through consideration of the second. In a way, the *zona tampão* provides evidence for how a

¹³ El Dorado refers to the fabled city of gold sought by the Spanish conquistadors during the colonization of Latin America. In recent years, the name has been applied to Tete and the surrounding region in reference to the rapid influx of foreign investment surrounding the coal industry (Mosca and Selemene 2011).

changing environment impacts place attachment before a resettlement occurs while Bairro Chipanga presents the effects of changing environments afterwards.

Place attachment is a dynamic concept (Scannell and Gifford 2010a) whereas most studies on resistance and resettlement outcomes tend to be rather static.

Therefore, it was important to select study sites that permit the ability to measure the impact of changing conditions not just at the time in which the data were collected but also through respondents' reflections on historical ways individuals became attached to the environment as well as visions for the possible relationships that will be likely in the future. In both study sites, many residents recalled life before DIDR changed local environmental conditions. In the *zona tampão*, the park's management, with support from the Mozambican state, started enforcing restrictions on natural resource gathering and hunting bush meat, imposed a fee to cross the boundary of the park, and prohibited the use of lethal actions to control human-wildlife conflict. In Bairro Chipanga, residents spoke of the impact the resettlement had on their identity as a Nyungue community, the on-going struggle to claim their bairro as their own, and how a changing social context was disrupting the community's social geography. In both sites, residents described their visions of different futures and how changing landscapes might impact their ability to (re-)connect with the land.

Selecting two study sites contributes to a more comprehensive and holistic investigation of past, present, and future person-place relationships in both a pre- and post-resettlement context. This allows an analysis of the dynamic nature of resettlement's impact on place attachment and aspirations for the future rather than a static investigation of resettled peoples captured at an isolated point in time. In fact,

this is an important and notable difference in the analysis and findings provided by this dissertation in comparison to much of the literature, which investigates resettlement through a single point in time (i.e. daily life post-resettlement) or through a comparison of the past with the present in a way that emphasizes changes between these two points in time. This dissertation explores the diverse experiences of the respondents in the stories they tell about their past relationships to the land (both as they actually were and how they romanticize them via memories), the way they describe present conditions (usually in relationship to the past, and sometimes, even in relationship to the future), and what goals and aspirations they have for future conditions in their current place and elsewhere. This extends the usual assessment of resettlement in both directions—past and future—while also engaging with the ways that memories of the past and visions of the future can contextualize the present.

1.5 Research motivation and purpose

As a mixed methods study, the primary question addressed by this dissertation is:

How do changing environments impact the formation of place attachment and aspirations? Changes in one's surroundings can result in anxiety (Casey 2009) that leaves one feeling "placeless" (Relph 1976). These changes may also disrupt the environmental conditions that contributed to the establishment of place attachment or change the focus of the person-place bond in a way that causes emotional grief and distress (Fried 1963). It is, therefore, critical to understand how changing environments impact place attachment. Given that individuals form aspirations, in part, based upon where they live (Ray 2002), changing environments have important implications for the formation of aspirations.

One way in which environments are changing throughout Mozambique is via the proliferation of DIDR projects, like the conservation project in the *zona tampão* of the Limpopo National Park and the concession granted to Vale to extract coal outside Moatize, used as case studies in this dissertation. In both sites, resettlement serves as a backdrop to the environmental changes experienced by residents, though this is much more evident in Bairro Chipanga. Some authors argue that resettlement, if conducted as the aim of the development project and not as a precursor to or consequence of development, has the potential to positively transform lives (e.g. Mills 2005; Rogers and Wang 2006; Petit 2008; Chatterjee 2009; Kabra 2013; Xue et al. 2013). Therefore, capturing how residents living in these study sites have responded to the changes in their environment may provide clues to how DIDR project outcomes can be improved via designing resettlement action plans that might prompt voluntary movement, especially when forced resettlement is a non-negotiable aspect of the development project. One response to changing environments in particular, being willing to move away from where a person lives, is critically evaluated, as I propose that an analysis of the reason(s) why may result in findings applicable to the design of RAPs. In the three empirical chapters that follow this introduction, the dissertation's primary research question breaks down into five areas of inquiry (listed in the following paragraphs as Questions a-e).

The main objective of Chapter 2 is to illustrate which environmental changes make the formation and maintenance of place attachment less tenable and how residents have responded to those environmental changes. This chapter uses secondary data collected in the *zona tampão* of Mozambique's Limpopo National

Park to complete a content analysis of transcribed open-ended interview questions with a coding structure based on Scannell and Gifford's Person-Process-Place (PPP) Framework (described in more detail in the next section). The unit of analysis is the household though the analyzed data were reported by the household head. The chapter answers two research questions linking changing environments and place attachment: (a) How does a nature park disrupt environmental conditions that lead to the formation of place attachment? and, (b) How do individuals respond to the changing environment, and what does this mean for place attachment?

The main objective of Chapter 3 is to identify how changing environmental conditions influence the formation of place attachment to the post-resettlement site among members of a resettled community. Using the PPP Framework to guide a content analysis of open-ended questions about the resettlement process and the pre- and post-resettlement sites, this chapter's unit of analysis is the household. The chapter answers two research questions linking changes in the social environment to the likely ability to form place attachment in the post-resettlement site: (c) What are the challenges to the formation of place attachment in a resettled population? And, (d) How does a changing environment post-resettlement influence the willingness among resettled peoples to move away from the post-resettlement site?

The main objective of Chapter 4 is to analyze the profile of goals and aspirations present in the resettled population of Bairro Chipanga so as to assess the impact resettlement has on the formation of goals, and ultimately, of aspirations. This chapter's analysis is a mixture of qualitative and quantitative methods that triangulate and support each other in the derivation of the community's goal profile. The chapter

addresses one research question to understand: (e) How does the resettlement process influence the type of goals and aspirations a resettled population forms in the post-resettlement community?

These more detailed research questions highlight the link between changing environments and individuals' responses to those changes. This is evident in both the ways individuals respond to disruptions in their place attachment caused by changing conditions as well as the impact of changing conditions—manifest through the resettlement process—on the formation of goals and aspirations for the future. By examining these relationships, we can gain a sense for what features of the person-place bond are vulnerable to changing conditions. This information is important to the design of resettlement action plans that minimize the invisible losses of resettlement. Additionally, these questions draw attention to how individuals respond to these changes, including what might prompt a decision to move elsewhere. Understanding the factors contributing to this decision provides clues to what characteristics a resettlement planner should emphasize in the design of a resettlement. The last question is particularly important in this respect. If individuals are unable to fulfill their goals and aspirations in a specific environment, they may be willing to move away as a means to fulfill those aspirations. As a consequence, it might behoove resettlement planners to focus pre-planning efforts on raising aspirations and then subsequently designing resettlement action plans that can help residents achieve those aspirations. In this sense, resettlement really can become a mechanism to positively transform lives.

1.6 Evaluative framework

The research questions asked and explored through this dissertation are structured and organized using Scannell and Gifford's (2010a) Person-Process-Place (PPP) Framework. The PPP Framework can be used to organize and evaluate investigations of place attachment from the perspective of its three component dimensions: the person (i.e. the actor, or who establishes the attachment), the process (i.e. the emotional reasons for attachment, the way attachment is rationalized, and behaviors demonstrating the presence of attachment), and the place (i.e. the environment to which attachment has formed). As an organizational tool, then, these three dimensions served as the foundation on which the survey instruments were designed.¹⁴

The person dimension captures individual and group influences on the relationship. Important milestones occur in specific places, like a marriage ceremony or the burial of a loved one, that contextualize how one experiences a specific place (Marsh 1987). Places are also the repository of group values and identity. The value and meaning of certain places, like cemeteries and mosques, attain sacred status through shared religious ideas (Mazumdar and Mazumdar 2004).

The place dimension focuses attention on the specific characteristics of the physical and social environment in which place attachment arises. For many individuals, the physical environment serves to fulfill the most basic of needs like shelter, food, and water (Kellerman 2014) so it is not surprising that attachment occurs first to the physical environment (Scannell and Gifford 2010b). The social

¹⁴ The development of the instruments is discussed in more detail during the empirical chapters. Copies of these instruments are provided in Appendix A.

context in which one lives can strengthen or diminish place attachment. Positive relationships with neighbors (Brown et al. 2003) and living in socially homogeneous neighborhoods (Billig and Churchman 2003; Putnam 2007; Stolle et al. 2008) tend to increase the strength of attachment to a particular place. This is because there is a social story that emerges in a specific place that quite often reflects characteristics of the people inhabiting it (Baptista 2010).

The person and place dimensions heavily inform this dissertation as those aspects of place attachment most directly linked to the central research question. The process dimension describes the psychological processes that permit the formation and maintenance of place attachment. While important to understanding place attachment from a comprehensive perspective, it is less important to this work which seeks to measure the characteristics of people and places in the context of resettlement. Careful attention throughout all three empirical chapters is placed on the relationship between the person and the environment they inhabit, and this is true whether the chapter focuses on the ways that changing environments influence the maintenance of place attachment (Chapter 2), the strength of place attachment following resettlement (Chapter 3), or the aspirations held by a resettled community (Chapter 4).

One primary benefit to the PPP Framework is the ability to showcase the diversity inherent within definitions of place attachment and how that diversity manifests for different people. For one person, attachment may form because the community is where she first married. For her husband, the attachment is not based

on the memory of marriage but rather that the soil produces high yields of maize.

Both have developed place attachment to the same place, but for different reasons.

Another benefit is the framework's ability to highlight how different aspects of the bond take on different importance depending upon one's circumstances and as conditions change (Scannell and Gifford 2010a). It is useful then in studies aspiring to capture the relationships that form between people and the environment they inhabit as those environments change. For example, if an environmental disaster drastically changes the landscape, there may be an immediate shift in relevance to the place dimension of place attachment. In this situation, individuals may be far more preoccupied with rebuilding their home than they are with celebrating a tribal ritual. If a significant life experience occurs (e.g. the death of a child), it could draw attention to the person dimension of place attachment such that the individual focuses less on whether the soil is producing high yields and more on the fact that a lion killed their child outside that person's home.

In the Bairro Chipanga study site, the very presence of a white person asking questions about resettlement put some residents on edge because they feared it was the start of another relocation. Understanding this allowed me to focus my conversations on why they felt this way and adapt to the changing context in which the study was occurring. At one house, a group of children followed me as we finished the interview, shouting: "This is my house, *zungo*.¹⁵ I will not move again." Through this process I learned a lot about the power of place, what helped them to

¹⁵ *Zungo* is the Nyungue word for white person. I leave it untranslated in the sentence because "white person" is the best translation but not one that fully captures the meaning. For example, there is not, to my knowledge, a word meaning "non-white person" that would serve as a counter-point, implying a whole host of colonial and imperial context associated with the use of *zungo* in addition to the color of one's skin.

feel secure, and why they feared relocating to a never-before-seen location. Bairro Chipanga was largely described as a “bad” place (see more in Chapter 4) but my presence combined with my research team asking questions about resettling shifted the focus away from the place dimension and towards the process dimension as individuals rationalized why Bairro Chipanga needed to remain their home despite its identity as a terrible place. Knowing this, I was able to capture these shifts in my field notes and open-ended conversations with residents and key informants. This just highlights the power of the PPP Framework as an organizational and evaluative tool for studies like this dissertation.

1.7 Research importance and implications

1.7.1 Contributions to the place attachment literature

Building upon the place attachment literature, this dissertation expands the use of place attachment as a measurable construct by situating it in the African context. Most prior research has focused on the developed world (Lewicka 2011) with very little consideration given to how Africans establish and maintain place attachment, what features define African place attachment, and whether it has the same degree of importance to Africans as it does to Europeans and North Americans. While no single study can fully address the relationship between people and place in Mozambique, let alone all of Africa, this dissertation research contributes empirical data to begin understanding the bond that humans form with the environments situated within an African context.

1.7.2 Contributions to the aspirations literature

This dissertation contributes to the body of literature seeing aspirations as a cultural phenomenon. This dissertation adds to that literature by describing how changing environments, specifically resettlement contexts, contribute to the development of goals and aspirations for a better future and the roles that changing environments and place-attachment play in shaping them. This builds a bridge between the two literatures (place attachment and aspirations) and inserts geography into conversation with the literature on aspirational capacity. Individuals form aspirations partially from what they observe in their immediate environment, but the importance of that environment, especially when it is changing around them, has not been thoroughly explored. Additionally, this dissertation builds upon the insights from High's (2008) work by seeking to understand which specific goals and aspirations influence an individual's willingness to move away from the post-resettlement site.

1.7.3 Contributions to the resettlement literature

The resettlement literature is often quite static in its analysis of resettlement in that it quite often fails to consider residents' perspectives regarding the future. This dissertation takes a dynamic approach to understanding how resettlement impacts place attachment and aspirations and the resultant effects on quality of life by looking not just at a before-and-after resettlement picture but also investigating the likely ways in which residents will interact with the environment into the future. How residents have responded, are responding, and plan to respond to changes in their environment, both in pre- and post-resettlement contexts, guide the analysis of this research. Using two different case study contexts, this study also addresses how

homogeneous, rural populations differ in that response in comparison to heterogeneous, urban populations. This dissertation uses the stated desire to move away from the case study site as a means to understand how those changing conditions impact future decisions to migrate. By doing so, this dissertation contributes information regarding what considerations individuals use to evaluate, at the local level, whether or not an environment can become a “good” place or a “bad” place and the effect that will have on the formation of place attachment.

Finally, and perhaps most importantly, this dissertation speaks to those characteristics a government would need to address should it seek to improve the conditions residents face post-resettlement once that resettlement plan has already finished. If we consider these post-resettlement sites from the perspective of the community in this dissertation, these sites become “bad” places. This research speaks to what might be necessary to begin repairing the place so the residents no longer see it as such.

1.8 Organization of the dissertation

This dissertation reflects on how changing environments influence place attachment to the physical and social environment. I define a changing environment as one that changes around the person in meaningful ways that differ from the past. Both physical and social environments can change. For example, an increase in large mammals can make fertile lands un(der-)productive if the population loses the ability to practice certain intervention measures (like lethal control) while the in-migration of individuals with no history of association with the existing community can alter social networks and disrupt community dynamics. The former happened in the *zona tampão*

of the LNP (Chapter 2) while the latter occurred in Bairro Chipanga (Chapter 3). In these contexts, it is not unreasonable to assume affected residents may seek resettlement as a means to reconcile dissonance experienced in the person-place bond. Individuals expressing aspirations for a better life navigate this decision more thoroughly because they have specific desires unmet in their present environment they foresee as possible to fulfill elsewhere. This could be the desire for things to return to previous conditions or the desire for new interventions, compensation, amenities, etc. believed to solve existing problems. Sometimes the aspirational profile that emerges in a community is a mixture of these things (Chapter 4).

Chapter 2 uses the case of the *zona tampão* of the LNP to capture how a changing environment impacts the maintenance of place attachment for residents living in a community that has not, is not, and will not resettle. It specifically focuses on the changes in the physical environment caused by a nature park that erode traditional livelihoods while failing to provide the development anticipated to occur by residents. Additionally, none of the residents living in the *zona tampão* moved away from the study site. Chapter 3 moves the focus of inquiry from the *zona tampão* to Bairro Chipanga where it investigates whether or not the population resettled so Vale could extract coal was able to establish place attachment to the post-resettlement site. This analysis focuses specifically on the changing social environment that exists in Bairro Chipanga and how the residents are responding to those changes. Chapter 4 explores the outcomes of the resettlement process by capturing the community's profile of goals now that five years have passed since the resettlement ended. This chapter highlights the goals whose fulfillment would most directly contribute to

living the *better life*, and why residents might seek to fulfill them in Bairro Chipanga or elsewhere. This dissertation ends with an overview of the key findings, recommendations for policy planners designing resettlement action plans, and directions for future research based on the findings of this study.

Chapter 2: Nature tourism as displacement: Responses to changing geographies of place attachment near Limpopo National Park, Mozambique

2.1 Introduction¹⁶

Mozambique remains one of the poorest and most under-developed nations in the world (World Bank 2015). Despite this, Mozambique is resource-rich, especially in natural beauty and wildlife. In 2002, under the auspices of the Peace Parks Foundation, Mozambique, Zimbabwe, and South Africa signed an international treaty establishing the Great Limpopo Transfrontier Park (GLTP) that included Mozambique's Limpopo National Park (LNP). Almost immediately, the country received praise for the LNP's potential to garner foreign investment surrounding its nature-tourism potential; yet, to realize this, the government needed to resettle the nearly 7,000 Mozambicans living in villages inside the park (Milgroom 2012). For the approximately 20,000 residents living in the border zone, located physically within the park but not in an area dedicated to tourism activity (Giller et al. 2013), resettlement was not planned.

While establishing the LNP, the government argued that habitation was relatively recent so residents had limited ancestral ties to specific locations (Witter 2010); however, the formation of a meaningful relationship does not require a

¹⁶ The results presented in this chapter arise from data funded by the National Sciences Foundation (Career Grant, Award Number 1042888, Julie Silva, PI). The information presented in this chapter and the conclusions drawn reflect the opinions of the dissertation author and are not necessarily a reflection of the opinions of the NSF or the PI on the funded grant from which this research emerged. All errors are the sole responsibility of this dissertation's author.

specific amount of time to elapse. This relationship—what Altman and Low (1992) term *place attachment*—arises because a particular environment enhances a sense of security, supports the enactment of goals, and/or promotes cultural continuity (Scannell and Gifford 2010a). Geographers have long studied this relationship, finding that it develops among a variety of different peoples and cultural groups (Tuan 1977). When left unfulfilled or disrupted, a sense of anxiety can occur (Relph 1976). While the literature is rich with examples on what contributes to place attachment (Lewicka 2011), very little research has focused on how changing environments influence the maintenance of that relationship once it develops and how individuals respond to those changes.

One such environmental change occurs when developers promote nature tourism as a strategy to combat rural underdevelopment (e.g. Spenceley 2006; Osano et al. 2013; Duffy 2014). The creation of pristine environments necessary to realize these enterprises competes for space with the people who inhabit them (Adams and McShane 1992; Brooks 2005), often corrected by the state through resettlement of populations outside the nature reserve's boundaries (Brockington and Igoe, 2006). Even when populations are permitted to stay, nature parks alter the patterns of land use (Tumusiime et al. 2011). Thus, nature tourism parks—through changing the contexts in which local residents live their daily lives—have the potential to impact existing geographies of place attachment. Using qualitative data collected from residents living in the border zone of the LNP, I address two questions: (a) How does a nature park disrupt the environmental conditions that lead to the formation of place attachment? (b) How do individuals respond to the changing environment and what

does this mean for place attachment? By evaluating how residents have responded, I propose that place attachment can be so strong that individuals are willing to accept increasingly impoverishing conditions before they express acceptance of resettlement as a viable option.

This paper is divided into several parts. The first part offers a brief overview of place attachment and displacement, with emphasis on how nature parks contribute to the latter, followed by a description of the case study site. In the second part, I describe the methods used to analyze the interview text. In the third part, I present the impact various environmental changes exert on place attachment and how residents have responded. I conclude with a policy prescription for planners of nature park enterprises.

2.2 Literature review

2.2.1 Geographies of place attachment

Strong place attachment imbues a place with a “social narrative” (O’Neill 2007, 87) that enhances its identity and distinctiveness (Jones and Evans 2012). The literature suggests that place attachment is a multi-dimensional concept reflecting aspects of the person operating within the place, the physical and social environments themselves, and the process by which that person establishes a relationship to that environment (Scannell & Gifford 2010a). The person dimension derives from characteristics of the individual person (e.g. age, residency length, gender) and the cultural group(s) with which the person identifies (e.g. ethnicity, cultural heritage, rituals). The place dimension exhibits both physical (e.g. soil quality, precipitation, elevation) and social (e.g. presence of social networks, degree of cultural homogeneity) attributes. Finally,

the process dimension represents three aspects: emotional attachment to space, method of conceptualizing the person-place bond, and performed behaviors that occur there. By linking these three dimensions together, Scannell and Gifford (2010a) propose that place attachment exists for three primary reasons: (1) to permit survival and increase a sense of security, (2) to promote goal support, and (3) to foster a sense of cultural continuity of self and group.

2.2.1.1 Sense of survival and security

Place attachment forms first to the physical environment (Scannell and Gifford 2010b) because this is the location in which humans meet basic food needs, find or build shelter, and access water (i.e. some of their most basic biophysical needs, Kellerman 2014). Knowledge and familiarity of the area's native ecology facilitates its transformation into a more productive environment (Owuor et al. 2005; Sulieman et al. 2012). For instance, environments with proven ability to sustain subsistence-level food production have greater appeal to farming societies over those with limited ability to supply enough food to feed the local population (Arnall et al. 2013). There is evidence for individuals remaining in environments even during periods when this is not true (e.g. Giller et al. 2013) because, as Milgroom (2012) writes, residents are familiar enough with the ups-and-downs of the area that they can produce surpluses every few years to sustain them in years with reduced production. Another explanation suggests that increased confidence and sense of security exists when one inhabits a familiar environment (Fried 2000). Familiarity with a particular place, for example knowing its patterns of precipitation, however irregular, can prompt an individual to remain rather than take risks in areas that are unknown (Spierenburg et

al. 2009; Giller et al. 2013; Silva and Mosimane 2014). It is this familiarity that others suggest can serve as one mechanism with which to promote post-resettlement satisfaction: incorporating elements of the old landscape into the new one can ease transitions between environments (Ryan and Ogilvie 2001).

2.2.1.2 Goal support

Place attachment also occurs in environments that permit the enactment of life goals. This goes beyond merely meeting basic biophysical and emotional needs for food, shelter, and love. For many African cultures, raising livestock—especially cattle—is not just a way to ensure a food source but also a symbol of power and status (Van Allen 2007) and a means to escape poverty (Maas et al. 2013; Sikweni and Hassan 2014). In these cases, environments capable of supporting livestock herds have great appeal. Likewise, subsistence farming pervades cultural identity across Sub-Saharan Africa. Staple crops, like maize, are grown across the continent, primarily by small-scale farmers (Urassa 2010). Young men are often brought up to embody an agricultural ethos (Gaibazzi 2013) that persists even once alternative livelihoods are engaged (Bryceson 2002; D. Neves 2013; Temudo and Abrantes 2013; Trefry, Parkins, and Cundill 2014).¹⁷ The way land is used provides clues as to how the users relate not only with that place but also with one another and within a larger social community (Brandt and Spierenburg 2014). Thus, for example, individuals who identify as subsistence farmers are likely to prefer environments with rich soils able to produce crop surpluses that can be exchanged for other goods over those not permitting these activities.

¹⁷ There is some evidence to suggest this may be shifting, especially in locations with natural resource wealth (e.g. Kwai and Hilson 2010).

2.2.1.3 Continuity of self and group

Place attachment serves to foster continuity of self and group. For individuals, places serve as the intangible containers of memory (Trigg 2012). Specific places prompt recall of religious and sacred activities (Mazumdar and Mazumdar 2004), historical events (Marsh 1987), and life milestones (Manzo 2005). For cultural groups, places are sites of heritage intimately tied to a particular cultural identity. The story of the place is easily conflated with the story of the family that settled there (Baptista 2010). The social and spiritual aspects of a place are linked to the belief system of the inhabiting cultural group and offer clues to how and why a place is important (Wilson 2003). Traditional and spiritual leaders operate jointly to mediate between the physical and the spiritual realms of particular places on behalf of a cultural group (Convery 2006).

For many individuals, whether consciously aware or not, place attachment can be a defining feature of that person's identity (Hernández et al. 2007; Lewicka 2008), and an inherent part of that person's value system (Short 2007). Carleton (2014) reports several cases in which African courts have upheld the rights to land, at the exclusion of state-sponsored extraction enterprises, on the basis of a cultural link to the land that furthers the development of a specific cultural identity.¹⁸ Actions that dismantle place attachment may threaten the very integrity of an individual's cultural identity (Holder 2008; Brandt and Spierenburg 2014). Land is not just land. In the

¹⁸ The Inter-American Court of Human Rights has also recognized the link between land and identity. In *Mayagna (Sumo) Awas Tingni Community v. Nicaragua* (2001), the court found that, "The close ties of indigenous peoples with the land must be recognised [sic] and understood as the fundamental basis of their cultures, their spiritual life, their integrity and their economic survival. For indigenous communities, relations to the land are not merely a matter of possession and production but a material and spiritual element that they must fully enjoy" (cited in Holder 2008, 17).

Zambezi delta, land is a direct connection with one's ancestors, of which the village's great-great-grandfathers still bless its productivity from beyond the grave (Artur and Hilhorst 2014). Relocation somewhere else will be to an environment lacking any specific meaning. It will be a relocation to simply land that is devoid of its cultural heritage. Thus, places are more than sites that permit survival and encourage the enactment of goals. They also influence the maintenance and growth of individual identity and foster continuity within cultural groups.

2.2.2 Nature parks and displacement

Research has demonstrated that significant hidden costs often accompany nature tourism that negatively impact the overall well-being of the local population (Buzinde et al. 2014). Parks are often accompanied by new regulations and rules as well as the enforcement of existing laws previously loosely or not-at-all enforced that frame how residents interact with the spaces of the nature park (Tumusiime et al. 2011).

Common policy prescriptions include enforcement of prohibitions on bushmeat hunting and increased regulation of charcoal production. Both activities supplement subsistence livelihoods during times of crop failure (Giller et al. 2013). Other changes include reduced access to grazing land and forest resources (e.g. honey, traditional medicine plants, tubers/roots, etc.) as well as limitations imposed on mobility across the boundary of the nature park. These policy changes can lead to tension between residents and park management (Goldman 2011) as well as create a need to evaluate not just the abundance of remaining resources but also the ability to access them (Milgroom et al. 2014).

Perhaps the greatest change, though, is the ways that individuals are restricted in their responses to conflict between humans and wildlife. In Mozambique, villages located within nature parks and their buffer zones have experienced a growing number of reported cases of human-wildlife conflict (Le Bel et al. 2011). In particular, conflict is most damaging and impactful when communities are located within or near parks aiming to increase populations of large mammals (Naughton-Treves and Treves 2005) because these animals can inflict direct and indirect costs on communities (Dickman 2010). These include crop loss and damage to property (Dunham et al. 2010), fear of animals and psychological stress (Barua et al. 2013), and a reduction of overall well-being (Buzinde et al. 2014). Households closest to the nature park often suffer the most damages (MacKenzie 2012), and the costs of conservation—in terms of damages to livelihoods—often has an unequal impact on various segments of the population (Sinclair 1997; Simpson and Wall 1999; Ribot and Peluso 2003; Brockington 2004; Vedeld et al. 2012).

Despite the negative outcomes associated with nature parks, some research finds that communities have the potential to benefit from revenue generated via ecotourism (Karki 2013; Silva and Mosimane 2014) and to experience improvements to infrastructure (Baird and Leslie 2013; Baird 2014; Tumusiime and Sjaastad 2014).¹⁹ In Mozambique, the Forestry and Wildlife Law (Act 10/99) requires that 20% of profits received by nature tourism parks must be returned to local communities for development projects (Republic of Mozambique 1999). For example, in the Tchuma Tchato project in Tete Province, community leaders used the

¹⁹ There is also the potential for biophysical benefits associated with the conservation initiatives arising from nature parks, of which reduced soil erosion and the stabilization of water flows are examples (Daily 1997).

return of 20% of nearby park profits to purchase grinding mills, cattle, oxen, and irrigation equipment that benefitted the entire community (Suich 2013).

For communities outside the profit-sharing zone, proximity to tourism activities permits community-led tourism to earn sufficient profits for reinvestment in local development (Baptista 2012). Baptista (2012) reports that residents in two villages benefitting from spillover effects of the LNP, Canhane and Cubo, speak of tourism opportunities in a manner that suggests adoption of a “cartography of hope,” (641) or the belief that the region will transition from an impoverished place into one with economic possibility fueled by formal employment in nature tourism and profit-sharing. In agriculturally marginal areas, like the region surrounding the LNP (Milgroom 2012; Giller et al. 2013), Munthali (2007) describes ecotourism as offering “the highest hope for rural communities” (57). Though these benefits accrue for some residents, there is no guarantee they will offset damages, nor do they account for the difference in value between what is lost when a nature tourism enterprise begins compared to what is gained (Suich 2013) because communities sometimes over-estimate the potential benefits (Silva and Motzer 2015).

Changes in historical land use patterns, increased conflict with wild animals, and failure for economic transition to materialize when/where expected has the potential to impact place attachment. Measurement of the economic outcomes arising from nature tourism has been widely studied (e.g. Dunham et al. 2010); however, we are only beginning to look more deeply at the intangible impacts (e.g. Witter and Satterfield 2014). One outcome is displacement, a term that can imply physical relocation from an environment (e.g. Agrawal and Redford 2007) as well as a loss of

access to resources or changes in livelihood strategies (Cernea 2005). This latter definition suggests that feelings of displacement do not arise overnight; in fact, as suggested by De Wet (2008), they emerge from a growing sense of *displacement*, a feeling acquired over time that the environment no longer reflects the economic, political, and/or social institutions that originally permitted the development of place attachment.²⁰ Based on previous empirical work, I propose that nature parks, like the LNP, are agents of displacement. Residents of surrounding villages experience displacement when these entities begin operations and take steps to respond to that displacement before they will consider moving away as a viable option. I briefly describe the type of change occurring in these villages in the next section and further explore the outcomes of this change in the results section of this paper.

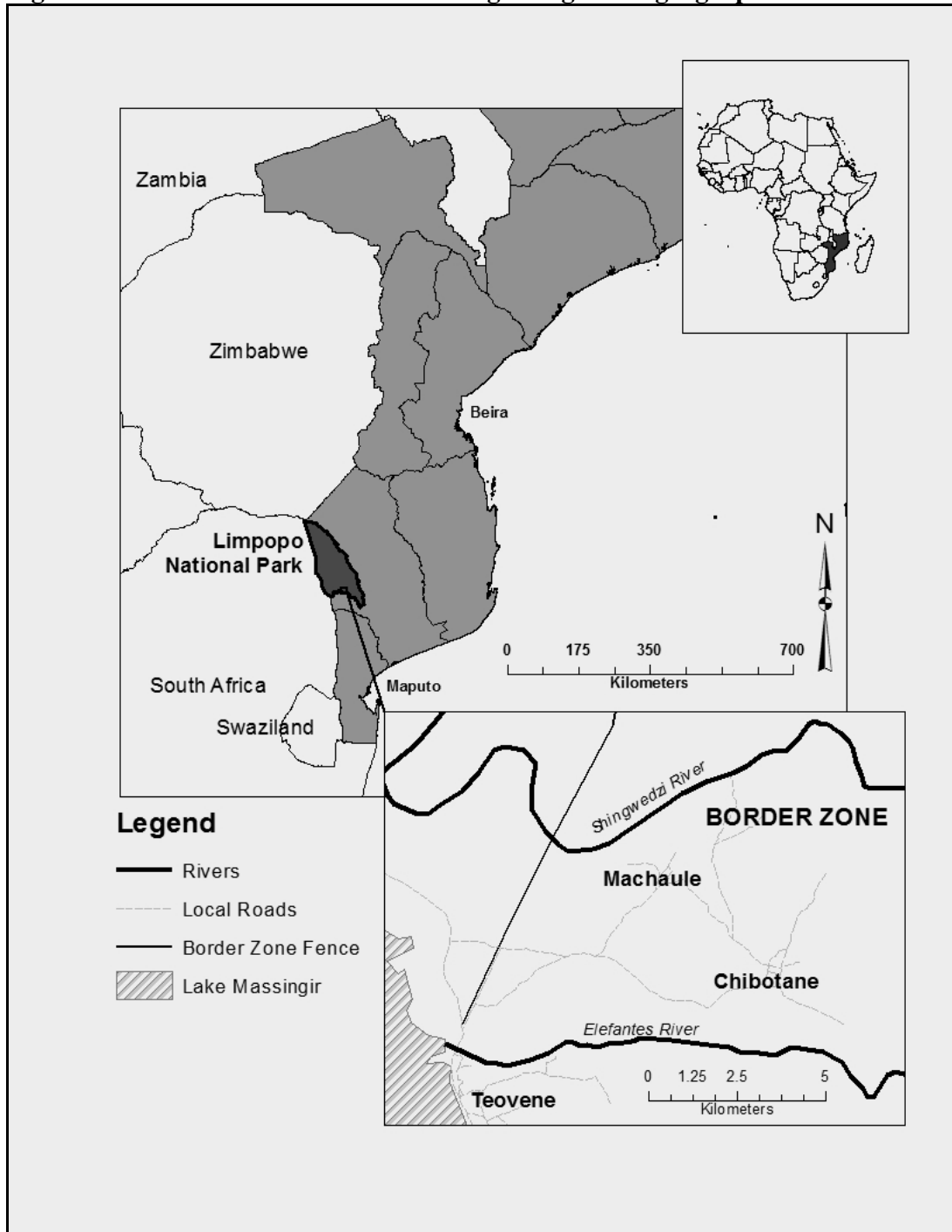
2.2.3 Case study context

In the 40 years since independence, there has been little improvement in Mozambique's status as a highly impoverished nation; approximately 69% of the population lives on less than \$1.90 USD daily (World Bank 2015). Mozambique's economy has grown through natural resources investment, such as the LNP project, an area greater than 10,000 km² in Mozambique's Gaza Province. A wildlife barrier fence separates 4,292 km² from the park for inclusion in the buffer zone (Everatt et al. 2014). There is a population cluster in the southeastern edge of the park comprising the case study site for this paper, in which are situated two villages, though this area

²⁰ Another body of literature with the potential to inform the way that displacement arises in the context of a nature park involves the idea of *solastalgia*. Derived from the word "solace," solastalgia "refers to the pain or distress caused by the loss of, or inability to derive, solace connected to the negatively perceived state of one's home environment" (Albrecht et al. 2007, S96). More recent work in Ghana has used this concept to explain the homesickness and sense of powerlessness that arose as environmental change (i.e. deforestation, failing agriculture, and changing precipitation patterns) rendered rural villages unable to sustain everyday lives (Tschakert et al. 2013).

has been inhabited off and on since at least 1000 AD (Giller et al. 2013). Figure 2.1 illustrates the location of these villages within their broader context on the southeastern edge of Massingir District.

Figure 2.1: Location of border zone villages in greater geographic context



Source: Map by author

Agriculture in this area is predominantly rain-fed, and residents grow crops in both the low-lying plains near the rivers and in upland fields (Giller et al. 2013), with good harvests obtained approximately every five years (Milgroom 2012). Though adjacent to a tourism area, few individuals have formal employment in the tourism industry; approximately 6% of the villagers are employed by the park (Silva and Khatiwada 2014). Other sources of income include livestock sales, items made from locally harvested products, and charcoal production (Giller et al. 2013; Milgroom 2012). Villages tend to be small—the entire case study area has just over 1,700 people (USAID 2010)—with average density in the border zone between 2 and 8 people/km² (Giller et al. 2013). Table 2.1 provides additional descriptive information.

Table 2.1: Descriptive statistics of border zone area

Characteristics of the border zone area	
Population size ^a	1728
Number of households ^a	230
Average household size ^a	7.5
Average years of residency (by household)	30.7
Average age of household head	46.9
Number of female-headed households (%)	20.3
Average household asset values (USD PPP)	1220
Households living on <\$1.25 USD daily (%)	27.6
Average hectares farmed (by household)	3.6

a Source: USAID (2010). All other data calculated from 2009 survey interview database (Silva, 2011).

The opening of the Limpopo National Park in this area resulted in a variety of changes²¹ to the ways local residents lived their daily lives. Even though activities like charcoal production and bushmeat hunting were prohibited under Mozambican

²¹ It is important to note that all communities, and not just those adjacent to a nature park, experience changes in their physical and social environments; yet, not all places experience displacement as a result. I believe that what makes a difference is the degree of opportunity a community experiencing displacement has to respond to that displacement. The villages in this case study are highly impoverished and largely disconnected from opportunity elsewhere; they were also unable to acquire formal employment in the LNP to offset the consequences of HWC on the ability to farm (Silva and Khatiwada 2014).

law (Giller et al. 2013), the park's presence necessitated an immediate cessation of these activities that, though illegal, were widely practiced and usually unenforced. Included in these changes were the prohibition against using lethal control to protect their fields from elephant or hippo raids and their cattle from leopard or lion attacks. Residents were restricted from crossing the boundary between the border zone and the LNP to collect firewood, cut stakes and thatch for building and repairing homes, cut reeds to weave baskets and mats, and gather resources like wild honey or tubers. Finally, the imposition of a fee to cross the park's boundary made it more difficult for residents to interact with family members who lived in other villages elsewhere in the district.²²

The outcomes of these changes are described more thoroughly in the results section with additional discussion in the literature (cf. Milgroom and Spierenburg 2008; Milgroom 2012; Milgroom et al. 2014; Silva and Khatiwada 2014). The immediate enforcement of these new rules and regulations following the opening of the LNP set the conditions necessary for disemplacement to arise as they disturbed livelihood practices, prohibited activities usually used as alternative means to provide income and/or food in times of crop failure, and prevented individuals from engaging with their extended social network. Thus, I use the opening of the park as the baseline for assessments of changing environments on the formation and maintenance of place attachment in the villages of the *zona tampão*.

²² Despite the mobility restrictions, Google Earth satellite imagery provides evidence that the enforcement of park borders may be uneven. Some individuals have constructed homes inside the park.

2.3 Methods

2.3.1 Data source and limitations

The analysis uses anonymized open-ended interview transcriptions from a broader study exploring the effect of nature tourism on poverty and inequality in villages within and adjacent to nature parks in southern Africa.²³ The larger study investigated the outcomes of a nature park's operations across four research areas in Namibia and Mozambique; in each research area, two communities were included as part of the research design: one community that participated in a development program involving nature tourism and a second that shared similar economic, demographic, social, and geographic conditions but did not participate in any such program, which served as a control site. All case study sites were located in rural areas where the government promoted nature tourism as a rural development strategy. Silva and Khatiwada (2014) provide additional information regarding site selection, sampling, and survey/interview methods for the broader study from which these data originate.

Of the eight locations included in the broader study, this chapter uses the two villages located in the *zona tampão* of the Limpopo National Park. Interviews in this case study site were conducted by trained research assistants with 79 randomly selected heads-of-household in their native language, Shangana, and then transcribed into English. Interview questions covered three broad areas: household and community dynamics; interactions with the park; and reflections on poverty,

²³ This study was led by Julie Silva (University of Maryland, College Park) and titled “The Effects of Nature Tourism as a Development Strategy on Poverty and Inequality: The Cases of Namibia and Mozambique.” The study ran from 2008–2015. The interviews providing the data for this chapter were completed in 2012; however, survey research on socio-economic and demographic characteristics preceded these interviews in 2009. For more information, visit the project's public website: <http://terpconnect.umd.edu/~jasilva/project/index.html>.

development, and environmental changes. Though no questions were asked about place attachment or resettlement, a limitation of these data, the interview data still included a rich amount of information on these topics given the respondents were living in an area where nearby villages were being resettled throughout the time period in which these data were collected (cf. Milgroom 2012). These data provided an opportunity to examine local attitudes regarding resettlement before residents actually had any personal experiences with the resettlement process. As such, they act as a snapshot of perspectives on resettlement and provide context to link place attachment to opinions on resettlement in a pre-resettlement context.

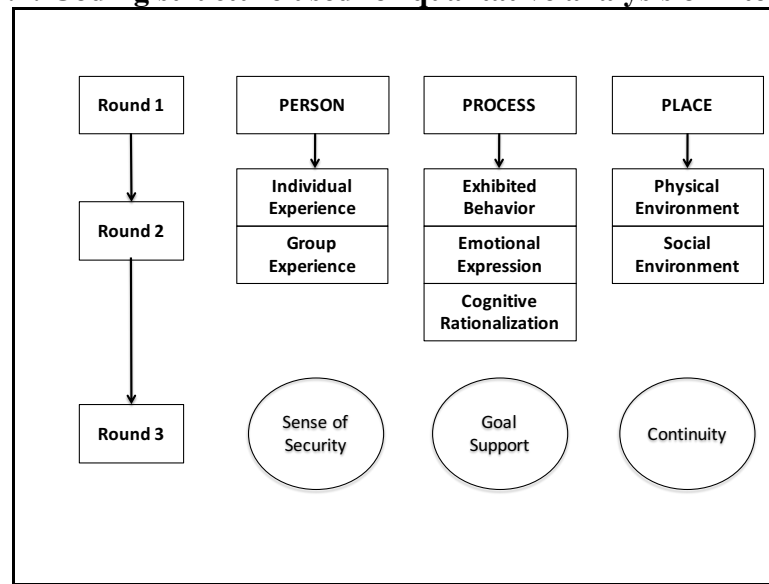
Though two villages exist in this population cluster, I present the results as a cohesive whole. They are less than five km apart and villagers regularly travel between the two (e.g. to use the health clinic). Residents speak the same language and have the same tribal affiliation and ethnic heritage. Inter-marriage between the communities is common. Finally, there is very little difference between the two villages on most socio-economic measures (Silva and Khatiwada 2014).

2.3.2 Content analysis

Taking the approach advised by Miles and Huberman (1994), I first developed a preliminary coding structure based on Scannell and Gifford's (2010a) Person-Process-Place Framework. Three broad codes were assigned (person; process; place) during the first round of coding, and then these were sub-divided into more precise categories that reflected specific features of the person-place bond in the second round of coding. During the third round of coding, I assessed each coded segment of text individually and within its context to infer the underlying purpose for place

attachment. I applied Scannell and Gifford's (2010a) three reasons for place attachment as the inferential codes during the third reading. Figure 2.2 presents the coding structure used in the descriptive and inferential reads of the dataset. From these readings, a more nuanced understanding of the geography of place attachment in the border zone villages emerged, and led to the development of four themes outlining the contributing factors to feelings of disemplacement: eroding way of life, restriction of alternative livelihood strategies, dissatisfaction with the promise of the park, and threats to identity. These themes were not necessarily applied to the same segments of text previously coded for place attachment and purpose but rather emerged through an inferential analysis of the text within and near the coded segments. Following Creswell (2013), a constant comparative approach was employed to ensure that the themes were consistent across and within the villages as well as the cases. Together, these four themes comprise one model of the influencing factors that might lead to a sense of disemplacement following the creation of a nature park. Using representative quotes from the study area, the next section more fully outlines how this occurs.

Figure 2.2: Coding structure used for qualitative analysis of interview text



2.4 Results

2.4.1 Eroding way of life

This region of Mozambique is heavily dependent upon maize production for subsistence livelihoods. Most respondents listed their primary occupation as farming, though nearly everyone farmed to supplement waged labor because: “People who grew up here are not used to doing business. The people here are used to working and consuming what they produced” (#3505, 30 July 2012). Farms are small (average of 3.6 hectares farmed per household) and residents grow subsistence crops. Farming associations exist, but membership reflects only a small percentage of total inhabitants (Table 2.2). In many interviews, though, residents discuss membership in past farming associations. Some residents left the association because they grew older while others, especially those living in houses closest to the border zone’s boundary with the park, left the farming associations because the park’s presence destroyed the association’s functionality. After the park opened, residents reported that they lost

access to some of their farmland: “Yes, they [park] actually took our land; the limit they set with the fence took almost the majority of our fields” (#3472, 1 August 2012). When asked where they now farm, another respondent noted:

Now we have fields, but they are not those we can trust because they are in a land which we had to clear so that we could farm. We cannot survive without farming so we farm there [in the new fields], but the places we trusted were taken [by the park]. (#3463, 31 July 2012)

Table 2.2: Agricultural profile of villages (crop farming)

Characteristics, <i>n</i> =79	N	%
Farming as primary occupation	58	73.4
Farming as secondary occupation	14	17.7
Member of a farming association	8	10.1
Crops discussed as grown		
Bean	31	39.2
Cassava	11	13.9
Garlic	8	10.1
Maize	77	97.5
Onion	20	25.3
Pumpkin	49	62.0
Sweet Potato	25	31.6
Tomato	33	41.8

Source: Calculated by author using interview text.

Like elsewhere in Sub-Saharan Africa, raising livestock in the border zone is highly valued and widely practiced. Cattle are equivocated with money, power, or prestige; ownership of cattle is a status symbol and provides membership to an elite group.

There are many people here in the community who say that I don’t have this and that. Take, for example, cows. Here one can have thirty cows, one can have a thousand, a herd, and another may have two cows, so like that we are not the same and we can never be the same. We can’t be in the same community. (#3492, 29 July 2012)

Cattle represent more than status, though; they are also a means to enact a farming identity. Residents with cattle are able to more efficiently plough their fields.

Residents without cattle seek those who own them to exchange labor for the use of their cows. The value of cows as a status symbol, source of community membership, and farming identity is supplemented by the fact that cattle also serve as a form of semi-liquid savings to offset economic downtimes when crop failure occurs. “If I had cows, poverty in me would disappear because I could take a cow and sell it. Then I will take the money, buy bricks, and build a house” (#3500, 31 July 2012).

Given pervasive subsistence farming, it is not surprising that the establishment of a nature park populated with large mammals has resulted in widespread human-wildlife conflict (HWC). As stated by one respondent, “There are no families that have never been invaded by elephants in this community. Elephants invade each and every family’s fields” (#3440, 28 July 2012). When asked, 65 households (82.3%) reported they had experienced HWC, predominantly from elephants (crop farming; $N = 73$, 92.4%) and lions (livestock farming; $N = 61$, 77.2%). In total, 59 residents (74.7%) reported that farming worsened following the creation of the park. Were this not enough, residents also reported that the park often failed to respond to their concerns about HWC. “I did not report [HWC]. It is dogs’ tears; it runs in the skin. Even if you report [it], they do nothing. It is better to stay [where you are] as it is not only you who suffers. Soon, you hear other people crying” (#3480, 29 July 2012). For some residents, the only time the park responded to concerns with HWC was when a resident killed an animal, and then: “You are followed and beaten” (#4163, 30 July 2012).

2.4.2 Restriction of alternative livelihood strategies

Prior to the park's establishment, residents had practiced a variety of strategies to supplement food supply or gain additional income during farming downtimes.

Traditional methods to offset periods with crop failures include hunting bushmeat for food and producing charcoal or cutting firewood for sale in local markets. There is also a long tradition of seasonal migration to South Africa for waged employment (see Giller et al. 2013 for a discussion). Unfortunately, the park's regulations regarding permissible activities has severely limited the residents' ability to engage alternative activities during times of farming difficulty. This has led to increased hunger, especially among female-headed households.

I was better when I used to sell charcoal. At the moment I have no one to help me. If I were allowed to sell charcoal, I would be able to sustain my family since I'm a single mother. I need to work hard to provide food for my children. If it were allowed, I would make charcoal to sell. (Interview #3442, 29 July 2012)

Hunting helps us survive the starvation period [dry season]. We hunt and sell the meat and buy food for our family with the money. (Interview #4149, 30 July 2012)

Though primarily discussing charcoal production or bushmeat hunting, other activities were also prohibited by the park's management (Table 2.3). The park restricts cutting stakes to construct or repair houses, limits the locations available for grazing cattle, and prohibits free mobility within the park area for residents seeking to gather forest products, like honey, wild roots, and traditional medicinal plants. Such restrictions have led to concerns among the villagers that access to resources will be problematic in the future and detrimental to their ability to survive in the area. "We need to sell firewood and charcoal to sustain our families but that is not allowed in the

park's premises" (#3526, 30 July 2012). Additionally, despite the restriction on mobility within the park, some residents continue to enter the park illegally to collect firewood because: "We still fetch wood because we need to cook. What are we going to use if we don't use it?" (#3461, 28 July 2012).

Table 2.3: Responses on restrictions to use of natural resources

Natural Resource, <i>n</i> =79	N	%
Collecting firewood (for sale)	19	24.1
Cutting stakes (for sale)	41	51.9
Gathering forest products	8	10.1
Grazing cattle	12	15.2
Hunting bushmeat	52	65.8
Producing charcoal	44	55.7

Source: Author's calculations from interview text.

Perhaps the most life-changing restriction enacted by the park management has been the prohibition on the use of killing problem animals to prevent crop raids or livestock attacks.

We could even sleep in the field to protect our crops from animals that can kill people, but we could not kill it [the animal] even if we saw it because it is protected by the law. If we kill the animals and we are caught, we cannot survive. We cannot even come back here. These animals are not killed. We just chase them. If you are lucky and God is with you, they go away. (#3423, 29 July 2012)

By prohibiting lethal control to stop crop raiding, the park has reduced the population's ability to defend their land. Other methods (e.g. beating drums, spreading elephant dung mixed with chili, or lighting fires) are largely ineffective. As one respondent noted: "We don't have a way of fighting them. The elephant can only be defeated by a firearm" (#3469, 31 July 2012). In general, residents believe that the presence of the park makes traditional livelihoods untenable. "We face starvation because of the elephant damages. Elephants destroy our properties. Our children are forced to abandon the livestock in the bushes when chased by elephants. Lions kill

our livestock, and nothing is done” (#3526, 30 July 2012). The eroding way of life and the widespread prohibition against traditional means to protect livelihoods has led to residents relying upon the hope that the park will prompt economic transformation permitting the acquisition of waged labor. Failure of the park to meet this expectation has led to growing dissatisfaction with park promises and park policy.

2.4.3 Dissatisfaction with the promise of the park

The eroding way of life, restrictions on alternative livelihood strategies, and prohibitions against defending one’s property against wild animals was offset initially by the adoption of a cartography of hope regarding the park’s ability to promote economic development in the region. While many had planned to continue farming and raising livestock, many villagers also believed the park would provide a source of waged income. Money earned through working as a park ranger or in hospitality could be used to supplement traditional farming practices; however, villagers quickly realized that the number of available jobs in the park would never support the population of the area, and sentiments quickly turned to feelings of distrust and unhappiness. “The park came to make people weak. I am not lying, my sister. It made people become weak” (#3480, 29 July 2012).

Table 2.4: Infrastructure requested by villagers

Requested Infrastructure, <i>n</i> =79	N	%
Electricity	23	29.1
Fence	46	58.2
Health clinic	6	7.6
Marketplace/Shops	4	5.1
Road	13	16.5
School (new or more rooms)	16	20.2
Water: Borehole, Pump, etc.	64	81.0

Source: Author’s calculations from interview text.

There has been improvement in the area since the establishment of the park; however, when asked what the park has done to change the villages, respondents quickly dismiss the park's role and credit the government, especially in the construction of schools and hospitals. When asked what the park could provide for the villagers, residents easily articulated improvements to infrastructure (Table 2.4). Overwhelmingly, respondents requested access to potable water for themselves and their livestock, especially for the park to drill boreholes where their cattle can drink without fear of spoilage by elephants. Yet, despite this, residents believe the park has largely ignored its responsibility to help develop the area.

You cannot follow what the park says. The park said that, first of all, they would help us with the work. I don't want you to feel like I am complaining, but it was good that you asked that question. The park was created to help us but we don't see any help. ...But from 2001 to the present day, shouldn't we have something here from the park? Shouldn't we have something to help us feed ourselves? (#3450, 31 July 2012)

Nearly half the residents interviewed maintained a negative perspective of the park and its operations ($N = 36$, 45.6%). These opinions ranged from beliefs that the park was simply not helping the local villages enough to feelings that the park exhibited purposeful bias towards employing locals: "If there were no bias, there would be many people from Massingir working there. There are many people who are not from Massingir. Some people have good qualifications but they don't want to hire people from Massingir" (#3445, 28 July 2012). Perhaps the most damning perspective on the park, though, came from the person comparing the park's management to the Portuguese colonial government: "I told them that the colonialists were better than them" (#3526, 30 July 2012).

2.4.4 Threats to identity

When talking about the threats to their identity posed by the park, respondents spoke largely of two main themes: mobility and resettlement. Twenty residents (25.3%) indicated the park restricts mobility within the area, primarily through enactment of an entrance fee to cross the park's boundary. Though not officially barring movement, it does limit interaction with extended family members. As one respondent explained:

We are divided; some people belong to the Park on the Mozambican side, some belong to FRELIMO. Some are from the District and it is not easy to gain access to the park if you are not a resident of the park. Outsiders must pay entrance fees to gain access to the park. That is what causes us to be upset. It is a big issue. We are not the only community complaining about that measure [entrance fees]. Our relatives living outside the park also complain about that measure. ...This is causing a lot of concern since the measure causes us to be divided even though we are all in the same area. (#3527, 30 July 2012)

Additionally, respondents also feared that the park's management (in conjunction with the government) would reassess the decision to allow residents to stay and force them to resettle. Most of the fear surrounded residents' belief that other environments would be unable to sustain them. "I stay here because we live on the basis of agriculture and I do not want to live in places whereby people must have money to survive. I don't have money to buy food" (#3420, 27 July 2012). Another respondent noted:

In the beginning of this project there was a big debate because we wanted to know [about resettlement] because there are many things which we could lose just because of moving from a place where someone is used to staying and going to live in a new place. (#3505, 30 July 2012)

2.4.5 Responding to a changing environment

Residents responded to changing environmental conditions in three ways. The first, and perhaps most hopeful, was a continued belief that the park would offer waged labor to local residents, especially in the future. “We are supposed to handle [the park] well because even if it doesn’t help us as the parents, it will help our children. Yes. I am sure it will help them in the coming years” (#3407, 27 July 2012).

Unfortunately, by the time of these interviews, many had accepted that the park would be unable to fulfill this hope ($N = 75$, 94.8%).

In the past each person would use his own abilities to sustain the family. Since the park was established here, there is nothing we can do. We would like to ask for jobs to compensate for these restrictions. At the moment we are suffering and blame the park for not allowing us to use the natural resources and not providing jobs for us to sustain our families...If we were employed by the park we would have money to buy food and we wouldn’t be so disappointed by the damages caused by the wild animals. (#3442, 29 July 2012)

A second option was to resettle beyond the park’s boundaries, but resettlement was not planned for these residents and assistance was not offered to them. Even if it had been, residents talked about resettlement as being impossible.

I can’t accept to move from this area with my family. The reason to remain in this area is not related to the benefits we might get from the resettlement process but the fact that we were born and raised in this area. We have our fields in this area and are strongly attached to this area and know this area. Any other place would not be the same as this one; it’s not easy to be given a new area for you to live in. It’s very difficult. It’s not easy to go to an area where you don’t know the conditions of it. You don’t know anyone or any place around it. (#3426, 28 July 2012)

Only 16 respondents (20.3%) refused to resettle, but this quote is also indicative of the importance of the local environment in that decision, so important that individuals would accept death over resettlement. “There is nowhere [else] to go. It is here, our

home. It is hard to leave your place. If they [animals] want to kill us, they will” (#3480, 29 July 2012).

Without formal employment or resettlement as options, residents spoke of a third option to reestablish place attachment following the park’s creation: a barrier fence to physically separate the park from the villages.²⁴ “The most important thing for us is to build a fence around our farming land. They [park] have to close the farming area so that it is protected inside” (#3574, 28 July 2012). For many residents, the fence served as their only hope to recapture their farming identity. While only 46 residents stated their desire that the park construct a fence (Table 2.4), 58 residents (73.4%) believed that a fence would solve their problems. “When they finish building the fence, these wild animals from the park won’t be able to come to the local communities to pose threats or cause damages as they do now. No other weapon can be stronger than the fence” (#3526, 30 July 2012).

As important as the fence is to the anticipated reduction in HWC, the fence serves other purposes too. In Mozambique, nature parks must give 20% of profits to local villages, and some individuals believe these funds will not make a difference in local development unless the fence exists: “The park should build a fence for the animals so that we can be helped by the amount of the 20%” (#3591, 28 July 2012). Others see the fence as a symbol of returning control of their land to them. “When the animals destroy the fence and come to this side, then we will know that when they come to this side they will be killed” (#3595, 25 July 2012). Thus, following the fence’s completion, there is some agreement that relationships with the landscape will

²⁴ At the time of these interviews, the park had not yet constructed a fence. It was completed in early 2015.

be reconstructed to more closely resemble those of the past: “If they build the fence as they have the plan of building it, we are going to see other ways of living and we are going to see what will happen next. We will see if it is still the same as it was in the past or not” (#3514, 1 August 2015).

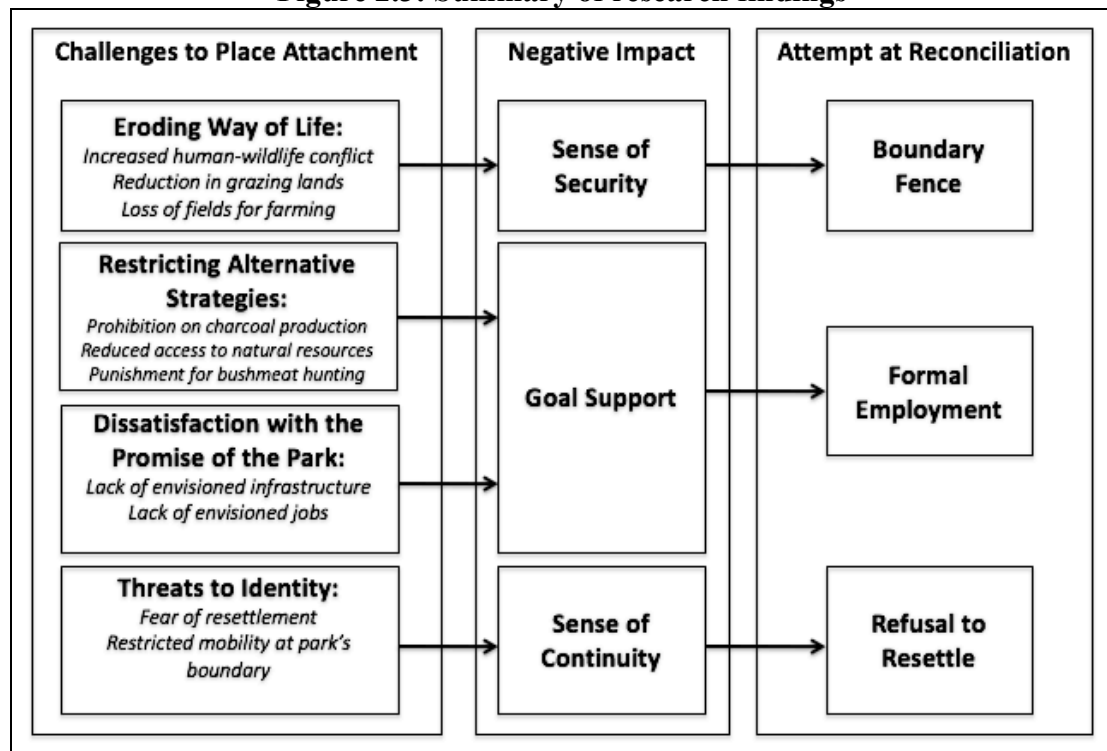
2.5 Discussion

In this paper, I invoked De Wet’s (2008) idea of disemplacement to illustrate the changes occurring to place attachment in villages surrounding the Limpopo National Park. Pivotal to this characterization was the purposes for which individuals establish place attachment identified by Scannell and Gifford (2010a): to enhance a sense of security, to support the enactment of goals, and to promote cultural continuity. Based on an analysis of the themes present in interviews with local residents, all three reasons to establish place attachment have been under attack since the park opened.

The findings presented in this paper further validate De Wet’s (2008) argument: Changes to the economic, political, and social reality of an environment contribute to feelings of disemplacement. Though HWC did not originate with the park, the ability for residents to respond has been curtailed by park regulations. Without the means to protect their land from wild animals, residents have seen a worsening of farming conditions, such that everyone’s livelihood has been negatively impacted by the park’s presence. Attempts to respond to HWC formally (by registering incidents with the park’s management) and informally (by killing problem animals) have resulted in a political climate where residents feel unheard and doubly punished. Finally, the presence of an entrance fee has reduced residents’ social interactions with family and friends living outside the border zone area. These

findings strongly suggest that place attachment is under attack in the border zone of the LNP simply because of the park's presence. As Scannell and Gifford (2010a) might propose, residents would not have settled here if the environment did not offer the prerequisites for place attachment. My findings (summarized in Figure 2.3) illustrate how nature parks create changing environmental conditions that directly impacts the potential for the environment to foster place attachment.

Figure 2.3: Summary of research findings



The eroding way of life makes it difficult for the environment to support a sense of security. The physical environment is where residents meet their most basic needs (Kellerman 2014), and food security is among the most basic of them all. Sulieman et al. (2012) argue that knowledge of local ecology helps individuals to enhance the productivity of a place, but the restrictions imposed by the park's management make any attempts by residents to alter their environment untenable.

Moving fields to other locations was not an option because the park had already reduced space for farming and grazing while killing problem animals only resulted in further punishment.

HWC combined with limited grazing options render it impossible to grow a cattle herd large enough to rise out of poverty (Sikweni and Hassan 2014). This is in addition to living in an environment where it has become difficult to acquire power and status using the accumulation of cattle (Van Allen 2007). When farming failed in the past (Milgroom 2012; Giller et al. 2013), residents turned to a variety of other strategies, but even these are prohibited activities now that a nature tourism park exists. Thus, the park's presence hinders not just the ability for the environment to enable a sense of security to develop, but also limits its capacity to support residents' economic, political, and cultural goals.

The LNP also diminished feelings of cultural continuity that arise from being attached to a specific place. With limitations imposed on farming practices, residents are unable to enact an agricultural ethos (Gaibazzi 2013) and their historical relationship to the land has been altered. While the land still serves as Trigg's (2012) intangible container of memory, it is now a memory of what used to be possible rather than a memory of what is possible. The social narrative suggested by O'Neill's (2007) work is one of despair, of feelings of betrayal by the entity that was supposed to bring hope (Baptista 2012).

Nature parks have the potential to simultaneously enrich biodiversity and enhance economic opportunities for rural populations. Yet, the displacement experienced by residents in the border zone of the LNP illustrates the potential for

nature parks to do harm too. This does not, however, completely eliminate the agency of residents. Villagers exhibited three primary responses to the displacement encountered following the establishment of the LNP; however, only the call for a barrier fence seems to have any real chance of successfully reducing the feelings of displacement. Collectively, these individuals see the construction of the park's boundary fence as a panacea to their present woes. Rather than consider moving, they would prefer to face the challenge of HWC in their present environment. The fence is a reterritorialization of the villages' spaces, a mechanism to more fully separate the park's identity from the villagers' identity. In a way, the fence offers a return to environmental conditions to which they had originally established place attachment.

2.6 Conclusions

This study examined the relationship between nature tourism enterprises and place attachment using De Wet's (2008) ideas on displacement. Findings reveal that nature parks create conditions leading to displacement and a reduction in the environment's ability to foster place attachment. Resident responses to the displacement they feel underline the importance of place attachment as they sought, ultimately, to reterritorialize their land with a border fence while accepting impoverishing conditions. For the study of place attachment, these findings suggest that the power of humanity's relationship to the environment is very strong. People are willing to accept severe disruptions to their way of life, the inability to protect themselves and their property, concern over the ability to sustain their family in the future, and attacks to their cultural identity just to remain in an environment to which they have become attached.

While further research on the effects the border fence will have on place attachment has not yet been completed, I believe the most important policy prescription to arise from this research is the residents' calls for a barrier fence. Since the relationship between nature parks and HWC is so established, it would make sense, then, that nature park managers, in conjunction with the governments and other organizations helping to realize the nature park, first delineate the spaces of the park through formal mechanisms before they attempt any increase in animal populations. Though this might seem like a relatively simplistic argument, it is likely to receive negative responses from those who believe human structures (like a fence) diminish the wild-like feel such an enterprise is supposed to engender as well as from those who propose that fences serve the needs of the nature park more than the population. To the former, I would argue that such notions operate under the premise that at some point in the pre-colonial past, African spaces were wild. Despite official government records, this area has been inhabited for a very long time (Giller et al. 2013). To the latter, I would suggest that fences might harm individuals whose livelihoods are based exclusively in forest resource use, but for those whose livelihoods center on farming and livestock, like in this case, a fence will help maintain the viability of these livelihood strategies.

For the villagers, this study has added to the number of reports assessing the impact of the LNP on the region's population; however, this is one of the first studies to look at the intangible outcomes of nature tourism enterprises not just in the LNP but in the broader developing world. As the establishment of place attachment is a universal trait of humanity (Tuan 1977), there is a strong reason to suspect that the

findings reported here would hold across the developing world and even in nature park contexts in developed countries. There is still much work to be done on how nature tourism—and development projects in general—impact place attachment. Land is not just physical space devoid of meaning but the site of a deeply personal relationship, and thus, more than anything else, this research should inspire future studies to interrogate exactly how changing conditions impact the way humans form and maintain place attachment.

Chapter 3: Impact of a changing social landscape on the development of place attachment following resettlement

3.1 Introduction

Humans fulfill some of their most basic biophysical needs in the daily spaces they inhabit (Kellerman 2014). Meaningful relationships to these spaces—what Altman and Low (1992) term *place attachment*—develop because they enhance a sense of safety or security, support the enactment of goals, and/or promote feelings of cultural continuity (Scannell and Gifford 2010a). The need for a strong connection to one's environment is a universal human trait (Tuan 1974) that results in troubling anxiety when unfulfilled or disrupted (Relph 1976; Casey 2009). So strong is this relationship that Edward Said (2000) wrote that forced removal from one's place—as happens in many resettlement programs—is an “unhealable rift forced between a human being and a native place, between the self and its true home: its essential sadness can never be surmounted” (173).

Despite the presence of World Bank (2001) guidelines on the conduct of resettlement, research on outcomes indicate the experience often has negative consequences for resettled communities (Cernea 1998, 2000; Schmidt-Soltan 2003), including the dismantling of a community's social character (Bennett and McDowell 2012). When entire communities resettle, they tend to re-create their social geography in the post-resettlement site (Lestrelin 2011); however, this is impossible when some of the community has been relocated to a different site, as in the case investigated by this paper. Resettled peoples have a difficult time accessing services post-resettlement

(Egauvoen and Tesfai 2012), but the relocation also impacts the social character of communities the resettled population joins (Kabra and Mahalwal 2014). Changing social composition, then, impacts the ways that individuals relate to the post-resettlement site, and has implications for the development of place attachment.

This paper considers this impact in greater detail. Resettlement not only represents a continuation of forced displacement from one's home but also "the activities and processes of becoming established after arrival in the [place] of settlement" (Valtonen 2004, 70). Most of the focus in the resettlement literature has been on displacement, leaving a gap in our understanding of the challenges facing resettled populations as they form place attachment in the post-resettlement site (Turton 2004). This is especially important because establishing place attachment following resettlement has the potential to reduce post-resettlement conflict and civil unrest (Hemer 2015). Recognizing that there is an increasing trend towards urbanization, especially in mid-size African cities (Cohen 2006), this study interrogates the effects of a changing social composition on a resettled community with a critical eye towards understanding if community composition reinforces or diminishes the desire to stay in the post-resettlement site. In particular, this study asks two questions: (a) What are the challenges to the formation of place attachment in a resettled population? (b) How does a changing environment post-resettlement influence the desire among resettled peoples to move away from the post-resettlement community?

This paper is divided into four parts. First, it presents an overview of the geography of place attachment, focusing specifically on influences of the social

environment. Resettlement in a Mozambican context with emphasis towards understanding the process of this case study follows. Second, the paper describes the methods to gather and evaluate the data used to answer the research questions. In the third section, results articulate the evolution of the case study site and the ways the social context influences place attachment. This paper concludes with a discussion on the relationship between changing social composition and being willing to move away from the post-resettlement site, with implications for policy-makers planning future resettlements.

3.2 Literature Review

3.2.1 Geography of place attachment

The literature suggests that attributes of the person exhibiting attachment, how they develop and describe that attachment, and what features of the environment appeal to them are all informative in the creation of a bond to specific spaces (Scannell and Gifford 2010a). By linking these dimensions together, Scannell and Gifford propose that place attachment exists for three primary reasons: (1) to promote a sense of safety and security, (2) to ensure goal support, and (3) to foster cultural continuity. Indices measuring the depth of the bond consistently report a strong association between people and place (Lewicka 2011) that holds across scale (Gustafson 2009); however, characteristics of the environment can exert an influence. Researchers have found that place attachment forms first to the physical environment (Scannell and Gifford 2010b), but some authors caution the reification of the physical landscape. Burley

(2007) describes the physical landscape as a socially-produced entity that has no power outside the social realm in which it was created.²⁵

Though women and men exhibit similar levels of place attachment to most environments (Lewicka 2005), women experience stronger place attachment to social environments (Mesch and Manor 1998). Children develop relationships to place that can last a lifetime but older individuals attribute greater significance to the bond (Hay 1998); however, residency length, the most consistently positive predictor of strong place attachment (Fleury-Bahi et al. 2008), moderates the effect of age (Lewicka 2005). Increasing education exerts a negative effect on place attachment (Lewicka 2005), but this is likely related to the broader perspectives possessed by educated individuals who are aware of the alternatives possible beyond where one lives. Sometimes, though, having mobility to visit other places where life is different strengthens place attachment to one's own home (Gustafson 2009). The literature suggests, then, that an elderly, long-term resident woman with relative mobility but limited education would be expected to express the strongest place attachment. Likewise, these same characteristics are likely to define a person unwilling to move away from the post-resettlement site when offered the opportunity.

The social context can impact place attachment too. People who have positive relationships with their neighbors exhibit stronger place attachment (Brown et al.

²⁵ The body of literature on solastalgia, a condition in which psychological stress arises from a changing environment (Albrecht et al. 2007), seemingly contradicts Burley's (2007) dismissal of the importance of the physical environment as an independent force affecting the formation of place attachment. This body of literature has found some evidence to support the notion that a changing environment can impact the relationships individuals feel—at least on a psychological level—to their place. Acknowledging Scannell and Gifford's (2010a) PPP Framework, though, requires reflection, at the bare minimum, on the contributions of the psychological dimension to the formation of place attachment, but a full exploration of solastalgia is beyond the scope of this dissertation. It would, however, merit attention in future work.

2004), but only when social characteristics are homogeneous. People reported weak place attachment in communities with greater socio-economic diversity (Billig and Churchman 2003) and racial/ethnic diversity (Putnam 2007; Stolle et al. 2008; Greif 2009). This reflects how secure one feels and implies that a sense of community is important to the development of strong place attachment and that one cannot separate attachment to the physical place from attachment to the people who inhabit it (Lalli 1992; Woldoff 2002). For cultural groups, places are sites of heritage intimately tied to a particular cultural identity. The story of the place is easily conflated with the story of the group living there (Baptista 2010). Following resettlement, communities often re-create the social geography that existed prior to resettlement (Lestrelin 2011) because any action that increases feelings of disemplacement threatens the very integrity of that individual's cultural identity (Holder 2008; Brandt and Spierenburg 2014).

Studies on this phenomenon have largely focused on social disarticulation embodied in Cernea's (2000) Impoverishment Risks and Reconstruction (IRR) model (cf. Rogers and Wang 2006; Witter and Satterfield 2014). Resettlement dismantles the social character of communities (Bennett and McDowell 2012), often without providing a direct means to reconstruct social relations. In particular, resettlement disrupts a sense of community, community openness, social trust, reciprocity between neighbors, and resource-sharing (DeMoss-Norman 2015). As a result, community members may work against community interests through the misuse of common property and election of leaders who fail to set up the institutions necessary to govern the community (Patel et al. 2015). Resettled populations tend to rely more heavily on

social associations and networks that existed prior to resettlement rather than develop new ones in the post-resettlement site (Eguavoen and Tesfai 2012). Investigating adjustment following resettlement, Cheah et al. (2011) found that outcomes were most positive when individuals moving into an existing community shared cultural attributes, like language, going as far as to propose that “maintaining a sense of ethnic community should also be one of the goals of resettlement agencies” (232). When provided options, Putro (2012) noted that more individuals chose a resettlement site where they could maintain social cohesion over other attributes, like greater accessibility to services. If communities resettled to a common location can experience social disarticulation, then, it is not impossible to believe that the influx of unrelated individuals into an existing community could exacerbate those feelings. This paper addresses this point by looking at how changing social composition influences the ability for resettled residents to reconstruct place attachment to the social landscape post-resettlement.

3.2.2 Resettlement in a Mozambican context

Mozambique remains one of the most under-developed and poorest countries in the world on measures of economic and social development (United Nations 2014; World Bank 2015). Despite this, Mozambique has experienced impressive economic growth over the last decade (African Economic Outlook [AEO] 2015) as the government prioritizes economic growth through the extractive industries (Kirshner and Power 2015). Since 2008, multinational corporations have invested almost \$12 billion USD in mining infrastructure in Moatize District, leading some to refer to the region as Mozambique’s *El Dorado* (Mosca and Selemane 2011; Kirshner and Power 2015). In

Mozambique, local communities can petition the government for the exclusive right to land and resources, but under the National Land Law, the federal government has the authority to grant land use concessions to corporations as well. In Moatize, the national government has allocated nearly 75% of the district's land to multinational corporations for present or future resource extraction (Human Rights Watch [HRW] 2013). Moatize District has one of the largest coking coal reserves in the world (Curvilas et al. 2010). Reports indicate that there are at least 40 companies operating in Mozambique with a mining concession to extract coal, of which 95% are based in Tete Province (Hatton and Fardell 2012). To exercise mining concessions granted by the federal government, companies have resettled several villages, including the recent Benga project (Lillywhite et al. 2015) and the Bairro Chipanga resettlement.

Resettlement has a long history in Mozambique. Prior to independence, the Portuguese colonial government embarked upon a villagization program to solidify control over rural communities that the post-independence Frelimo government continued (Borges Coelho 1998). During the Mozambican civil war, the government relocated rural residents to villages as a means to enhance the protection of civilians (Lubkemann 2008). After the signing of the 1992 peace accords, many individuals returned to their original homesteads to escape the “concentration camps” of the communal villages (Borges Coelho 1998, 66). Today, resettlement continues to be a routine practice of the government: to mitigate risk following flooding (Stal 2011; Artur and Hilhorst 2012; Arnall et al. 2013), to promote conservation efforts (Milgroom and Spierenburg 2008; Witter 2010), and to permit mining companies to exercise mining concessions (Kirshner and Power 2015; Lillywhite 2015). While the

Resettlement Decree provides for compensation to address losses (Republic of Mozambique 2012), the Mozambican government fails to adequately compensate for the invisible losses experienced by resettled populations (Witter and Satterfield 2014), like the personal relationships people develop to specific places and the ability to (re)-create these in the post-resettlement landscape described in this paper.

3.2.3 The Bairro Chipanga resettlement²⁶

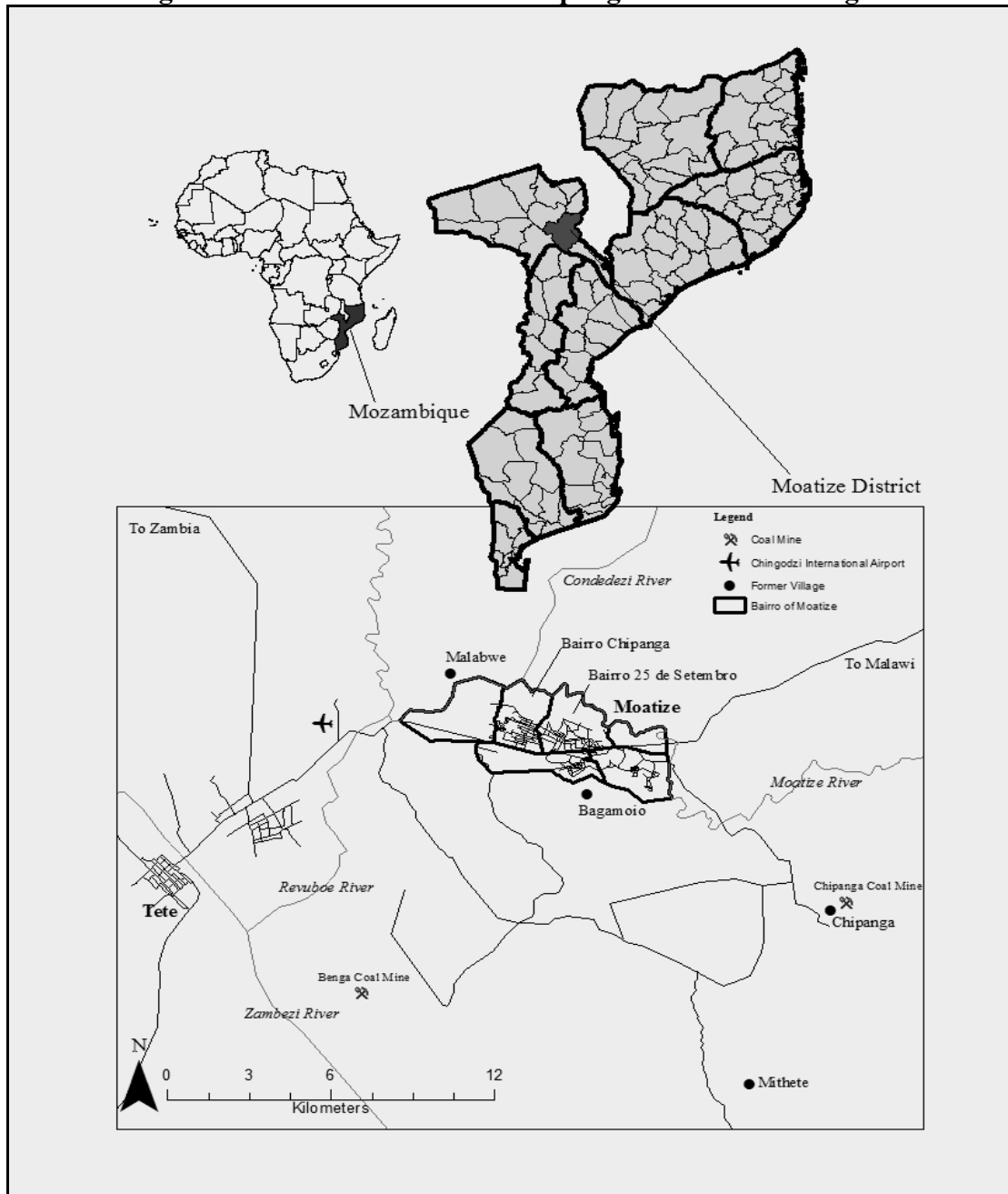
The Bairro Chipanga resettlement process assumed a top-down approach. Vale first applied to the Mozambican government for a mining concession under the provisions of Mozambique's Land Law (1 October, 19/97) and received a DUAT license to begin exploration of mining potential in the Moatize region. In early 2006, a Resettlement Commission comprising local and provincial government figures was created to monitor the resettlement of four villages in Moatize District by the Brazilian multinational company (Pedro 2011). The Resettlement Commission provided nominal supervision to the process but Vale largely conducted negotiations with village leaders who interacted on behalf of village residents. The government approved Vale's environmental impact assessment and resettlement action plan in 2007; construction on the Moatize open pit coal mine began in 2008 with resettlement of households in 2009 (HRW 2013).

Prior to the resettlement process, Vale made extensive site visits to the communities. During this time period, Vale engaged in a variety of activities to explain the purpose of the resettlement and gain community buy-in, both from the

²⁶ To avoid confusion between the pre-resettlement site and the post-resettlement site (both which share the name "Chipanga"), I use *former Chipanga* each time I refer to the pre-resettlement site and *Bairro Chipanga* each time I refer to the post-resettlement site.

community's local leadership and community members. These activities included three public hearings, 20 theater performances in the local language (Nyungue), 110 meetings with community leaders, and more than 4,900 home visits to families (Vale 2012).

Figure 3.1: Location of Bairro Chipanga and former villages



Source: Map created by author

Between 2009 and 2010, Vale resettled 1,365 households from Bagamoio, the former Chipanga, Malabwe, and Mithete (M. Neves 2012; see Figure 3.1). Remaining in the former villages was not possible; however, residents had several options available to them regarding the resettlement process. Official documents report that 106 households received assistance locating and purchasing a home somewhere other than the post-resettlement sites and a further 254 households received direct financial compensation for relocation elsewhere but no physical property and no relocation assistance (HRW 2013).

For those households that accepted resettlement to a site selected by Vale, the company used a livelihood-based process to determine which of two locations would be the ultimate destination. Households primarily engaging in crop farming for their livelihoods ($N=716$) were relocated to Cateme, a village approximately 40 km east of Moatize where Vale-based assessments had determined these households would have access to farmland. Another 289 households with economic ties to the market in Moatize were resettled to Unidade 6 of Bairro 25 de Setembro (i.e. Bairro Chipanga), a newly constructed urban neighborhood on the western edge of Moatize (HRW 2013). Families comprising the group resettled to Bairro Chipanga had worked as stone masons, brickmakers, mechanics, carpenters, electricians, and small-scale vendors (Selemane 2010).

Many residents in Bairro Chipanga described resettling as something they had no desire to actually do. This was echoed by the current traditional leaders in Bairro Chipanga who largely shared the viewpoints and complaints of the respondents I interviewed. During my fieldwork in Bairro Chipanga, it was impressed upon me that

there really had been little choice in the resettlement process and the resettlement design, even for the traditional leadership who were pressured to accept the move by members of the district and provincial governments (see Chapter 4 for more details). This does not mean that a select few in the former Chipanga's leadership did not benefit from the resettlement process. Like elsewhere in Mozambique (cf. Artur and Hilhorst 2014), village elites made initial gains in the post-resettlement site; however, it is important to note that the conditions that led to elite capture did not arise until after the resettlement process had concluded (see Section 3.4.1). Though these leaders had not "sold out" the village for personal gain—a sentiment expressed by the current leader of Bairro Chipanga—their actions post-resettlement were pivotal in allowing Vale to shirk its obligations to the post-resettlement community, including the verbal contract it had made with village residents who accepted the resettlement process.²⁷

Malabwe and Mithete were rural communities, and thus largely resettled to Cateme, while Bagamoio and the former Chipanga were peri-urban. Because Vale's mining concession did not cover most of Bagamoio, the neighborhood was not as impacted by the resettlement. Most of Bairro Chipanga's new families originated in the former Chipanga ($N = 65$, 86.7%), a village of the same name approximately 9 km southeast of central Moatize (Pedro 2011). Working with residents of Bairro Chipanga immediately upon the conclusion of the resettlement, Pedro captured critical demographic characteristics about the former villages. While every household living in Malabwe and Mithete belonged to the Nyungue ethnic group, 20% of the population in Bagamoio and 2% in the former Chipanga comprised another ethnicity.

²⁷ The content, context, and outcomes of this verbal contract is the subject of Chapter 4 of this dissertation.

These villages were patrilineal with traditional marriage practices, including polygamy. Wives in most polygamous households lived near their husband but on separate land plots with their own children. Households ranged in size from four to eight persons (Pedro 2011), with an average household size of 4.88 (M. Neves 2012). Residents of the former Chipanga had access to a health clinic, primary school, recreation field, various churches, a marketplace, and Belo Horizonte, a place for youth to gather at night to dance and drink (Pedro 2011; resident interviews, June 2015). Bagamoio residents primarily used the infrastructure available in Moatize as the neighborhood was close enough to access services, including a secondary school and hospital, in the district center.

Compensation for households resettled to Bairro Chipanga included a newly constructed cement house on a foundation with zinc-plated roofs (Gerety 2013). The houses were accompanied by an open-air kitchen, bathhouse and toilet facility, electricity, and piped water; larger families obtained a second house if they had adult children or extended family members in their household (Gerety 2013). Resettled families also received a document listing their name and house number linked to a formal document in the district administrative office in Moatize (pers. comm., 22 June 2015). Though not originally compensated for the loss of farming plots, Vale eventually agreed to provide additional payment in January 2014 because the former farming plots were too distant, upon resettlement, for many residents to continue farming (AllAfrica 2014).

Since the resettlement ended in August 2010, the population of the neighborhood has expanded.²⁸ New migrants have constructed houses on vacant lots within the bairro; many resettled residents have constructed additional houses behind their resettlement house and currently rent the resettlement house for income. This is especially prevalent among female-headed households (HRW 2013) with some female-headed households living in their kitchen with their children. Residents have made various improvements to their plots of land, including the construction of a fence/gate, barriers to keep out water, small vegetable gardens, informal shops (termed *banca*), and buildings to store maize. There are several churches and bars in the village, a large health clinic serving the greater Moatize area, and a plot of land exists where local children play soccer; however, despite Vale's promises, the streets are not paved, the streetlights do not work, and there is no marketplace, primary school, or formal recreation compound. A small training center, with a bird school where residents learn to care for poultry, exists in the center of the village, but during the six weeks spent in the village, it was rarely used.

3.3 Methods

This study employs a mixed methodology to examine how place attachment to the social landscape of Bairro Chipanga impacts whether or not a person is willing to move away from the post-resettlement site. At the present time, there are no plans to resettle this population to another site. Research was conducted during two separate

²⁸ I did not conduct a census of the entire neighborhood and government statistics do not exist; therefore, this study only describes characteristics of the sample population.

field visits between January and July 2015 with the majority of the time spent interviewing community members in June.

3.3.1 Data source and limitations

Imagery downloaded in April 2015 from Google Earth served as a base map of the neighborhood's housing structures verified during a field visit in May 2015. Initially, a map of the village was constructed using the housing unit numbers assigned by Vale and these numbers were entered into a spreadsheet from which every fourth household was selected starting with a random house number. The sampling frame consisted of the 289 households resettled to Bairro Chipanga, from which 75 households were selected randomly for inclusion in the study. The procedure for selecting these households was to select every fourth household. Due to time constraints for data collection, whenever a randomly selected household was unavailable, a neighboring household was interviewed after first confirming it was not part of the original sample. The household served as the unit of analysis in this paper because this is the scale at which decisions regarding the resettlement process and the likely chance the household would move away from the post-resettlement site would be made. One limitation to this approach was a restricted ability to analyze contrasting or confirming perspectives on the pre- and post-resettlement sites and the resettlement process among other members of the same household.

All surveys and interviews (see Appendix A for copies of instruments) were conducted by trained students from the Tete branch of the Universidade Pedagógica (UP) in the respondent's preferred language, either Portuguese or Nyungue (the local language), with either the male or female head-of-household. Interviewers visited

each household twice, first collecting information about place attachment to the former Chipanga and Bairro Chipanga, and then second collecting information on household demographic characteristics, perspectives on physical and social aspects of the pre- and post-resettlement sites, and viewpoints on the resettlement process and its outcomes.²⁹ The interviewee conceptualized household membership in his/her own terms, but typically this included all individuals living on the plot provided by Vale. Quantitative data were analyzed in StataSE 13.1 while qualitative data were analyzed using NVivo 10.2. Table 3.1 presents an overview of the population interviewed.

Table 3.1: Descriptive characteristics of the study sample

Characteristic, <i>n</i> =75	N	%	Mean	SD
Desire to move again (=yes)	31	45.6		
Employment status (=formal)	26	34.7		
Former village (=Chipanga)	65	86.7		
Gender (=female)	29	38.7		
Household size			7.3	2.9
Respondent age			43.9	12.0
Years of education			5.6	3.8

Source: Author's calculations.

Note: The variable representing the *desire to move again* was measured on a 5-point Likert Scale. Individuals responding "no opinion" were excluded from all analyses using this variable; total *N* for this variable was 68.

3.3.2 Survey instrument

The Place Attachment Inventory (PAI) measured place attachment using 15 items rated on a 5-point Likert scale (strongly disagree to strongly agree). The items described feelings towards the characteristics of the place, including relations with neighbors, feeling safe and secure, and long-term plans to live there. The items included on the PAI capture the purposes for which a person might establish place attachment outlined by Scannell and Gifford (2010a): five prompts reflect a sense of

²⁹ Ten households declined to participate in the second interview, resulting in an 88.2% (*N*=75) participation rate for both interviews.

security or safety, one prompt reflects the ability to achieve goals, and six prompts reflect the establishment of cultural continuity. Three prompts are general opinions about the site.

3.3.3 Examining place attachment

This paper examines place attachment to Bairro Chipanga using statistical testing of items on the PAI and content analysis of the interviews, interspersing the two as a means to triangulate information by using data collected via different approaches. It begins by recounting Bairro Chipanga's evolution into a distinct place derived from the many voices contributing to the narrative, including village residents and key informants. Next, it presents a descriptive overview of place attachment to Bairro Chipanga using the three reasons Scannell and Gifford (2010a) suggest individuals establish place attachment as an organizational tool. This is followed with a comparison of the individual items on the PAI (using difference of means t-tests) and interview text between the two groups: those willing and unwilling to move away from the post-resettlement site. All statistical tests performed during the analysis were conducted with a one-sided alpha level of 0.10.

Analysis of the interviews proceeded via a content analysis of the transcribed text. Following Miles and Huberman (1994), an initial set of codes related to the theme of each open-ended question (e.g. resettlement process, reason for resettlement, life in Bairro Chipanga, thoughts on the Bairro Chipanga name, risks in Bairro Chipanga, etc.) were created and the interviews discursively read to look at how these themes emerged in the context of the question asked and throughout the whole interview. After several rounds, a series of sub-codes emerged that linked to the three

reasons proposed for place attachment: security/safety, goal support, and cultural continuity (Scannell and Gifford 2010a). The cases exhibiting these sub-codes were analyzed using Excel, paying attention to specific words each population used to describe the phenomena at-hand (e.g. how a person willing to move away from the post-resettlement site talked about community composition). Finally, this was linked to text illustrating the statistically significant differences between the two groups on specific PAI prompts.

3.4 Results

3.4.1 Creating Bairro Chipanga³⁰

In Mozambique, some urban places, like Moatize, are *municípios* (municipalities) comprising several *bairros* (neighborhoods) separated into *unidades* (wards) governed by a traditional leader and further sub-divided into zones managed by a *secretário* (secretary). In conjunction with the government, Vale selected Bairro 25 de Setembro, an existing neighborhood in northwestern Moatize, as the neighborhood in which it would construct Unidade 6, the post-resettlement site. During the resettlement process, traditional leaders from the former Chipanga asked for the post-resettlement site to become an independent bairro; however, the then leader of Bairro 25 de Setembro, Edson, refused to permit a division of territory and declared the post-resettlement area would remain under his authority. His argument centered on the division of the population by Vale—some sent to Cateme, others to 25 de Setembro—

³⁰ Information in this section draws substantially on personal communication with key informants: the leader of Bairro Chipanga (26 June 2015); the traditional leader of the resettled group from Bagamoio (26 June 2015), the youth leader in Bairro Chipanga (28 June 2015), and the youth representative for Frelimo party in Moatize (22 June 2015). All names have been changed in this section.

that had reduced the area's population size below what he claimed could sustain a traditional bairro. Residents countered that their adoption of individuals from the three other resettled villages into the former Chipanga community addressed the loss of people to Cateme; however, Edson continued to refuse and the municipal leadership agreed. Though they continued to advocate for independence, individuals holding leadership roles in the former Chipanga assumed responsibility for managing the new unidade.

Almost immediately, a series of events resulted in rapid succession within the community's leadership. During the process of resettlement, the first traditional leader, Carlos, had constructed a home in another bairro of Moatize and began renting his resettlement house to another family. The community wanted their leader to live in the unidade, and so Joaquim (who had served as Carlos's vice-leader) assumed the role. Unfortunately, Joaquim sold the rights to build homes to in-migrants from outside the former villages on the land set aside for the school, recreation field, and marketplace. When the community appealed the sale—illegal in Mozambique—the municipal government pointed to documents bearing Joaquim's seal as traditional leader as evidence for the legality of the transaction. Community representatives asked Joaquim to return the money to the individuals building homes on community lands but he refused and was removed from his role as traditional leader. Meanwhile, the municipal government would not set aside additional space to build infrastructure and claimed the community could use the existing schools and marketplaces in Moatize.

In 2011, Edson died and Armando—who was much more sympathetic to the community’s request for independence—assumed the leadership role for Bairro 25 de Setembro. Additionally, as Moatize geared up for the 2013 municipal elections, the Frelimo candidate included the separation of Unidade 6 in his platform. These two events contributed to the 2015 decision to formally separate Unidade 6 from Bairro 25 de Setembro and rename it Bairro Chipanga. The new bairro, however, was much larger than the original resettlement site as rapid in-filling had occurred over the previous five years. Maria, who had been serving as the traditional leader of Unidade 6 following the ousting of Joaquim, assumed the leadership role for the new bairro.³¹ Speaking about the process, Maria told me: “We refused to be considered as a sub-area [to 25 de Setembro]. Why were they incorporating us into another village? Do [that village’s leaders] know our ancestor’s spirits?”

Table 3.2: Perspectives on renaming the resettlement site

Theme from Interview (n=75)	N	%
Bairro Chipanga name is important to me.	18	24.0
Bairro Chipanga was not my choice for name.	7	9.3
Changing name to Bairro Chipanga was a good idea.	31	41.3
I am aware of the name change.	59	78.7
I like the Bairro Chipanga name.	34	45.3
New name changes nothing about the bairro.	14	18.7
New name is not an official change.	8	10.7
The government decided to change name.	13	17.3

Source: Author's calculations.

Many residents in Bairro Chipanga spoke positively of the division of the bairro and the name change ($N = 31$, 41.3%), including those who were not resettled from the former Chipanga ($N = 3$, 30.0%). Surprisingly, concern over the name change emerged more from residents of the former Chipanga (Table 3.2). One

³¹ In Mozambique, new political subdivisions have to be approved by the national Assembly of the Republic. At the time of this research, Bairro Chipanga had received approval at the provincial level and was awaiting a decision by the federal government.

respondent who had been a traditional leader before resettlement had suggested an alternative name to the one selected.

Yes, [I suggested] Bairro Chipanga Nova [meaning “New Chipanga”]. The reason is that it is a new Chipanga, a Chipanga with a different vision, reality, and appearance. Why would we give it the same name? Chipanga is the village we left. Did they give it this name just because some people came from Chipanga? Are all the people from [the former] Chipanga village? To me, this idea wasn’t good. (#1001, 15 June 2015)

At a later point, he returned to the name, describing Bairro Chipanga as “now a mixture of different people. We find here Machuabo, Machangane tribe, and so forth...Do we have the same people with the same behaviors? ...When we call it [Bairro] Chipanga, it sounds as if everything in [the former] Chipanga is available here. I can’t go along with this idea” (#1001, 15 June 2015). Other respondents echoed the sentiment that the name insinuated an inappropriate comparison to the former village. “It is nonsense just to name it [Bairro] Chipanga while there is nothing good in here” (#1018, 11 June 2015). Another stated: “Nothing will be available here. They [the government] have only copied the name of our motherland” (#1022, 22 June 2015). One respondent suggested the government approved the name change solely to “comfort the villagers [even though] it will not help to minimize the problems. They can change the name, but if they don’t change their attitudes, nothing will help” (#1008, 15 June 2015).

3.4.2 Place attachment in changing social context

Given support for the name change, it is unsurprising that place attachment to Bairro Chipanga ($N = 75$, $M = 24.67$, $SD = 4.03$) was lower than the place attachment individuals expressed to their former villages ($N = 75$, $M = -3.19$, $SD = 10.72$), nor is

it surprising that this was statistically significant, $t(148) = 21.07, p < 0.001$. Despite this, some individuals stated they were unwilling to move away from the post-resettlement site if provided the opportunity. Tests for demographic differences employed a variety of statistical tests, but none of the tests expressed a statistical influence on being willing to move away from the post-resettlement site.³² What differed, though, was the strength of place attachment. Individuals willing to move away from the post-resettlement site ($N = 31, M = -6.32, SD = 10.47$) expressed much weaker place attachment to Bairro Chipanga than did those who were unwilling to move away ($N = 37, M = -1.03, SD = 10.46$), $t(66) = -2.079, p < 0.03$.

³² A complete list of variables tested with n -size, test statistic, and p values are available from the author upon request.

Table 3.3: Effect of being willing to move away from the post-resettlement site on agreement with the PAI prompts

Attachment to Bairro Chipanga	Willing to Move (n=31)		Unwilling to Move (n=37)		T	df	P
	Mean	SD	Mean	SD			
<i>Safety or Security</i>							
You can trust people in BC. ^a	3.06	1.53	2.92	1.32	0.42	66	0.662
There is mutual help in BC.	2.77	1.69	3.30	1.39	-1.40	66	0.083 †
BC has what I need to feed my family.	1.68	0.94	1.89	1.13	-0.84	66	0.202
I live among my extended family in BC.	2.77	1.73	3.41	1.54	-1.60	66	0.058 †
I feel safe in BC.	2.61	1.58	2.89	1.54	-0.73	66	0.233
<i>Goal Support</i>							
My children live better in BC.	2.13	1.12	2.78	1.16	-2.36	66	0.011*
<i>Cultural Continuity</i>							
I live with other Nyungue in BC.	2.83	1.34	3.32	1.55	-1.36	66	0.088 †
BC is my home.	3.26	1.32	3.43	1.19	-0.57	66	0.284
I advise my grandchildren live in BC.	2.42	1.29	3.27	1.17	-2.86	66	0.003**
There is a lot of jealousy in BC. ^b	3.03	1.45	2.76	1.23	0.85	66	0.200
We are a community in BC.	3.55	1.48	3.68	1.25	-0.38	66	0.351
I feel like an outsider in BC. ^b	2.45	1.52	3.22	1.67	-1.96	66	0.027*
<i>Feelings about Bairro Chipanga</i>							
I want to move to a place like BC.	1.94	1.00	2.08	1.09	-0.57	66	0.285
I like living in BC.	2.16	1.24	2.89	1.26	-2.39	66	0.010*
I am proud of BC.	2.00	0.97	2.14	1.18	-0.51	66	0.306

Source: Author's calculations. Significance: † p<0.10; * p<0.05; ** p<0.01

^a BC represents Bairro Chipanga.

^b This variable's coding was reversed during analysis.

The prompts displaying significance largely reflect the social environment in Bairro Chipanga (Table 3.3). Individuals willing to move away from the post-resettlement site expressed lower mean scores to two prompts in the safety and security group, both representing the ability to receive assistance from other residents should the need arise. Respondents talk of a decline in mutual help such that simple requests, like a bag of flour, are typically honored only in the event there is a funeral. “Here, people don’t help each other. If you have no salt at home, you will have food without salt” (#1023, 11 June 2015). When directly asked if she felt safe in Bairro Chipanga, one respondent referenced the division of families between the two resettlement sites: “We are totally split into halves here. Some of our family members were sent to Cateme [the other resettlement site]” (#1039, 10 June 2015). Another respondent spoke about village life changing because the population was separated. What had felt like one unified family no longer did: “People used to help one another and we lived as a family, but nowadays, our relationship in this new village has changed drastically. There is no more help and we live far from one another” (#1022, 22 June 2015).

More important though is the ability to relate to neighbors and community members on an interpersonal level, and this is lacking in Bairro Chipanga. The village no longer represents a cohesive social group as indicated by differences in agreement to prompts reflecting cultural continuity: “[In the former Chipanga], we respected each other because we were all Manyungue. We are mixed [ethnicities] here. There are Manyungue, Machangana, and Machewa in here. [Our village] was dispersed” (#1074, 19 June 2015). Later in the interview, she continues: “We don’t understand

one another [in Bairro Chipanga] because we are all mixed. I have different neighbors in here and they are totally strange to me.” Another respondent noted that the relationship between neighbors “is very bad. I used to have good neighbors in [the former] Chipanga but they were sent to Cateme. Now, I don’t trust [my neighbors because] we are all mixed here” (#1085, 27 June 2015).

Individuals willing to move away from the post-resettlement site suggest that non-ethnic Nyungue living in the village contribute to a variety of community problems. According to one respondent, “much attention is given to people from other regions, from the south [of Mozambique]. We are useless in here and have no jobs” (#1027, 10 June 2015). This respondent hints that the new-comers have stolen job opportunities away from residents of the former villages and their children. As a result of limited job opportunities, “some of the settled villagers let their houses and we don’t have good relationships with [the renters] because they are from Beira, and still others are of different origins” (#1079, 22 June 2015). These new-comers, as one respondent posited, are even posited as responsible for theft in the village. “The main risk we face in [Bairro Chipanga] is robbery. We are all mixed in this area. It’s impossible to know who does and doesn’t rob. We have never caught any thieves, but people have reported cases” (#1033, 16 June 2015).

In summary, place attachment declined following resettlement. Individuals willing to move away from the post-resettlement site exhibited lower place attachment than those who wanted to stay, and this difference emerged in an interesting pattern. Those prompts reflecting the social environment were rated much

lower among individuals willing to move away from the post-resettlement site. In the next section, I discuss the importance of these findings in the context of the literature.

3.5 Discussion

My findings indicate that social disarticulation driven by diversification of the neighborhood's population has hindered the development of place attachment in Bairro Chipanga. In the five years since resettlement, the social narrative (O'Neill 2007) that has emerged in Bairro Chipanga, contributing to its distinctiveness (Jones and Evans 2012), is the same social narrative that has threatened the ability for residents to develop place attachment to the new bairro. Almost from the beginning, the residents of Bairro Chipanga struggled with different actors threatening their identity as a cohesive group. They requested permission to construct an independent bairro where they could continue to manage their own affairs, in alignment with what Lestrelin (2011) observed, but the individuals in power denied the request. Vale's failure to provide promised infrastructure left vacant lots quickly sold by a corrupt leader using the community's frailty for personal gain, a situation that replicates the experience described by Patel et al. (2015) in India.

This back-and-forth engagement with the existing political structure has lasted for more than five years. In such a context, the naming of the bairro reflects something much larger than just a name. It is a reflection of the places of the village's past, a memory that captures the story of the people inhabiting the post-resettlement site as much as it identifies a unique place within a growing Moatize. As Baptista (2010) has described, it is often quite difficult to detach the name of the locale from the history of its people. Demands for independence of the bairro using the name

Bairro Chipanga reflect the intimate cultural heritage of the population settling there while simultaneously invoking memories of a former life. It is this latter point that serves to contextualize resident sentiments presented in Table 3.2. For some, the name conjures up images of a place to which they cannot return while for others it is inappropriate to name the bairro as such when the social identity is so clearly changing.

Not only is the in-migration of non-Nyungue into Bairro Chipanga evidence for why some residents struggle with the selected name, the changing social composition directly threatens the very identity of its resettled population in other ways. The quotes presented in this paper consistently reflect how greater ethnic diversity increased social disarticulation. The inability for residents in Bairro Chipanga to report positive relationships with their neighbors has contributed directly to the weaker place attachment expressed among individuals willing to move away from the post-resettlement site. These findings are consistent with the literature that explores the relationship between place attachment and social composition (Billig and Churchman 2003; Brown et al. 2004; Putnam 2007; Stolle et al. 2008; Greif 2009). These studies found, as I did in Bairro Chipanga, that an ability to relate to the conditions of one's social environment develops more rapidly in homogeneous contexts. In this manner, findings from this case study support those discussed by Cheah et al. (2011) and Putro (2012).

Were this influx of individuals a one-time experience, these findings might not reflect so many willing to move away from the post-resettlement site; however, the continued influx of new-comers has led to a multi-ethnic community consistent

with changes in the larger region. Moatize's population is growing, and finding that the resettlement site experienced an influx of new residents following the conclusion of the resettlement process comports with observations made by Kirshner and Power (2015). But, the residents of Bairro Chipanga, are neither concerned with nor consoled by the fact that the urban transformation occurring in their neighborhood is indicative of broader trends in the developing world (Cohen 2006). With the exclusion of Mithete, the former villages were all located close enough to Moatize that it is highly likely they would have become contiguous with the urban agglomeration forming in the region in the near future. Many residents in Bairro Chipanga had already had economic ties to Moatize prior to resettlement, a primary factor in Vale's decision to resettle them to this location and not to Cateme. Growing diversity in Moatize through urbanization and urban expansion is not disconcerting on its own, but when combined with a resettlement, the outcomes perfectly reflect the risk of social disarticulation encapsulated in Cernea's (2000) IRR model.

Even though Bairro Chipanga's physical environment fails to meet the basic needs of its residents (i.e. food security, access to water, safety/security, see Kellerman 2014), it is the failure of the social environment that truly underpins the differences between those willing to move away from the post-resettlement site and those who are not. Lalli (1992) and Woldoff (2002) would not be surprised by these findings, as they suggest, and this study confirms, that a sense of community is a prerequisite to the establishment of place attachment, which is itself a statistically significant difference between the two groups in this case. In other studies of resettled populations, the communities were resettled as cohesive units, and thus, as reported

by Lestrelin (2011) and Rogers and Wang (2006), the post-resettlement site actually resulted in a reconstruction of pre-resettlement social geography and a rearticulation of social relationships. Unlike those findings, though, the residents of Bairro Chipanga neither reconstructed the community's social geography nor rearticulated pre-resettlement social norms. Both were impossible given Vale's decision to resettle some of the residents to Bairro Chipanga and others to Cateme. This supports findings by Hemer (2015) that dividing communities during the resettlement process leads to even greater social disarticulation than would exist were the community resettled as a whole. In these interviews, residents spoke both of the loss of family members through the resettlement process as well as the loss of their community, depicted, in a sense, as a metaphorical family.

While my findings should not be interpreted to suggest the physical environment is unimportant to the creation of place attachment, I would strongly suggest that the social environment is highly formative in this process, and perhaps even more important. This makes sense if we accept Burley's (2007) premise that the physical environment is merely an extension of the social environment. It appears, then, that the driving force behind wanting to move again is predicated upon whether or not the individuals have successfully established a meaningful relationship to the social environment.

3.6 Conclusions

As the case study of Bairro Chipanga illustrates, place attachment decreases following resettlement and remains low for some time following conclusion of the resettlement process. Though there is reason to believe that the residents of Bairro

Chipanga will eventually form place attachment to the post-resettlement site, given that five years had already elapsed when this research was conducted, these findings suggest that this process is lengthy. When the resettled population faces a rapidly changing social environment in the post-resettlement site, as Bairro Chipanga did, the potential exists for the post-resettlement site to fail to provide the characteristics necessary for the resettled population to form place attachment. Ultimately, these individuals may consider moving away from the post-resettlement site. This has implications for the long-term stability of resettled communities the world over.

Although finding that place attachment declined is not surprising, this is not often discussed in the literature. What little discussion exists regarding the formation of place attachment in the post-resettlement site focuses on social disarticulation arising from the resettlement and community structures before and after the resettlement is completed (cf. Rogers and Wang 2006; Lestrelin 2011). Previous studies have focused on topics other than how changes manifest in the attachment individuals express to the post-resettlement site. This study not only addressed this gap, but went one step further. By asking a resettled population whether they would move again or not, it provides insight into how place attachment might influence decisions to support resettlement programs in general. Future studies will want to take a look at how varying degrees of place attachment influence support, and if there is a threshold at which an individual will switch from being an opponent of resettlement to a supporter.

The results offer some insight into the practice of resettlement and the experiences of resettled populations. Even though the Bairro Chipanga resettlement

resulted in negative outcomes for many respondents, this case study presents information on what drives individuals to want to move away from the post-resettlement site, and this directly informs our understanding of how or why someone might support a resettlement plan. The social context is important and social cohesion enhances feelings of attachment; therefore, perhaps individuals support resettlement plans that offer a perceived opportunity to maintain and/or grow a sense of cultural continuity. It would certainly suggest that individuals might offer greater resistance to those plans that seek to divide communities rather than permit them to remain cohesive entities. For individuals planning resettlement in other places, this study showcases the importance of promoting resettlements that encourage the reconstruction of pre-resettlement social geographies in the post-resettlement site.

In summary, the findings illustrate that it is not necessarily the physical environment that leads an individual to want to move, but rather the social environment. Resettlement action plans must consider more than re-creating a resettled population's physical environment in the post-resettlement site if they hope for the resettlement to have lasting, positive effects for the resettled population. They need to manage social change in the resettlement process and the post-resettlement site. Therefore, in the context of resettlement plans, making decisions about the conditions of the post-resettlement site is not as simple a matter as measuring the size of a household's machamba or counting the number of rooms in their house and then ensuring these same conditions exist in the post-resettlement site. Rather, policy makers must derive measures reflecting how resettlement will impact the short- and long-term social environment if a resettlement plan is to truly succeed.

Chapter 4: Resettlement's impact on aspirations and community goals in a developing world context

4.1 Introduction

Resettlement affects nearly 15 million people annually (Bugalski and Pred 2013) as states build large infrastructure projects, attempt to mitigate environmental risks, engage in activities to enhance development, enact nature conservation projects, and extract natural resources. Research has shown that a variety of factors influence the decision to accept and/or support resettlement, including the ability to fulfill specific goals (e.g. Rashid et al. 2007; Nyametso 2012). While researchers have studied which factors motivate support for resettlement, few studies have investigated what goals resettled populations have once the resettlement process has finished and how those goals link to broader aspirations. One reason to study this relationship is to learn how the potential opportunity for a person to fulfill their aspirations might influence decisions to resist or support resettlement programs.

To explore the link between community goals/aspirations and decisions to support resettlement, I interviewed residents of a recently resettled community in Moatize, Mozambique about their lives before and after the resettlement, including thoughts on benefits, losses, risks, and needs in the post-resettlement community, as well as whether or not they would accept another resettlement were it offered to them. Through a mixed methods evaluation of residents' responses, this study addresses one primary research question: *How does the resettlement process influence the type of goals and aspirations a resettled population forms in the post-resettlement*

community? Answering this question entails a two-prong approach: (a) evaluating semi-structured interviews for the number, type, context, and relationships between community goals, and (b) evaluating the impact each goal has on being willing to move away from the post-resettlement site.

This paper is divided into several parts. It begins with an overview of aspirations—where they come from and influences on their development—before transitioning to the possible outcomes of resettlement and how those outcomes might link to aspirations. The first part concludes with an overview of life in the post-resettlement study site of Bairro Chipanga. The second part describes the data collection procedure, the cultural context of the study population, and methods used to assess the study’s research question. The third part presents the results, focusing first on what goals the community shares and then on how that translates into the impact of resettlement on the goal profile. It concludes with future directions for research and offers suggestions for how policy-makers, specifically those designing resettlement action plans (RAPs), might use these findings to improve resettlement outcomes.

4.2 Literature review

4.2.1 Nature of aspirations

Aspirations are often described as an individual’s vision of “how [they] want to be in the future” (Nathan 2005, 36) that go far beyond an ordinary, everyday desire (Conradie 2013). In this way, aspirations are quite unlike goals, which serve largely

as an instrumental, step-by-step means for a person to achieve broader aspirations.³³

For example, advocating for the construction of a school and the hiring of a teacher would serve as the instrumental means by which an individual might realize the aspiration to educate one's children.³⁴

Aspirations form “in the thick of social life” (Appadurai 2013, 187), influenced by a variety of factors (Ray 2006). As such, one's aspirations are always context dependent and influenced by social conditions and cultural beliefs (Conradie and Robeyns 2013). Therefore, where one lives sets the context for the type of aspirations they may ultimately form. This is understandable because notions of what comprises a good life are, as Appadurai (2013) notes:

Part of some sort of system of ideas...that locates them in a larger map of local ideas and beliefs about: life and death, the nature of worldly possessions, the significance of material assets over social relations, the relative illusion of social permanence for a society, and the value of peace or warfare. (187)

To this end, then, it is possible to view aspirations as a reflection of the desires not just of an individual, but of the community in which that individual lives, as this study does. Aspirations provide clues to the cultural values shared by a community and its combined hopes for the future. This does not mean that the actions a person takes to fulfill their aspirations represent exclusively community efforts. In fact, the fulfillment of aspirations is still largely an individual effort. Perhaps, it is even

³³ In the economics literature, aspirations are discussed as choices or preferences influencing decisions made by individuals facing alternatives (Nathan 2005). It is important to note, though, that aspirations differ significantly from economic preferences in a variety of ways. They are wishes for the future rather than present choices, a socially derived hope rather than an individual desire, and represent multi-faceted and dynamic dreams rather than a narrow set of pre-defined outcomes (Conradie and Robeyns 2013).

³⁴ As this example points out, then, aspirations are not entirely within the grasp of the person who has them. There is a strong sense of hope—embodied in the Latin *sperare* from which the word originates—that an individual might achieve their aspiration(s), but no guarantee; therefore, the chance that a person may be unable to fulfill their aspirations does exist (Conradie and Robeyns 2013).

possible to suggest that the aspirational profile describes the hopes and dreams some community members seek to fulfill so strongly that they might be willing to view resettlement as an opportunity to fulfill those aspirations.

Though there are few examples of this in the literature, those that exist provide evidence for the belief that individuals may support resettlement as a means to fulfill their aspirations. In Laos, High (2008) credited the aspiration to modernize for why some accepted the terms of a resettlement. In Japan, following a natural disaster, Iuchi (2010) attributed the aspiration for an urban lifestyle for why several temporarily relocated residents opted to move to urban centers rather than return to their village. In both cases, impoverished and marginalized community members supported the resettlement as a means to enact a change in the context of their daily lives. Residents recognized resettlement as a risk, but a risk that could potentially lead to a better future. These findings suggest that resettlement offers a window of opportunity to overcome the limitations poverty and marginalization place upon the fulfillment of aspirations.

As aspirations arise from the social context in which one lives, changing conditions can influence the aspirations a person has, and in this sense, aspirations are dynamic rather than static hopes for the future (Chan et al. 2002; Knight and Gunatilaka 2012). The presence of female leaders in rural Indian villages erased the gender gap present in female aspirations about education (Beaman et al. 2012). In central Mozambique, encouraging agricultural skills among youth repositioned perspectives on farming from that of a survival strategy to something that could serve as a professional career (Müller 2010). In these two cases, as experiences and

opportunities in the community changed, individuals adapted their aspirations in response, aspiring to loftier and broader futures than had existed prior. This is because positive examples help to close what Ray (2002) terms an aspirations gap—the difference between one’s current perceived quality of living and that quality of living to which the person aspires. If it is possible for one person to realize a better life, then it is also possible for others as well. Thus, the successes of one person can percolate throughout a community and lead to greater success among the community at large if individuals are able to realize their aspirations.

The desire to fulfill one’s aspirations can be a powerful, motivating force (Bernard and Tafesse 2014), but an individual must believe the aspiration is attainable in order to harness that potential. Sometimes, the investment needed to close an aspiration gap is beyond the means of the person (e.g. when adding another bedroom to the house would mean buying bricks instead of food). Sometimes, the gain is not enough to offset the investment needed to acquire the gain (e.g. finishing a technical training program when no jobs exist for graduates). Sometimes, the person lacks the conditions to effect any change (e.g. when a woman has an idea for a business that would increase her income but lives in a conservative, male-dominated society). In all these circumstances, Ray (2002) suggests, the individual fails to act to close their aspirations gap and may become dissatisfied, what he terms an aspirations failure (Ray 2006). This is important because present conditions contextualize an individual’s satisfaction with the quality of life possible in that environment (Das 2008) as well as what they might consider to be necessary for happiness (Clark and Qizilbash 2008). When individuals feel like they cannot fulfill their aspirations, or

that there is no benefit to doing so, it is quite possible that a “culture of apathy [will] develop when freedom to choose has been eliminated” (Douglas 2004, 107). Thus, as Ray’s (2002) work shows, having the will to fulfill an aspiration is not enough; the means must also be present (Fischer 2014).

One potential way for an individual who feels unable to fulfill their aspirations is to support resettlement. As so little literature exists linking the desire to fulfill aspirations with support for resettlement projects, a gap this paper directly addresses, I turn briefly to the relationship between aspirations and migration to illustrate the potential role aspirations might play in decisions to move from one place to another. Migration is a voluntary decision with a variety of choices reserved for the individual making the decision to migrate; this is in stark contrast to government resettlement in which very little choice, if any, exists. Despite this, migration studies offer some insight into the link between aspirations and support for resettlement. Blacklock et al. (2014) observed that migration of African healthcare workers is driven, in part, by the conviction that they will be able to realize their goals. Schultz (2014) described displaced South Sudanese as hesitant to take a chance on repatriation because they could not foresee a better life. Education plays a prominent role in decisions to migrate as more educated individuals can better envision the benefits post-migration (Docquier et al. 2014). The aspiration for education can itself be a powerful motivator in the migration decision (Boyden 2013) as can the aspiration for employment (Blacklock et al. 2014). In these cases, migration was used as a means to fulfill an aspiration or avoided when the individual believed they were unlikely to fulfill their aspiration for a better life post-migration.

The link between migration and aspirations has implications for support of resettlement programs. For individuals who do not have the means to fulfill their aspirations or for individuals living in communities where the fulfillment of their aspirations is unlikely, resettlement may present the opportunity to realize aspirations. For example, an individual may aspire to a better future that includes education for their children and access to quality healthcare, yet the village where they live does not have a secondary school or clinic; if a resettlement program promises relocation to a place with a school and clinic, the individual may choose to accept the resettlement as a means to fulfill this aspiration, especially if they consider it unlikely their village will get a secondary school or clinic in the near future. Likewise, an individual who has the aspirations for technical training and formal employment, and who would invest in technical training were there jobs available, might support a resettlement that relocates them to a place where it is possible to both receive that training and find employment afterwards, thus permitting them to close their aspiration gap. The examples presented regarding the link between aspirations and migration show that individuals use migration to fulfill their aspirations elsewhere; therefore, there is reason to believe that the type of aspirations a person has may impact their desire to take advantage of the potential opportunities presented by resettlement. This is despite outcomes that could leave the person more impoverished. The next section highlights a few of those outcomes.

4.2.2 Potential outcomes of resettlement

Research has found that resettlement can result in a variety of negative outcomes. In China, Wilmsen et al. (2011) found near uniform decreases in farm incomes

following resettlement, leaving resettled households more vulnerable to external shocks than they were before resettlement. Resettlement can dismantle social support networks (Zhang et al. 2013) and negatively impact the mental health of the resettled population (Cao, Hwang, and Xi 2012). In Mozambique, resettlement has limited or reduced the number of families who owned cattle, a symbol of cultural and economic capital (Arnall et al. 2013). Artur and Hilhorst (2014) observed the coalescence of capital, prime land, and social power among wealthier households and chiefs in response to Mozambique's attempts to mitigate flood risk in the Zambezi Valley through resettlement. Thus, one way to summarize these diverse findings, as Cernea (2000) has concluded, is to suggest that the most widespread outcome of resettlement is impoverishment.

Cernea's (2000) Impoverishment, Risks, and Reconstruction (IRR) Model³⁵ synthesizes the various risks that together contribute to the potential impoverishment facing resettled populations. These risks are landlessness, joblessness, homelessness, marginalization, increased morbidity and mortality, food insecurity, loss of access to community assets and services, and social disarticulation. Of these, landlessness is perhaps the most significant negative outcome of resettlement because of its impact on the others (Xue et al. 2015). Across Africa, an agricultural ethos persists (Gaibazzi 2013) that becomes virtually impossible to fulfill when resettlement renders the population landless. In resettlement induced by mining operations, like the present

³⁵ IRR also proposes targeted reconstruction strategies to mitigate those risks. Cernea's (2000) IRR model is one of the first to propose that only providing monetary compensation to resettling populations is insufficient to prevent the risks of impoverishment. Additionally, resettlement planners often offer incomplete compensation that fails to capture the ways residents interact with their environment. For example, Witter and Satterfield (2014) found that the resettlement action plan created during the establishment of Mozambique's Limpopo National Park only compensated residents for trees planted in their yards and not for the very important bush trees used for ceremonial purposes.

study, residents anticipate employment in the company displacing them, but there are rarely enough jobs available to employ everyone who had formerly worked as agricultural laborers (Terminski 2012). Physical places serve as the sites of intangible memories (Trigg 2012), and thus, resettlement can prompt feelings of loss or homelessness even when populations are provided homes.

Resettlement need not always be negative though. Rogers and Wang (2006) found that resettled populations can strengthen social network bonds post-resettlement and maintain a sense of community. Resettlement from rural areas can reduce poverty (Xue et al. 2013) and improve access to services (Petit 2008; Chatterjee 2009). One potentially positive outcome of resettlement missing from the literature and directly addressed by this study is its potential to create the conditions in which an individual might increase their aspirations. Marginalization negatively impacts the ability to form aspirations because individuals typically only aspire to realize a future they can see as possible (Sen 1999). Greater experiences with the world beyond one's local environment can increase the capacity to aspire and the aspirations people may have (Kosec et al. 2012; Hyll and Schneider 2013). Therefore, populations resettled from rural or quasi-rural areas to urban ones—as occurred in this case study—might also experience greater interactions with others as well as observe ways of living to which they were previously unexposed. It is possible these types of environmental changes might induce them to reevaluate their aspirations. It is also possible that resettlement could provide the confidence individuals need to affirm they can start over in a new location and become agents capable of realizing their aspirations.

4.2.3 The case of the resettlement to Bairro Chipanga³⁶

In Mozambique, the population remains highly impoverished according to both economic and human development indicators (United Nations 2014; World Bank 2015). This is despite the quite remarkable growth occurring from rapid expansion of foreign investment in the extractive industries (African Economic Outlook 2015), like that occurring in Tete Province's Moatize District (Kirshner and Power 2015). In this remote region of western Mozambique, the government has granted mining concessions to nearly 40 international coal mining companies (Hatton and Fardell 2012) representing over 75% of the available land (Human Rights Watch [HRW] 2013). In 2006, to begin extracting the coal in the Moatize region, the local and provincial governments formed a Resettlement Commission to monitor Brazilian-based Vale's resettlement of four villages (Pedro 2011). Construction on the open-pit mine began in 2008 with household resettlement commencing in 2009 (HRW 2013).

When resettlement concluded in 2010, Vale had resettled 1,365 households from Bagamoio, the former Chipanga, Malabwe, and Mithete (M. Neves 2012; see Figure 4.1). Vale made resettlement decisions based upon the livelihood practiced by the family in the former villages and the presence of market ties to the district administrative center, Moatize³⁷ (HRW 2013). Prior to resettlement, those individuals

³⁶ The residents have struggled since resettlement to establish an independent neighborhood in Moatize under this name. In Mozambique, new political subdivisions have to be approved by the national government. As of June 2015, formal approval awaited a decision by the Assembly of the Republic. The push to become an independent bairro included struggles with existing leadership both within and outside the resettled population. Leadership has changed several times since resettlement (pers. comm., 22 June 2015).

³⁷ A second resettlement site, Cateme, was constructed approximately 40 km east of Moatize. Residents resettled there were primarily farmers. As reported by the residents of Bairro Chipanga, the decision to accept a resettlement home in one of the post-resettlement villages (either Cateme or Bairro Chipanga) was optional; however, individuals could not choose between the two sites and it was not possible to refuse resettlement.

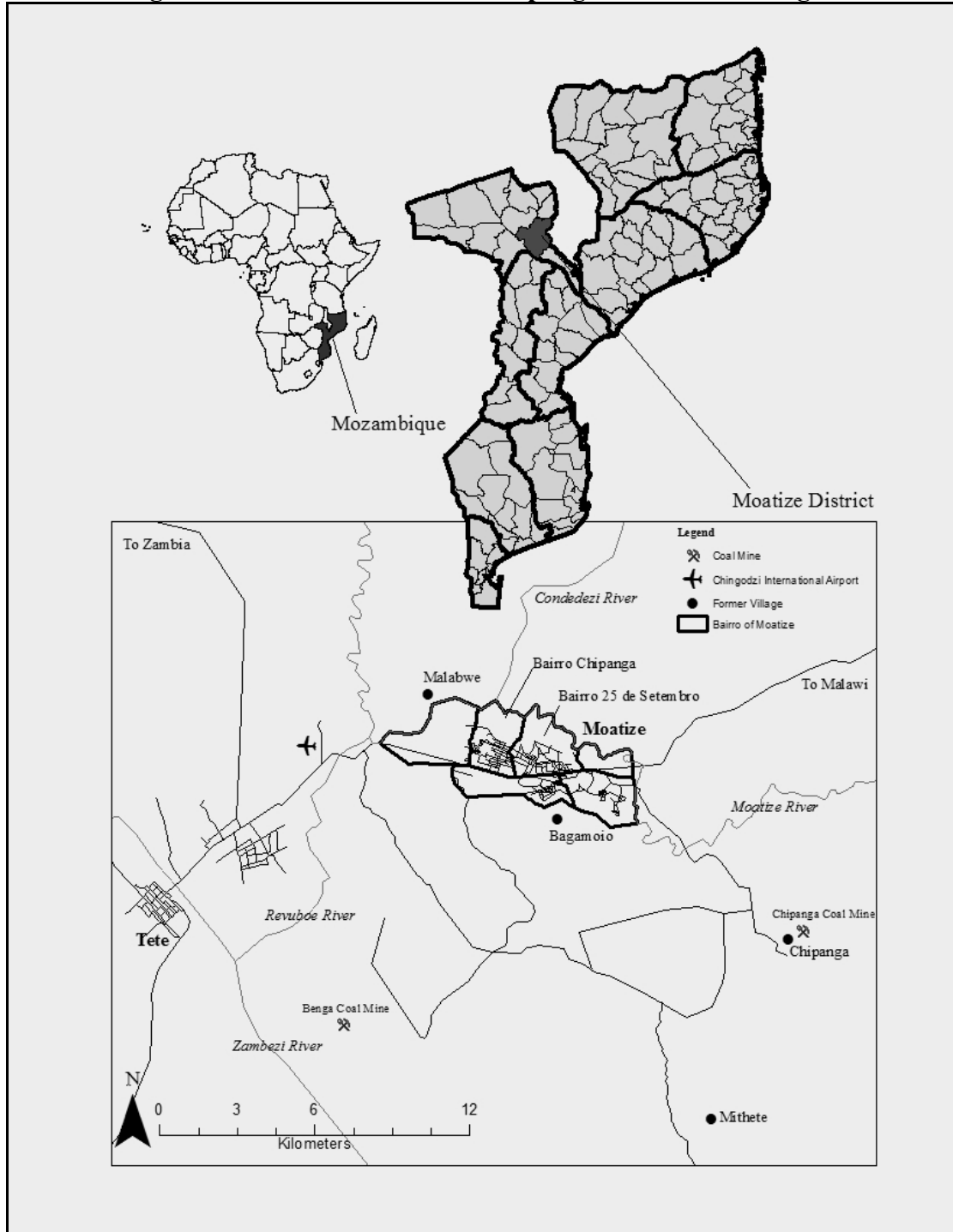
resettled to Bairro Chipanga had worked as stone masons, brickmakers, mechanics, carpenters, electricians, and small-scale vendors (Selemane 2010). According to Vale, resettlement was voluntary, and official documents report that 106 households received assistance locating and purchasing a home outside the resettlement village with a further 254 households provided financial compensation but no physical property (HRW 2013). For those who opted to resettle to Bairro Chipanga, compensation included a newly constructed cement house on a foundation with zinc-plated roofs (Gerety 2013). Each household also received an open-air kitchen, bathhouse and toilet facility, connection to the electrical grid, and piped water available via a faucet in the front yard; larger families received a second house if they had extended family members or adult children living with them at the time of resettlement (Gerety 2013). Those households resettled to Bairro Chipanga were not originally compensated for the loss of farming plots; however, many residents found the farming plots were too distant to continue using and Vale agreed to pay additional compensation (AllAfrica 2014).

Since resettlement concluded, the neighborhood's population has expanded rapidly as new migrants have constructed houses on vacant lots within the neighborhood and at its edges.³⁸ Many resettled residents have constructed larger cement or brick houses behind their resettlement house and currently rent the resettlement house for additional income (HRW 2013). Residents have made various improvements to their plots of land, including the construction of a fence/gate,

³⁸ The rapid increase in population size is consistent with urbanization trends across Sub-Saharan Africa (Cohen 2006). Cohen's findings show that small and mid-size cities, like Moatize, are likely to experience a greater percentage increase in population in comparison to large urban centers on the continent.

barriers to keep out water, small vegetable gardens, small roadside businesses, and buildings to store maize. Several churches and bars dot the neighborhood and a new restaurant has opened at the neighborhood's southwestern edge. Additionally, despite Vale's promises—as shared with me by residents—the streets are not paved and there is not a police sub-station in the area.

Figure 4.1: Location of Bairro Chipanga and former villages



Source: Map by author

4.3 Methods

4.3.1 Data source and limitations

Imagery downloaded in April 2015 from Google Earth served as a base map of the neighborhood's housing structures verified during a field visit in May 2015. Initially, a map of the village was constructed using the housing unit numbers assigned by Vale and these numbers were entered into a spreadsheet from which every fourth household was selected starting with a random house number. The sampling frame consisted of the 289 households resettled to Bairro Chipanga, from which 75 households were selected randomly for inclusion in the study. The procedure for selecting these households was to randomly select every fourth household. Due to time constraints for data collection, whenever a randomly selected household was unavailable, a neighboring household was interviewed after first confirming it was not part of the original sample.

All surveys and interviews (see Appendix A for copies of instruments) were conducted by trained students from the Tete branch of the Universidade Pedagógica (UP) in the respondent's preferred language, either Portuguese or Nyungue (the local language), with either the male or female head-of-household. Interviewers visited each household twice, first collecting information about place attachment to the former Chipanga and Bairro Chipanga, and then second collecting information on household demographic characteristics, perspectives on physical and social aspects of the pre- and post-resettlement sites, and viewpoints on the resettlement process and

its outcomes.³⁹ The interviewee conceptualized household membership in his/her own terms, but typically this included all individuals living on the plot provided by Vale. Quantitative data were analyzed in StataSE 13.1 while qualitative data were analyzed using NVivo 10.2.

In this chapter, the community served as the unit of analysis given the important influence of one's surroundings as they form aspirations. As a reflection of shared cultural values, aspirations then are not simply individual hopes and dreams. As described in the literature review, they are a reflection of wider social and cultural norms within a community (Appadurai 2013). While describing aspirations at the community scale is an appropriate reflection on important influences in their formation, it does limit the comparisons that can be made between cases within Bairro Chipanga. Though I mention this here as a limitation, the data does exist to perform such an analysis; however, the chapter's research question specifically focuses on the emergence of aspirations in a resettled population, and not among individuals. Additionally, survey questions did not directly ask respondents about their aspirations. Rather, as described below, they emerged from qualitative analysis of transcribed interview text. This approach is actually preferable when trying to collect aspirations from an impoverished population, as Appadurai (2013) notes specifically that poverty constricts the ability to articulate one's aspirations for the future. By indirectly capturing aspirations, residents talked about familiar topics and issues of importance to them without the pressure to construct a list for the

³⁹ Ten households declined to participate in the second interview, resulting in an 88.2% ($N=75$) participation rate for both interviews.

interviewers. This eased the interview process and permitted the collection of richer data.⁴⁰

4.3.2 Study population

Tete Province is the historical and cultural home of the Nyungue, a Bantu people sharing a distant cultural past with the Chewa of neighboring Malawi and the Sena of the lower Zambezi Valley. Historically, the Nyungue are farmers who grow crops along the banks of seasonally flooded rivers feeding the Zambezi; they also maintain small herds of cattle (Livingstone 1857), more commonly used today as a form of backup capital during economic down-turns. Though a patrilineal population, Lucas (2011) describes many traditional rituals of the Nyungue people as requiring close attention to pleasing female elders. This is especially true in social institutions, like courtship, marriage, and family relations. A godmother-of-sorts guides young girls through these life milestones and serves as the medium through which young men select a bride and ultimately prove they have the requisite maturity, strength, and knowledge to marry and start a family. Lucas (2011) writes that the Nyungue do not initiate boys into adulthood via rituals but rather accept that the transition can only occur when a boy has gained the requisite skills and knowledge to build a home, clear the bush, and plant a machamba. The residents of the case study site continue to practice traditional forms of marriage, including polygamy; wives in most polygamous households live near their husband but on separate land plots with their

⁴⁰ During the pilot study conducted in January 2015, I directly asked individuals to list those things that would lead to a better life. Every participant in the pilot study, when asked to comment on the questionnaire, indicated they had struggled to respond to the question because they did not know what to say. Thus, I chose an indirect method to capture aspirations during the field campaign.

own children (Pedro 2011). Table 4.1 describes additional demographic characteristics of the study population resettled to Bairro Chipanga.

Table 4.1: Descriptive characteristics of the study sample

Characteristic, <i>n</i> =75	N	%	Mean	SD
Desire to move again (=yes)	31	45.6		
Employment status (=formal)	26	34.7		
Former village (=Chipanga)	65	86.7		
Gender (=female)	29	38.7		
Household size			7.3	2.9
Respondent age			43.9	12.0
Years of education			5.6	3.8

Source: Author's calculations.

Note: The variable representing the *desire to move again* was measured on a 5-point Likert Scale. Individuals responding "no opinion" were excluded from all analyses using this variable. Total *N* for this variable was 68.

4.3.3 Developing and analyzing the profile of community-wide goals

The list of goals emerged from a content analysis of the interviews. By reading with Appadurai's (2013) and Nathan's (2005) definitions of aspirations in mind, I analyzed the interview text using Strauss and Corbin's (1998) approach. I first coded text describing those things the population expected to have in Bairro Chipanga as well as those things the population wished to achieve in the future. These segments of text represented specific goals shared by community members. This process was iterative and resulted in several readings of the interviews to ensure consistency in the coding structure. Finally, I grouped these codes into five broader themes. These themes emerged from similarities in the coded text guided by observations I made about community wants and desires while conducting field research.

To reduce the list of goals developed during the content analysis to a smaller set sharing an underlying relationship, I used Mokken scale analysis (MSA). MSA is a statistical procedure used to assess if a set of items share an underlying association (Abanes 2014). Those items that do not share an association drop out during the

analysis.⁴¹ In this study, I performed MSA on each theme to identify which goals not only shared a qualitative association with the others in its theme but also a quantitative one.⁴² Such a process is critical to mixed methods research because it allows for data triangulation that “looks for convergence among multiple and different sources of information to form themes or categories in a study” (Creswell and Miller 2000, 126). I compared the interview text of this refined profile to assess the impact of resettlement on community-wide goals and the aspiration for a better future.

4.3.4 Exploring the effect of individual goals on the desire to move again

The possibility that resettlement could lead to the conditions necessary to fulfill goals or realize one’s aspirations might prompt an individual to choose resettlement over resistance. In resettled populations, an individual who is unable to fulfill goals in the post-resettlement site may choose to leave, if the means to do so are present, and take a chance elsewhere. This desire to move away from the resettlement community could be a reflection of dissatisfaction with the results of the resettlement or with something about the resettlement community, the manifestation of a perceived opportunity to fulfill aspirations elsewhere, or, perhaps most likely, a combination of

⁴¹ An automated item selection procedure (AISP) selected items to include in the MSA results by using the ratio between expected and observed Guttman errors. When a case expressed a less common goal but not a more common one in the same thematic group, it produced a Guttman error. As the number of errors increased, the probability that it fit with the others declined. Subtracting the ratio of observed to expected Guttman errors from one resulted in Loevinger’s H coefficient of homogeneity (Hardouin et al. 2011). Goals with an $H_j \geq 0.5$ indicated strong association with the others in the group, but an $H_j \geq 0.3$ was necessary for inclusion (Mokken 1971). The AISP dropped all items not meeting this threshold. The algorithm also produced a z-statistic for use in significance testing.

⁴² This is not to imbue the quantitative approach with the capacity to “validate” the qualitative. In fact, in this case, running the MSA on the goals prior to organizing them into themes based on their qualitative content, failed to produce any intelligible results. The MSA was only able to discern patterns once an initial qualitative assessment had organized the data. In this way, both methods worked together to produce the final thematic groupings of community-wide goals.

the two. To determine which goals impacted the desire to move again, and by how much, I conducted a logistic regression of each goal (coded 0 = not present; 1 = present) on the desire to move again. Cramer's V provided a measure of association between these two variables to determine the strength of the relationship. I used Goodman and Kruskal's lambda (λ) to capture how much of an increase in predicting a respondent's willingness to move away from the post-resettlement site was gained by knowing if they expressed a particular goal. Knowing how likely a person is to remain in the post-resettlement site provides an indication of how stable that community is as well as how movement decisions play a role in the desire to fulfill aspirations.

4.4 Results

4.4.1 Profiling the goals and aspirations of the post-resettlement community

An inductive reading of the interview text resulted in 24 goals grouped into five themes (Table 4.2)⁴³ that included broad desires for diversified income opportunities, adequate land access, improved community infrastructure, enhanced safety, and more harmonious community dynamics. Though each theme represented between three and seven individual goals, at the aggregate level, these themes primarily reflect the goals residents seek to fulfill as a means to rectify the short-comings in the resettlement process. Through my formal interviews and informal conversations with community members, local leaders, and key informants, it was impressed upon me that Vale had made a number of promises to the communities prior to the resettlement process that

⁴³ Two of the initial goals derived from the interviews did not fit within the thematic structure and were eliminated from inclusion in the goal profile.

had since failed to materialize. As one resident clearly described: “Something went wrong when the company moved us. They promised to give us a good life, good houses, and everything. I have a son who had a small house but the company didn’t give him anything. He lost everything” (#1082, 26 June 2015).

Table 4.2: Themes derived from the interview text

Interview themes, <i>n</i> =75	N	%
Theme 1: Diversified Income Opportunities		
Acquire a formal job	43	57.3
Generate income from rental property ^a	2	2.7
Obtain skill training ^a	3	4.0
Realize promises made prior to resettlement	19	25.3
Receive fair compensation for resettlement	52	69.3
Start a business ^a	13	17.3
Theme 2: Adequate Land Access		
Acquire more land	10	13.3
Gain access to forest/bush resources ^{a, b}	21	28.0
Increase livestock holdings ^{a, b}	6	8.0
Receive a machamba (farm) ^{a, b}	37	49.3
Theme 3: Improved Community Infrastructure		
Build local primary school ^b	27	36.0
Build local recreation center (football field) ^b	16	21.3
Establish marketplace ^b	11	14.7
Improve local transportation ^a	8	10.7
Improve quality of community clinic	10	13.3
Increase reliability of electricity generation	8	10.7
Increase reliability of water distribution	41	54.7
Theme 4: Enhanced Safety		
Feel safe at home and on streets ^b	25	33.3
Make repairs to house	39	52.0
Reduce public health risks	6	8.0
Repair non-functioning streetlights ^a	15	20.0
Theme 5: More Harmonious Community Dynamics		
Adopt a new name for <i>bairro</i> ^a	7	9.3
Elect a new community leader ^a	4	5.3
Increase opportunity for shared decision-making ^a	2	2.6

Source: Author’s calculations.

Notes: a This goal represents something that emerged following the conclusion of the resettlement process that was not promised to happen by Vale and its staff conducting the resettlement. b This goal represents the desire to acquire something that was lost through the resettlement process.

These promises ranged from formal employment in Vale’s operations to improved community sanitation and hygiene to modernized housing infrastructure, among other things. As the resettlement from the former villages to Bairro Chipanga

was, for all practical purposes, involuntary, residents looked to these promises of community development and the realization of “a good life” as fair and just compensation for their forced removal from their homelands.

The wrong thing that Vale did is that during the surveys and data collection the company had promised the villagers something and later on the company failed to accomplish it. They promised a lot of things in order to move the people from their home villages. ... One example is the lack of a school in this settlement camp. They truly said they would give us a school here, but we have no school. (#1033, 16 June 2015)

They didn't employ us. They emphasized that if we would accept being moved from our village, we would be employed and earn a salary forever. (#1030, 16 June 2015).

What went wrong? [Vale] was wrong in the procedures it used during the resettlement. They promised the villagers that they would give them a good and different life in [Bairro Chipanga] and everyone knew this. But when we came to this real place, it is totally different. (#1001, 15 June 2015)

Given the way that residents spoke about the interactions they had with Vale prior to resettlement, it is not at all unreasonable to characterize the promised school, health clinic, recreation field, streetlights, modernized housing, water and electricity access, and other goals listed in Table 4.2 as expectations the community had regarding the outcomes of the resettlement that remain unrealized following the conclusion of the resettlement process. In fact, 13 goals (54.2%) reflect promises made by Vale prior to the resettlement process that have not materialized in the new village. “The process of resettlement wasn't well conducted since the first day until now. The staff in charge of the process failed to satisfy their promises. They gave us nothing” (#1018, 11 June 2015). Of the remaining 11 goals (45.8%), seven of them (63.6%) reflect the losses experienced by the resettled individuals (e.g. receive a

machamba) that they hope to recapture at some point in the future. Thus, it is fair to say that the types of goals present in Bairro Chipanga following the conclusion of resettlement largely represent the desire to fix the short-comings of the resettlement process. In the next few pages, I explore the details associated with each thematic group.

4.4.1.1 Diversified income opportunities

Given low formal employment (see Table 4.1), it is not surprising that residents have sought ways to diversify income opportunities to overcome the lack of formal jobs in the community despite Vale's promises to the contrary. More than half of the village has built housing structures in the back yards of their resettlement plot and approximately one-third rent the resettlement house to recent migrants from as far away as neighboring Zimbabwe.⁴⁴ As explained by one respondent: "When someone rents my house, I get money from them. We buy food with the money we receive" (#1069, 15 June 2015). Throughout the village at least one in three houses sold a variety of goods at small, roadside stands (termed a *banca*), including items as diverse as onions, dehydrated instant soy products, and laundry detergent. The most successful households built infrastructure to support their businesses. In these households, not only did they sell goods at their banca, but also served alcohol, played music, had coin-operated lottery machines, and set up tables and chairs to sit. One resident ran a carpentry business on the resettlement plot while another had used the space adjacent to the house to construct a coop for 200-plus chickens. At one

⁴⁴ This household is particularly memorable to me because it was the only interview screening conducted in English. While being a non-resettled resident disqualified her for participation, her presence in the village illustrates the diversity of ethnic groups now residing among what was previously a primarily homogeneous population.

resettled household, the family had not only enclosed their plot with a brick fence (a sign of relative wealth in Bairro Chipanga), but also built a banca with a variety of goods for sale and sold fried bread rolled in sugar on the village's streets.

More than anything else, though, residents simply want what they were promised to receive as part of the resettlement process. This sentiment emerged in one-quarter of the interview texts, but heavily permeated the impromptu conversations with village residents when the recorders were not turned on. Most memorably, residents readily and eagerly listed items they had been promised by Vale in order to relocate. After about three weeks, residents who had not been selected for the sample started approaching the research team on the street to insist their list of concerns with the resettlement be recorded; unfortunately, while we listened respectfully to everyone's concerns, study limitations prevented us from formally interviewing the entire community.

4.4.1.2 Adequate land access

Official compensation included a house, kitchen, and bathroom facility, but no land to grow crops (Gerety 2013); thus, it was not surprising that nearly half of the respondents expressed the goal to *receive a machamba*, especially since so many had farmed at least one hectare prior to resettlement ($N = 71$). These individuals largely spoke of machambas as a means to achieve food security: "We don't farm [in Bairro Chipanga], which I consider to be an affliction. [...] We have to buy food in order to feed our families, but we used to farm in the former Chipanga village" (#1020, 11 June 2015). Making the transition from growing crops and gathering firewood to paying cash for household food and energy supplies was hard for this population

because “Most of the time we collected firewood from the closest forest. We used firewood for cooking. We never bought any firewood, but in [Bairro Chipanga], life is different. We buy most of the products we use at home” (#1025, 13 June 2015).

At first glance then, it would appear that Vale’s initial assessment of livelihood strategies was flawed, and, in fact, far more individuals had relied on bush resources and farming crops than the company’s economic assessment suggested. This is especially troubling given that official resettlement documents reported that residents were only resettled to Bairro Chipanga if they primarily engaged in non-farming economic activities. A more nuanced approach though must also consider the cultural values of the Nyungue people. The primary means by which a boy transitions into adulthood is to clear land, plant a machamba, and build a house; only then can he be ready for marriage and family life (Lucas 2011). Therefore, the desire for a machamba is a reflection of more than just food security. It is also a representation of important transitions in the lives of Nyungue youth. Cultural values also help to contextualize the desire for adequate land access to build houses. One respondent stated: “There is not enough space for my teen to build his own house. The plot they gave us is also small” (#1016, 22 June 2015). By providing such small land plots, the resettlement has simultaneously failed to take into account what would happen when children grew up and wanted to start their own families as well as provided barriers for youth to pass through a key transition in Nyungue culture.

4.4.1.3 Improved community infrastructure

Most residents resettled from the former Chipanga village where they enjoyed access to a health clinic, primary school, and local marketplace,⁴⁵ of which only the health clinic exists in Bairro Chipanga. Neighborhood children must travel on foot to a primary school about 5 km from the neighborhood. While the school's distance is not unusual for Mozambique, most residents had access to a local primary school prior to resettlement. This situation is complicated by the fact that Vale and the local government have refused to correct non-functioning streetlights despite school ending after sunset. "We want the school and football ground in [Bairro Chipanga]. It is dangerous to let children walk to a school far from the village" (#1078, 19 June 2015). Residents also report that the clinic, while located in the village, is of low quality in comparison to what they lost via resettlement. "When we go to the hospital, they take too long to assist us. Sometimes the queue at the hospital is so long that the patients suffer a lot. One day a patient might die waiting in the queue" (#1021, 12 June 2015). Even attempts to purchase daily food supplies is problematic. The marketplace is only 3.5 km distant, but none of the residents interviewed owned a car. Informal transportation enterprises operated in the village but their use cost approximately 20 meticaís round-trip and therefore were too expensive for residents to use. "The market is far from the village. We have to pay a fare in order to buy something at the market" (#1044, 12 June 2015).

⁴⁵ It might seem like the goal to *establish a marketplace* belongs in the first group; however, the presence of this goal is not really a reflection of the marketplace as a location to sell goods in order to increase incomes. Adding *establish a marketplace* in the statistical analysis for the first theme does not change the results. The AISP drops *establish a marketplace* from the final grouping and there is no impact on the order or significance of the other goals.

The lack of promised infrastructure, especially the school and market, or the failure to provide infrastructure of high quality, embodied in perceptions of the health clinic, represent some of the most significant impacts on the futures of these residents. Some residents pay people to escort their young daughters to school while others have had to make educational trade-offs, like keeping children out-of-school, following resettlement. This has consequences that undermine any successes gained through resettlement, and more importantly, position the community's children for failure in the long-term as they are even less likely to attain a job without at least a primary education. Access to the market was another reminder that the residents had integrated into a cash-based society that had not fully permeated the former villages despite the growth of the Moatize area over the past decade. "Here, life is different. You have to pay some money for everything you do. No money, no life" (#1008, 15 June 2015). This last sentiment perfectly describes the core of the issues associated with Vale's relocation. Residents faced impoverishing conditions through the resettlement, and without formal employment or machambas, lack the resources to provide for everyday necessities.

4.4.1.4 Enhanced safety

Vale's short-comings in the resettlement process manifest in the goals comprising the fourth group as well. This group indicates a desire to address safety concerns in the community, focusing on several key risks: presence of raw sewage in the streets, potential for disease from over-crowding, build-up of trash on the sides of the streets, and the danger from motorists and pedestrians using the same areas for transit. The number of residents discussing these health risks may be small, but they reflect health

problems facing the neighborhood. The bathroom facilities were constructed without any plan for the removal of human waste so it flows from each house and out to the main street. I visited several households where children were collecting *maçanica*, a small fruit similar to an apple, from the ground adjacent to a shallow ditch draining the raw sewage from the household's back yard. As one respondent explained perfectly:

We see water flowing from the toilets and the bathrooms of neighbors through their yard and producing a bad smell. As you can see over there, the water is coming from that toilet. Our children are playing around here and they touch the [raw sewage]. It is not safe. They were supposed to make a sewer in order to drain the waste. (#1001, 15 June 2015)

Despite the improvements gained through resettlement (e.g. cement house, piped water, bathroom and shower facility, external kitchen facility), this group of goals reflects an overall decline in living standards that highlight the failure of promises made by Vale. Only 25.3% of the population lived in the prototypical houses common in rural areas of Tete Province⁴⁶ prior to resettlement, so for these few residents, the resettlement offered an improvement in housing conditions: “The villagers were persuaded when they heard that some houses were available for everyone in [Bairro Chipanga]. The people who had a small house in the former Chipanga village were ready because they wanted to have a brick house” (#1053, 18 June 2015). Though these residents ($N = 19$) benefitted from the provision of new housing, many more have arguably suffered, perhaps best embodied in the problems associated with the poorly constructed houses. “During the rainy season, all of the

⁴⁶ In Tete Province, rural populations construct houses comprised primarily of dried mud and thatch using the wattle and daub technique. Typically, these houses are roofed with dried reeds (Pedro 2011), a fitting composition given that *tete*, or *mithete*, means “reed” in the Nyungue language.

villagers become scared because of the cracks in our houses. We never know if the walls will fall down and kill us. We are in danger” (#1013, 11 June 2015). From the first day of interviews, residents pointed out the cracks in their houses’ walls and eroding foundations (Figure 4.2); some residents—once they saw I had a camera—even implored me to take photographs to document the dangers they faced in these houses. When combined with the health risks posed by raw sewage and piles of trash, not to mention the dangerous conditions brought about by a lack of functioning streetlights, Vale’s ironically named *casa melhorada* (improved house) has done little to improve the living standards of residents, even for those who had lived in grass houses prior to the move.

Figure 4.2: Eroding house foundation in Bairro Chipanga



Photo credit: Author

4.4.1.5 More harmonious community dynamics

Vale’s resettlement of the villages also altered community dynamics and relations.

Following resettlement, the traditional leadership was subsumed under the leadership

of the neighborhood into which the resettled population was originally joined. Only after a five-year struggle did the neighborhood acquire permission to form an independent bairro in Moatize. The goals comprising this group largely reflect the power struggle over maintaining an independent identity for the community following resettlement: “We would like the name of our former village, Chipanga. We never had a formal discussion about changing the name of the bairro, but we all want the name to be changed. We want to call it [Bairro] Chipanga” (#1039, 10 June 2015). For a minority of the population, this struggle has influenced perceptions of the local leader. “There is no coordination between the leaders and the community. Some of them didn’t report the villagers’ problems to Vale or the government. They ignored our worries” (#1085, 27 June 2015).

To seek a better future, residents need to feel like they have power over their own destinies. The push for a name that reflects who they are—resettled residents of the former Chipanga village—is a fundamental means to set the context in which that will arise. The number of residents expressing this goal (as reported in Table 4.2) makes it seem as if there were only a few residents who supported such a vision; however, most residents spoke not of this as a goal for the future, but as an already accomplished feat simply awaiting the official blessing of the national government. Even though the resettlement changed many features of daily life for these residents, it could not fundamentally change how they saw themselves. Still, the community’s leaders have continued to underwhelm some residents of the village and their lack of communication contributes to the on-going struggles between the village, Vale, and the government.

4.4.1.6 Profile of community goals following resettlement

The community's goals represent five distinct, but related, groups that highlight precisely how Vale failed the community. Residents of Bairro Chipanga seek opportunities to diversify their incomes because Vale has failed to provide employment in its coal mining operations though many residents had expected otherwise. Included in the desire to diversify is a persistent yearning for land for a machamba. The emergence of a cash-based society, including the need to pay for water and electricity, has increased food insecurity, and residents worry they will not be able to move beyond this "affliction" and support their families. More importantly, though, land scarcity also means the Nyungue of Bairro Chipanga cannot enact cultural relationships between the land and their identity, of which the necessity to plant a machamba is a large part.

Residents in Bairro Chipanga desire the infrastructure that they were promised by Vale, but what really makes this problematic is not that they did not receive what Vale promised—as so many things were promised and not delivered—but that they had had these things in their former village. Thus, the desire for a school, marketplace, and improved clinic represent a failure of Vale's promises and a decline in overall community livability. Complicating this latter point is an increase in unsafe conditions, both on the street and in the house, that have resulted in residents making additional trade-offs, like not sending children, especially their daughters, to school, that will only further exacerbate the short-comings of the resettlement by negatively impacting future generations.

Finally, the resettlement cost the residents more than a loss in farmland, a school, and feeling safe at home; it also cost them their identity. The five-year struggle they have waged to regain that identity, embodied by their push for political independence, has resulted in frustration with the local leadership and continues to impact visions of the future. In essence, even though the resettlement process may have improved the lives of a few residents, it has harmed far more. Goals are typically instrumental means to achieve a better future, but in the case of Bairro Chipanga, they are more accurately a reflection of the community's backward slide rather than a reflection of positive forward-driven momentum.

Table 4.3: Mokken scale analysis (MSA) results

Goals by theme, $n=75$	Mean $P(X_j=1)$	Observed Guttman Errors	Expected Guttman Errors	Loevinger H	Z- statistic
Theme 1: Diversified Income Opportunities					
Realize promises made prior to resettlement	0.25	8	13.44	0.40	3.15***
Start a business	0.17	8	13.84	0.55	3.51***
Obtain skill training	0.04	3	6.64	0.55	3.56***
Generate income from rental property	0.03	1	5.07	0.80	4.75***
<i>Scale</i>		10	19.49	0.49	4.89***
Theme 2: Adequate Land Access					
Receive a <i>machamba</i> (farm)	0.49	4	10.64	0.62	3.39***
Gain access to forest/bush resources	0.28	4	10.64	0.62	3.39***
<i>Scale</i>		8	21.28	0.62	3.39***
Theme 3: Improved Community Infrastructure					
Build local primary school	0.36	4	13.44	0.70	4.60***
Establish marketplace	0.15	7	15.57	0.55	4.73***
Improve quality of community clinic	0.13	5	14.93	0.66	5.62***
<i>Scale</i>		8	21.97	0.64	6.06***
Theme 4: Enhanced Safety					
<i>Personal safety</i>					
Feel safe at home and on streets	0.33	5	10.00	0.50	3.04**
Repair non-functioning streetlights	0.20	5	10.00	0.50	3.04**
<i>Scale</i>		5	10.00	0.50	3.04**
<i>Risks from poorly built structures</i>					
Make repairs to house	0.52	1	2.88	0.65	1.59
Reduce public health risks	0.08	1	2.88	0.65	1.59
<i>Scale</i>		1	2.88	0.65	1.59
Theme 5: More Harmonious Community Dynamics					
Adopt a new name for <i>bairro</i>	0.09	2	3.63	0.45	2.85**
Elect a new community leader	0.05	2	3.63	0.46	2.85**
<i>Scale</i>		2	3.63	0.45	2.85**

Source: Author's calculations.

Significance: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Assessing the thematic groups using MSA to determine underlying statistical associations in addition to qualitative associations strengthens the compelling story underlying the profile of post-resettlement goals. The results presented in Table 4.3 illustrate the 15 goals that remained following completion of the MSA. Of the 15 goals included in the profile following the MSA, the majority ($N = 12$, 80.0%) of them express the community's desire to rectify short-comings of the resettlement process; however, this assessment is too simplistic given the content analysis and my field observations. These 12 goals are not just a desire to rectify short-comings of a failed resettlement. Considered together, they manifest as the aspiration for social justice.⁴⁷

Discussions of Vale's actions throughout the resettlement process indicate feelings of injustice. In the context of this dissertation, *injustice* describes the complaints of the community and the general sense of dissatisfaction held by community members, which specifically manifests as the failure, on Vale's behalf, to provide promised infrastructure and employment. In the words of one respondent: "I think Vale should give us the things they promised. We have the right to something for being moved from our land. We ask for justice. They didn't give us what they promised. We are still waiting for that" (#1034, 17 June 2015). Though this particular respondent directly calls for justice, not all residents used that exact phrase. Most

⁴⁷ Another way to interpret these goals is to see their fulfillment as leading to the conditions necessary to construct livelihoods in Bairro Chipanga. In this sense, they intersect quite nicely with the five capitals model sometimes used to assess if conditions (or, more appropriately, assets) are present and accessible to community members whose access would lead to the development of a more sustainable livelihood (Bebbington 1999): human (e.g. educational opportunities), produced (e.g. infrastructure, like the clinic), social (e.g. community homogeneity and new leader), cultural (e.g. changing name of the post-resettlement site), and natural (e.g. land for a machamba or forest/bush resources).

spoke of broken promises or suffering caused by Vale. Regardless of the specific phrase used, though, it is clear that Vale violated the oral agreement it had made with the community prior to initiating the resettlement process. This sentiment resonates throughout the interviews, and for good reason. Vale had characterized the outcomes of the resettlement in specific enough a way that residents were fair to believe they would get the things Vale had described in the pre-resettlement negotiations. As they have failed to materialize in the post-resettlement community, it is not surprising, as reported in Table 4.2, that the majority of the community seeks fair compensation for resettlement and a realization of the promises Vale made prior to the process. Another respondent summed up how respondents feel about the way Vale's promises manifested in Bairro Chipanga:

We were not supposed to suffer the way we are. We have been forced to leave our homeland and we have rights to be well-served in this settlement camp. This isn't the kind of life we expected to have. They are making us suffer a lot. (#1037, 16 June 2015)

4.4.2 Influence of resettlement on the community's hopes for the future

Despite the community-wide aspiration for social justice, residents of Bairro Chipanga have adopted perspectives indicating they believe this aspiration to be largely impossible to fulfill in the present context. The continued focus throughout the interviews on the short-comings of the resettlement process paints a picture of failure on Vale's behalf, but also a pervasive sense of dissatisfaction with resettlement outcomes and the potential for a community disengaged from its own future development. Amidst this story of anger, frustration, and distrust, though, also

emerged a large number of voices indicating they would consider moving away from Bairro Chipanga and starting over if the opportunity presented itself.

4.4.2.1 Post-resettlement as disengagement: The failure of aspirations

For some residents, the resettlement process began with potential. As already described, Vale promised many things to convince the community to resettle to Bairro Chipanga, including improvements in the community's development status; however, these improvements never occurred. In Bairro Chipanga, memories of the resettlement process are tinged with anger and frustration. In the words of the respondents, Vale's intentions were not just to improve the development of the villagers but an open attempt to exploit the people and the land.

[Vale] said they wanted to exploit the coal under our village. They said [the resettlement] would develop our country and the village in particular. But we don't see the development they told us. They are still exploiting the coal under our village, but there isn't any development [in Bairro Chipanga]. Where is the development they told us about? (#1017, 12 June 2015)

It was fine to resettle us in order to exploit the village but Vale's mistake was to fail to fulfill its promises. The villagers are eager to see what they've been promised. (#1008, 15 June 2015)

When asked how to fix the problems associated with the resettlement, many residents appeared to have nothing to say. During the interviews, I noticed that residents would list what was wrong with Bairro Chipanga (e.g. no school, malfunctioning streetlights, no machambas), but they had far more difficulty articulating how to resolve those issues. At least, this is what happened in the initial interviews. As my time working in the village progressed, and the residents began to recognize the research team, residents—even those not selected for participation in

the study—approached us to lodge their concerns with the government.

Unfortunately, I discovered that many residents had conflated the promises made by Vale with the responsibilities of the government towards the resettled group; it was not uncommon for residents to say “the government” needs to build a school or repair the streetlights when pressed on how to improve conditions in Bairro Chipanga, even though these were clearly Vale’s responsibilities under the terms of the resettlement. “I would only suggest that the government give me everything of my own here. They have to create all the conditions for a good life” (#1036, 9 June 2015).

In terms of accountability, the residents had moved beyond expecting Vale to provide fair compensation for their losses incurred in the resettlement process. They also had stopped believing Vale would ever honor its side of the agreement, especially in providing neighborhood infrastructure. The residents of Bairro Chipanga still want what was promised, but the failure for Vale to be responsive has led some to adopt an almost “*why bother?*” attitude with respect to future improvements. “We asked for a football ground but [Vale] didn’t give it to us. Why would we ask for this a second time if the first time it was not satisfied?” (#1082, 26 June 2015). Another respondent mentioned that they have tried to hold Vale accountable regarding the streetlights, but “They only promise to come and replace bulbs. They don’t [do it]” (#1011, 17 June 2015).

It is no surprise that residents have turned to the government and feel this way about Vale. To encourage the villagers to resettle, Vale engaged the local and provincial governments. Several residents expressed the sentiment that a representative from the provincial government, some even referring directly to the

governor, had told the village it was “making feces on top of money”⁴⁸ (#1005, 11 June 2015) and needed to resettle in order for progress to occur. Other residents described visits from the district chairperson and other government representatives, so many so that “it became obvious that people had to leave the land” (#1085, 27 June 2015).

The role of the government in the resettlement process provides context for a Nyungue proverb shared with me as a means to describe why residents did not fight the resettlement and why this continues in Bairro Chipanga. *What the tall person hung up, the short one cannot take down*. Many residents of Bairro Chipanga have conflated Vale with the government, but even if they had not, both would still represent the proverbial tall person. In this way, the residents of Bairro Chipanga have become “short people,” incapable of effecting changes to their future. It is difficult for many residents to foresee a better life, regardless of what they do, so why should they even bother. In Bairro Chipanga, the unmet expectations, failed promises, unjust and exploitative treatment, and continued dismissal of villager requests for improvement had led many to admit defeat and disengage from the quest for a better future. The presence of goals is a reminder of the failures of the resettlement process and not the hope for the future embodied by a person’s aspirations. In response to what the government could fix, one resident summed it up by saying: “There is nothing new we can expect” (#1028, 9 June 2015).

⁴⁸ This was not an isolated comment. Five residents (6.7%) used this exact phrasing, though coal and money were interchangeable.

4.4.2.2 Post-resettlement as opportunity: The power of aspirations

Not all residents maintained such a negative perspective about the future, even though that future was not necessarily to be had in Bairro Chipanga. As reported in Table 4.1, 31 residents (45.6%) indicated they would be willing to move away from the post-resettlement site were the opportunity presented to them. Of the 24 goals that emerged from the content analysis, four of them exerted a significant influence on the desire to move away from Bairro Chipanga (Table 4.4).⁴⁹ Odds ratios for these four goals suggest that the mere expression of each was enough to increase the likelihood a person would also express the desire to move away by at least two times and as much as almost five times. Knowing someone expressed these goals improved the ability to predict their desire to move away from Bairro Chipanga by as much as almost 23%. With the exclusion of the goal to *build local recreation center*, these goals also remained following the MSA procedure, implying there is something deeply important about these three specific goals in the realization of the aspiration for a better future.

Table 4.4: Effects of specific goals on the desire to move away from Bairro Chipanga (logit)

Variable, <i>n</i> =68	Odds Ratio	Cramer's V	Lambda (λ)
Build local primary school	2.92**	0.25	0.194
Build local recreation center	4.54**	0.30	0.226
Receive a machamba	2.32**	0.21	0.129
Receive fair compensation for resettlement	2.53*	0.20	0.065

Source: Author's calculations.

Significance: * $p < 0.10$; ** $p < 0.05$

Note: Only those aspirations for which a significant effect existed are reported in this table. Outcomes of all tests are available from the author upon request.

⁴⁹ There is a need for caution in interpreting the results presented in Table 4.4. Logistic regressions performed on small samples (<100 cases), as is true here, have the potential to mask a small sample bias due to the presentation of plausible results. Long (1997) advises against using a logistic model when the sample size falls below 100, but Nemes et al. (2009) believe this recommendation is study specific and Bergtold et al. (2011) have found evidence to suggest sample size may not be as important as previously thought.

The goals to *build a local primary school* and to *build a local recreation center* must be considered as linked to one another despite the fact that the latter dropped out during the MSA.⁵⁰ Both represent the physical infrastructure that would improve the day-to-day lives of the community's children. Without these facilities, Bairro Chipanga's children's futures are at risk. This is true in terms of the trade-offs made by some families because of the distance of the school: "My children have quit school because of the distance. It's too far from here to the school" (#1027, 10 June 2015). It is also true in terms of the fear some fathers have over the distance young girls have to walk, sometimes at night, to receive an education.

Like the primary school, the recreation center constructed by Vale is also several kilometers from the center of Bairro Chipanga, making it difficult for many young children to use it; however, the distance is not the only limitation of the recreation center. The field constructed by Vale in Moatize is for professional leagues and not everyday use. There is an informal plot in Bairro Chipanga used by neighborhood children, but it is not much more than a few haphazardly constructed goal posts and an ungraded dirt lot (Figure 4.3). Given the results presented in Table 4.4, it would appear that the goal to *build a local recreation center* is the most important factor influencing a willingness to move away from the post-resettlement site. While this may be true, I believe that this goal is not just a reflection of the desire for a formal recreation center. Field observations suggest that this site represents a location for community interaction that is missing post-resettlement as the community's population continues to diversify (see Chapter 3). It is also a reminder

⁵⁰ These two goals express a strong statistical association to one another (Cramer's $V = 0.50$) suggesting they are linked to one another in some way.

of what the community has lost through the resettlement as the former Chipanga contained a recreation center and a reminder that the community's initial leaders profited from the sale of the land in the early days following the conclusion of the resettlement. Most importantly, it is a symbol of the injustice of the resettlement, as it reflects not just a failed promise, but also the failed attempts on behalf of community members to hold Vale accountable.

Figure 4.3: Neighborhood children playing football in vacant lot

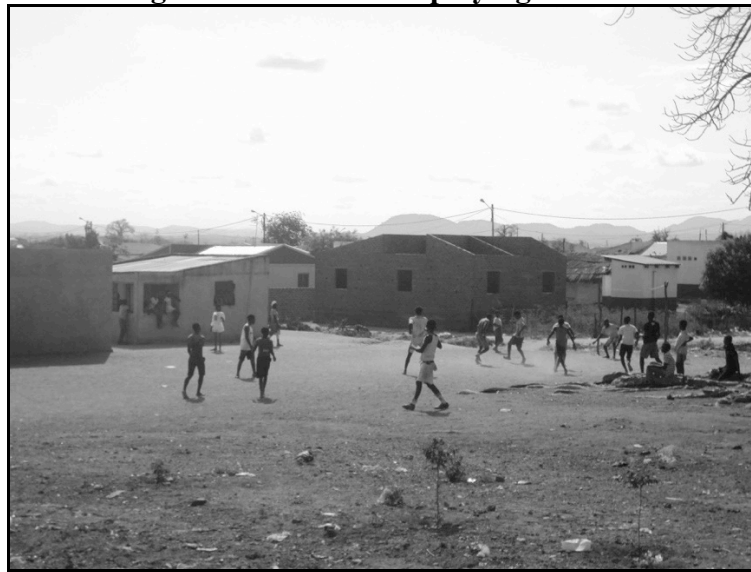


Photo credit: Author

Given the multi-faceted importance of a *machamba*, it is not at all surprising that the goal to *receive a machamba* is included in the list of goals which might drive someone to seek a better future outside of Bairro Chipanga. *Machambas* are both a means to reduce feelings of food insecurity as well as a mechanism by which Nyungue youth make the transition into adulthood, though in Bairro Chipanga, the former has subsumed the latter as a more immediate need for village residents. When asked specifically what was needed to live a better life, two-thirds of residents listed a *machamba* while a further six residents specifically listed sufficient food. The

importance of a machamba to maintaining food security emerged through the language used by respondents. Some residents were appalled that Vale would not have provided a space for farming, calling it an “affliction.” One respondent highlighted how the residents could accept relocation from their native village, but to ask them to give up farming was non-negotiable: “We accepted [the resettlement], but now they are stopping us from farming in this other area. What is that? We won’t stop. We have to feed ourselves” (#1005, 11 June 2015). Despite Vale’s pre-resettlement assessment to the contrary, such a powerful statement emphasizes the importance of farming among even urban Mozambicans. It had been five years without a machamba at the time of the interviews; yet, many residents still lamented the loss of a machamba in the move.

The final goal exerting an influence on being willing to move away from the post-resettlement site was the goal to *receive fair compensation for resettlement*. Of the four goals influencing this willingness, I would argue that this goal probably has the greatest influence of them all. It frequently intersected with the presence of other goals (e.g. the goal to *build a local primary school* and the goal to *make repairs to houses*) in the interviews. It also sums up the respondents’ general perception of the resettlement conducted by Vale. The experience of resettling from the former villages to Bairro Chipanga, for many, was a negative experience ($N = 48$) with only nine respondents saying it worked out well for them. For many residents, Vale’s prime fault was that it “failed to give [the residents] what it had promised them” so consideration of any future movement will require that Vale “give us something at the moment and not just promises” (#1006, 16 June 2015). This did not, however,

preclude the respondents from potentially accepting the idea in the future, and one respondent even divulged that the villagers could live anywhere provided the environment has the appropriate conditions for them to live well. “People are now aware of the consequences [of resettlement]. One way to avoid this [again] is to have deep discussion about the resettlement process and possible outcomes... We can live anywhere in the world as soon as the conditions are present” (#1022, 22 June 2015). In summary, these results suggest that residents need, more than anything else, assurances that they will be fairly compensated before they will accept resettlement.

4.5 Discussion

Five years following the completion of the resettlement process, the community’s profile of goals (Table 4.2) highlight the injustices of Vale’s resettlement, especially once I further refined the goal profile using only those goals sharing a strong underlying association with one another (Table 4.3). These residents have spent five years in a post-resettlement community where they have experienced five years of failed promises to improve community infrastructure, failed promises to bring development to the community, and ultimately, failed promises to create “a good life.” To achieve this good life, residents have not sought extravagant consumer goods or extraordinary changes in the local landscape; one only needs to interrogate the profile of goals to see this. They seek a house that is of an appropriate size, with enough bedrooms to house their children and store flour, that they do not need to worry will fall in on them during the next rain. They seek a clinic that has trained staff with a reasonable wait time so they do not have to fear death as they wait their

turn to see a doctor.⁵¹ They seek a school where their children can receive an education, especially their daughters, without the fear that they will be kidnapped or raped on the walk home. They seek sufficient land in which to plant a machamba so they can feed their family and feel food secure during periods of extended unemployment. These examples of the “good life” are not unattainable or unreasonable, even in a poor nation like Mozambique; however, the presence of this particular profile of desires following the completion of a resettlement, are an indication of this resettlement’s failure, and the broader issues possible whenever and wherever individuals are resettled. In this community, as elsewhere, residents simply wished they had been treated fairly through the resettlement process by actually receiving what Vale had stated it would provide.

Ultimately, resettlement can be a very impoverishing experience, not just in the multidimensional ways described by Cernea’s (2000) IRR model, but also in its influences on the development of goals and aspirations for the future. That said, in the case of Bairro Chipanga, my findings suggest that this impoverishing effect does not impact all resettled individuals in the same way. Some residents expressed noticeable frustration with the failure to realize development post-resettlement or have disengaged entirely from the process and adopted attitudes that indicate they have no faith that anything will be accomplished through continued efforts to improve the community. Still others indicate they would be willing to move away from the post-resettlement site were the opportunity presented to them, though they would need

⁵¹ Fortunately, at the time of these interviews, no one had yet been injured by a collapsing house or died waiting their turn to see a doctor; however, these are very real concerns shared by community members. The eroding foundation depicted in Figure 4.2 is only one example of the deteriorating infrastructure in the community. Elsewhere, I saw houses with cracks running the entire length of the house, and in some, spider-webbing of the cracks.

more than the mere assurance of development before such an opportunity could be accepted.⁵²

The divergence in resident responses following resettlement illustrates the differential outcomes the resettlement process can have on members of the same community. The *aspiration for a better future*, as is true of all aspirations, is supposed to be a positive thing, but in Bairro Chipanga, the manifestation of this aspiration post-resettlement is anything but positive. Instead, it represents the emergence of backward movement rather than forward momentum. Residents focus their attention not on realizing futures marked by positive change from the present—as in the case described by High (2008)—but on fixing the short-comings of the resettlement, on acquiring the infrastructure and other conditions promised by Vale, and on simply surviving day-to-day rather than moving towards realizing the good life. This observation is not unique to this case study. Clark and Qizilbash (2008) found that the conditions in which one lived their life significantly influenced visions of a better future for South Africans. Thus, this study lends another voice to the growing body of literature that seeks to understand how a change in environmental conditions can influence the goals and aspirations individuals develop.

The emergence of two responses to the goals and aspirations present following resettlement says something about how individuals might take action to

⁵² One area for consideration in future work is a qualitative and quantitative comparison of the survey results and interview transcriptions of individuals/households that appear to be “winners” in this resettlement process to those that were not. Typically, in a resettlement, as illustrated by the work of Artur and Hilhorst (2014), for example, winners tend to be elite members of the resettled population; however, as described in Chapter 3, elite capture only manifested upon conclusion of the resettlement process. Still, some residents of Bairro Chipanga appear to be better off post-resettlement, and this is evidenced by their affirmative response ($N=9$) to the question: *Was resettlement good for you?* As the unit of analysis, in this chapter, is the community level, the presence of “winners” as individuals is a note-worthy point, but distracts from the focus of the research question, which is to determine the impact a resettlement has on the ability to form goals and aspirations within a resettled population.

fulfill their aspirations. Unlike the findings reported by Das (2008), my findings illustrate that dissatisfaction with an environment is not enough to prompt decisions to move away. Dissatisfaction in the environment's ability to provide what the individual deems to be important—without making any value judgments on what is or is not important—may lead to attempts to relocate as a means to resolve the sense of dissatisfaction; however, in this case, not everyone sought to move despite widespread dissatisfaction. Identifying why this is the case is certainly fodder for meaningful future research but I suspect it has something to do with the capability for residents to harness the power inherent in their desire to fulfill aspirations.

Ray (2002) describes the aspirations window as contextualizing the possibilities present and attainable in a specific place. Following resettlement, my findings suggest that many residents of Bairro Chipanga have experienced a narrowing of their aspirations window that had likely been broadened through initial talks with Vale. On the heels of Vale's promises buttressed by government participation, residents unwillingly accepted the resettlement as a means to enhance their development. Some individuals—like those living in grass houses in the former villages—actually did report improvement; however, for many, they have only encountered an environment that falls far short of what they had envisioned would be possible prior to relocating. For these individuals, their post-resettlement experience is predicated upon attaining the resettlement promises, leaving very little time for further enhancement of their lives. This would include things like investing in education for their children (impossible given the distance of the school and safety concerns) and acquiring formal employment (impossible without jobs), among other

things. In the migration literature, education (Docquier et al. 2014) and employment (Blacklock et al. 2014) are powerful, motivating forces that influence decisions to relocate, and in the conversations I had with residents of Bairro Chipanga, these two, more than others, were mentioned as important promises made by Vale that unfortunately were not kept. In this way, then, Vale's failure to provide what had been envisioned, anticipated, and expected has resulted in individuals who focus their attention on achieving these goals rather than being able to build upon the anticipated successes of the resettlement process.

It is important to recognize that some individuals seek the opportunity to fulfill these goals somewhere other than Bairro Chipanga. They are willing to move away from the post-resettlement site and start over again somewhere else. My findings show that these individuals largely share the belief that the life they have in Bairro Chipanga is less than perfect and also that life in Bairro Chipanga is unlikely to get better. What differentiates these two groups, though, is that the individuals willing to move away from the post-resettlement site have not foregone the possibility that life could get better. As High (2008) observed, these residents are willing to move away from the post-resettlement site and take a risk elsewhere because they aspire to a life that is different from the one they have. Echoing Fischer (2014), my findings suggest that these residents see moving away from the post-resettlement site as one means to achieve their aspirations when the will is already present. It is this last point that holds the most promise for influencing the design of resettlement action plans that encourage voluntary resettlement and improve outcomes for resettled populations.

4.6 Conclusions

As described by Appadurai (2013), aspirations are not simply individualistic yearnings but have their origin in the wants, wishes, and desires of a community. In fact, this study has shown that it is possible to capture and describe the goal profile of a community. While each community is likely to have a unique set of aspirations, these findings suggest two characteristics permeating the goal profile of resettled populations. First, these findings suggest that the goals present following a resettlement may largely parallel short-comings in the promises and anticipated outcomes of the resettlement process; thus, residents are likely to focus efforts on rectifying resettlement failures rather than building on anticipated (but unrealized) benefits. Second, these goals reflect a continued desire to seek a better life for the community and its children, though not everyone may buy-in to this goal.

It is this second commonality that points to the role aspirations have in decisions regarding support for resettlement. Individuals want what is best for themselves, their families, and their community, and by looking at how the profile of goals fit together, a picture emerges to illustrate what these things might be. Policy-makers must take the time to properly assess the profile not just of individuals or households, but of the entire community long before deriving a resettlement action plan.

The prevalence of goals in Bairro Chipanga also highlights the need to continue the resettlement process for a longer period of time. Resettlement does not, and should not, end when a family moves into a new house. This research indicates that populations facing resettlement, and even those already resettled, need help

bringing their voices together to synthesize the goals shared by the community and the aspirations the community seeks to fulfill through the resettlement process. From the community's perspective, it may be necessary for the continuation of long-term social relations between the community, the community's leadership, the resettling agent, and even the government (if not the resettling agent) in order to realize fair and just outcomes. By doing so, this research suggests that the conditions necessary for individuals to form attachment to the post-resettlement site are more likely to arise as the community can engage with the resettling agent to address what makes the post-resettlement site a "bad" place. This process also has the potential to raise aspirations, as individuals become more versed in negotiating a better future and articulating desires through the back-and-forth process of a much longer resettlement.

Unfortunately, this is likely to be contrary to the goals of the resettling agent. Companies may desire to end their involvement in the process once they have finished moving the population so they can move forward with enacting the project that necessitated the resettlement. As illustrated by the Bairro Chipanga case, though, ending this relationship at this point can be a central factor driving dissatisfaction with the resettlement process and the post-resettlement site. This places downward pressure on the development of aspirations as individuals have little time in which to experience the outcomes of the resettlement and develop plans for an alternative. This is also likely to result in the post-resettlement site being labeled a "bad" place, especially, as in this case, if the resettling agent fails to deliver what was promised or entirely disengages from making improvements to the post-resettlement site.⁵³

⁵³ As these goals are contradictory to one another, in this dissertation's final chapter I propose a mechanism by which those entities planning a resettlement can make improvements to the process to

The most common goal following resettlement was the desire to feel like fair compensation had been delivered. As a collective whole, the goals represent the aspiration for social justice. For many community members, this sense of injustice clouded the potential in Bairro Chipanga and helped promote a discourse of discontent. Therefore, it is probably in the resettling agent's best interest to under promise and over deliver than the reverse. Ironically, this recommendation opposes the recommendation in the previous paragraph. While this appears to be the case, these recommendations are, in fact, separate recommendations for different parties with a stake in the resettlement: (a) the community being resettled and (b) the resettling agent.

To realize a just and fair resettlement, though, does not appear to take much more than delivering what is promised in negotiations preceding the move. In the Bairro Chipanga case, the source of injustice was Vale's failure to adhere to its oral agreement with the community. When they sought to rectify this, they also met with failure. To mitigate this risk in the future, it is important for governments, and maybe even external agencies, to monitor the design and implementation of a resettlement action plan that ensures a transparent process exists as well as manages expectations of all involved parties so they are realistic throughout the project's inception, implementation, and conclusion. (I propose one such design in Chapter 5 of this dissertation.)

Further research is necessary to test whether or not aspirations for a better life can be more precisely measured at the individual-, household-, and community-level,

ensure the post-resettlement site is a place in which place attachment can form and the community has the space in which to develop its aspirations (see Chapter 5.3).

but my findings suggest they can by looking more closely at the community's goals and how they fit together. Additionally, research will need to take into consideration where these specific goals come from, if different populations hold different goals (e.g. males versus females), and whether or not there is something more the community aspires to even if it cannot articulate what that is. By directly addressing the wishes, wants, and desires of the community, resettlement plans can lead to individuals choosing to support resettlement as a means to achieve the better life. Therefore, the decision to support resettlement is largely based, according to these findings, in the trade-off between *what is* versus *what is possible*.

Chapter 5: Conclusions

The number of individuals annually impacted by resettlement is large and likely to increase (Bulgalski and Pred 2013; Donnan 2015). In the coming decades, climate change has the potential to force even greater reliance on resettlement as an adaptation and mitigation strategy (Debauer and Goevenspeck 2015). Additionally, there is an on-going need for economic development in low income countries that may require resettling populations to permit the development project to succeed (Terminski 2013). Resettlement is largely believed to result in negative consequences for the resettled population (Cernea 2000); there has been much research on the tangible outcomes of resettlement but very little exists to explain the invisible losses resettled peoples experience (Witter and Satterfield 2014). This dissertation contributes significantly to this last point through its investigation of the relationships between place attachment, aspirations, and rapidly changing environments housed within a resettlement context.

In Chapter 1, I provided a diagram that links together place attachment and aspirations alongside the various moderating influences that contribute to their formation. My research finds that resettlement negatively impacts the ability to form and maintain place attachment. This is certainly true of populations that have already resettled (Chapter 3), but this dissertation provides evidence to suggest that the mere potential for resettlement disrupts existing place attachment (Chapter 2). As such, resettled peoples as well as those communities fearing resettlement experience negative psychosocial outcomes the literature has only just begun to explore (cf. Tschakert et al. 2013; Witter and Satterfield 2014). This is exacerbated when

community members realize that the post-resettlement site will never be the place they were promised it would become. Feelings of longing for their former home become supplanted by a strong and pervasive desire to achieve fair and just outcomes by rectifying the injustices of the resettlement process (Chapter 4).

Knowing why individuals form place attachment to their environment, what conditions promote the formation of place attachment, and how the fulfillment of goals and aspirations post-resettlement impacts feelings of satisfaction can influence the design and implementation of resettlement action plans. Ideally, we would want to replicate in the post-resettlement site as many conditions that led to the formation of place attachment in the pre-resettlement site to ease the transition during the resettlement process (Ryan and Ogilvie 2001), but we also want to design a resettlement action plan that can address these issues from the outset.

Throughout this dissertation, I used mixed methods to offer a more holistic understanding of the relationships between place attachment, aspirations, and rapidly changing environments. Qualitative and quantitative data contributed to answering the major research question and sub-questions of this dissertation. I also integrated these methods to triangulate and contextualize findings. More specifically, I combined parametric and non-parametric statistical tests and an automated item selection procedure (AISP) with content analysis of semi-structured interviews to identify major themes in the data sets, to assess underlying relationships between pieces of qualitative data, and to contextualize statistical results using respondent quotes. My analyses were organized by the Person-Process-Place (PPP) Framework (Scannell and Gifford 2010a) that helped me to evaluate the person-place relationship

in dynamic environments. Two different case study sites were used to understand the influence of place attachment, aspirations, and rapidly changing environments on resettlement decisions. The selection of two sites hinged on the need to explore these relationships where resettlement had occurred as well as where resettlement was visible to the residents but not planned and had not occurred. Analysis of data gathered from both sites allowed me to employ three strategies to answer the broad research question presented in Chapter 1: *How do changing environments impact the formation of place attachment and aspirations?*

In Chapter 2, I explored how a changing environmental context might influence residents' desire to move away from their home in the *zona tampão* on the southeastern edge of Limpopo National Park (LNP) in Mozambique's Massingir District. To isolate the effects of the environment as much as possible, it was important to choose a location where resettlement was not planned for the population being studied but where local residents were familiar with resettlement in neighboring communities. I used a content analysis of semi-structured interviews to assess the ways in which the establishment of a nature tourism park impacted the ability for residents to maintain place attachment. In particular, this chapter investigated the dynamic relationships individuals have with the physical environment. The PPP Framework served to guide the coding structure. While a preliminary set of codes undergirded the initial readings of the interviews, eventually four themes emerged to condition how changing environments impact place attachment. These themes were assessed for their impact on the place attachment residents had established with the physical environment as well as how individuals responded to disruptions to the

conditions that had led to the formation of place attachment. Important to this process was addressing whether changing environmental conditions might lead to a decision to move away from the *zona tampão*.

In Chapter 3, I focused on the impact of resettlement on the formation of place attachment in Bairro Chipanga, a neighborhood on the western edge of Moatize, Mozambique where post-resettlement urbanization is changing the social structure of the resettled community. I developed a Place Attachment Inventory (PAI) that used 15 items measured on a Likert scale to identify respondent agreement with statements about the characteristics of Bairro Chipanga, feelings of security in the neighborhood, relationships with neighbors, the ability to meet goals in the local environment, and long-term plans to live there. The specific prompts evaluated the three reasons Scannell and Gifford (2010a) propose individuals seek to establish place attachment to a particular place. Findings were combined with a content analysis of semi-structured interviews analyzed and coded using the PPP Framework as a guide to the base coding structure. Refinement of the codes through iterative reading of the interviews allowed me to link aspects of community life to responses to the PAI prompts. Quotes from the interviews triangulated results from a statistical analysis of the PAI prompts. Additionally, the entire narrative was situated within the story of the neighborhood's evolution from the pre-resettlement period through the timing of my interviews in May/June 2015.

In Chapter 4, I focused on the goals expressed by members of the Bairro Chipanga community. Through inductive, iterative readings of the semi-structured interviews, I created a list of 24 goals present in the community five years following

resettlement. The goals emerged from an iterative latent coding process guided by Appadurai's (2013) and Nathan's (2005) definitions of aspirations. Once complete, in-depth investigation of each goal in its textual context yielded the opportunity to compare the core desire of each coded segment such that five thematic groups eventually emerged. These five themes linked together the community-wide goals based on the common outcomes of resettlement reported in the literature. These thematic groups were further evaluated using Mokken Scaling Analysis (MSA) to determine which goals also shared an underlying statistical association in addition to their qualitative association. I used the MSA to refine and reduce the profile of goals and make statements on the underlying association the remaining goals shared with one another across the thematic groups. Finally, I performed 24 bivariate logistic regressions to determine the odds that expressing a specific goal would increase the desire to move away from Bairro Chipanga (see Table B1 in Appendix B).

The main findings of this dissertation are summarized in Section 5.1. Section 5.2 describes directions for future research that builds on the findings presented here and might serve as a possible pre-tenure project. Finally, Section 5.3 concludes the dissertation with how policy-makers and their implementation partners might use these findings as they plan a resettlement. This final section also includes an example of what a model resettlement action plan might look like.

5.1 Main contributions and findings

This dissertation examined how place attachment and aspirations form in rapidly changing environments, using resettlement as the context constituting a rapidly changing environment. Overall, this research presents several broad findings that I

will discuss in more detail below. First, changes in the physical environment play a larger role in rural environments while changes in the social environment appear to matter more in urban environments. It is important, however, to realize that this could also be explained by stating that the physical environment matters more in a pre-resettlement context while the social environment assumes greater importance in the post-resettlement context. Either way, this finding points to the dynamism described by Scannell and Gifford (2010a) in the way that place attachment forms. As conditions change, so does the most important aspect of the person-place bond.

Second, residents are willing to accept quite impoverishing conditions as long as they believe the place environment might get better at some point in the future. Once they believe this to be untrue or unlikely, they become dissatisfied with the place and disengage from trying to make it a better place. In the extreme, some residents who believe the place is bad may even become willing to move away from the place as a means to secure a better future. My findings indicate that individuals living in a pre-resettlement context are far more likely to defend their right to stay in place than individuals living in a post-resettlement environment. The changes to place attachment that I recorded between the former Chipanga and Bairro Chipanga confirms that resettlement disrupts the person-place bond such that resettled populations are less likely to defend the post-resettlement site as their home.

Finally, the belief that the post-resettlement site can become a better place in the future is predicated upon the types of goals and aspirations that form post-resettlement. In this dissertation, these goals were largely the desire to attain what Vale had promised would be possible in the post-resettlement site. As so many

resettlements result in primarily negative consequences (Cernea 2000), it is fair to suggest, as these findings do, that failed resettlements promote the aspiration for social justice. Unfortunately, this is not necessarily a good thing as it can also lead to disengagement from trying to make the post-resettlement site a better place and cultivate a desire to move away from the post-resettlement site.

5.1.1 Findings from Chapter 2

Chapter 2 of this dissertation, entitled “Nature tourism as disemplacement: Responses to changing geographies of place attachment in Limpopo National Park, Mozambique,” established that nature park enterprises displace local residents by eroding traditional geographies of place attachment. Newly enacted and/or enforced rules and regulations decrease a sense of security, hinder the environment’s ability to support goals, and diminish feelings of cultural continuity. Despite this, evidence from the analysis shows that residents with strong place attachment to the physical environment do everything possible to reconcile challenges to their traditional ways of relating to their environment before they will consider resettlement to be a viable option. This can even include using fences, traditionally seen as a means to keep people out of park areas, in order to reterritorialize their land.

The deeper contributions from Chapter 2 highlight how important a sense of place and the development of place attachment to the physical environment can be for rural populations. Strong place attachment—based on identification of the *zona tampão* as a cultural homeland, regular success at growing subsistence crops, and a knowledge of the local ecology that allows for the successful transformation of the environment for farming—contributes to people wanting to remain where they live.

These individuals resist moving away from their traditional homelands even under deeply impoverishing circumstances. Rather than consider resettlement as a means to modernize or enhance economic outcomes, rural populations are more likely to believe that someday the situation in their current place will improve, especially if they have lived a long time in one place and have a deep connection to that particular physical environment.

This latter point is a direct contradiction of the findings reported by Fletcher (2001) and High (2008). Unlike the populations in those studies, the respondents living in the *zona tampão* of the LNP vehemently defended their right to remain in their place, and for good reason. They were familiar with the experience of a neighboring village that had previously resettled and the negative outcomes reported in that study (cf. Milgroom 2012) that confirms the oft-reported negative consequences of resettlement (Cernea 2000). In light of this literature, then, the residents of the *zona tampão* are actually quite smart for making this decision.

Unfortunately, remaining in place also meant accepting a greater sense of displacement from one's environment. De Wet's (2008) notion of displacement implicates changing environments in feeling like one no longer belongs to a particular place. When park policies lead to displacement, people try to re-create or reestablish their previous place attachment in the original location rather than move. This suggests that the positive experiences with place in the past override the hardships imposed by the park. It also highlights the importance of place attachment and the enduring effects of positive place memory (Trigg 2012). Such positive

recollections keep people rooted even as the social and physical landscape changes around them.

This does not mean to suggest, though, that populations passively accept changing environments and disruptions to place attachment. Residents actively engage in actions that reterritorialize the spaces that surround them. In the *zona tampão*, this meant advocating quite heavily for the construction of a border zone fence to more fully separate the spaces of the park from the spaces of the border zone population. Though diminishing the population's territory and confirming that the spaces of the past are "lost" to the people, the border fence permits the securitization of the places of the present and the future against the encroachment of wild animals. This is important because it illustrates that individuals are willing to accept less area, or "space," in order to retain their place. Considered in this light, the push to maintain place attachment is neither a wholly positive nor negative thing. Individuals are making a trade-off such that a narrowing of the spaces in which residents live their daily lives is preferred to the anxiety that would accompany a complete and total loss of place and place attachment.

5.1.2 Findings from Chapter 3

Chapter 3 of this dissertation, entitled "Impact of the social landscape on place attachment following resettlement," indicates that resettlement has the potential to disrupt the capability for resettled peoples to establish place attachment in their new home. Notably, the presence of poor infrastructure (including dangerous housing stock), feelings of food insecurity, inadequate water supply, distant school, and non-functioning streetlights disrupt attachment to the physical environment; however, it is

a rapidly changing social environment in the post-resettlement site that most directly impacts the formation of place attachment. In general, place attachment to the post-resettlement site is lower among those willing to move away than those unwilling, but this difference is more pronounced on the PAI prompts reflecting attachment to the social environment.

The deeper contributions from Chapter 3 arise from the finding that social disarticulation post-resettlement promotes a willingness to move away from the post-resettlement site. This has rather important ramifications for long-term stability in post-resettlement communities. Resettlements are supposed to improve the lives of the resettled population, or at the very minimum to provide resettled peoples with the same quality of life they had prior to resettlement. Contrary to the observations made by Rogers and Wang (2006) and Lestrelin (2011), my findings suggest that recreating the conditions in the post-resettlement site that contributed to the formation of place attachment before resettlement is difficult to accomplish when the community has not been resettled whole. Rather, individuals believe they cannot rely upon their neighbors for help in times of trouble and perceptions of distrust and suspicion arise in the resettled population's perspectives of individuals who move into the community post-resettlement.

Failure to establish place attachment, then, produces a community of placeless people. The residents of Bairro Chipanga want to feel like they belong in the post-resettlement site, and naming the bairro after their former village is one such way to rectify some of their feelings of unrootedness. Baptista (2010) writes that in Mozambique the story of a place is often conflated with the story of the people who

settled there; thus, it makes perfect sense that the leaders and residents of a resettled community would seek to recapture that cultural heritage by pushing for a name change post-resettlement. Of course, not every resident felt that way. Their beliefs about giving a good name to a bad place displays how broken the community actually is. In order for Bairro Chipanga to become a place where place attachment can form, it must first be a place where a sense of community develops (Lalli 1992; Woldoff 2002). For these residents, Bairro Chipanga may never become a place to which they can form place attachment because their shared memories of the former Chipanga, and of their former sense of being a complete community rather than a fractured one, are a constant reminder of what was lost as a result of the resettlement (Strong 2016).

Individuals without a place (or the conditions they find necessary to create one) may well determine that the post-resettlement community will never become a good place and therefore seek the means to leave it. This can lead to higher rates of migration, less social stability, and even civil unrest. Though these outcomes might be extreme, the conditions facing a placeless people would certainly create feelings of frustration and anxiety (Relph 1976; Casey 2009). Most significantly, though, the findings presented in Chapter 3, highlight the potential for resettlement to create the conditions for not just further impoverishment, as is well noted in the literature (Cernea 2000), but also to launch a cycle of movement-displacement-movement that can prevent an entire generation from establishing a sense of place and realizing the benefits that emerge when place attachment is established. These findings draw further attention to the intangible losses experienced by resettled peoples (Witter and Satterfield 2014). Anticipating and navigating these losses becomes paramount to

securing positive outcomes for the community post-resettlement through a reduction in the potential for social disarticulation.

5.1.3 Findings from Chapter 4

Chapter 4 of this dissertation, entitled “Resettlement’s impact on community aspirations and goals in a developing world context,” found that resettled peoples experiencing negative resettlement outcomes desire social justice, which manifests through the formation of a community-wide goal profile focusing on gaining the outcomes anticipated in the post-resettlement site. Two generalized responses to the potential for the community to realize their post-resettlement goals emerged in the Bairro Chipanga case. Some residents adopted a sense of despair and frustration that led to disengagement from the hope that in the future conditions would improve and left some residents feeling like there is nothing they could do to realize a better life. Still other residents believed that the future could get better but that might mean relocating to another site. For these residents, expressing goals that would lead to an improved situation for the community’s children exerted the greatest influence that these individuals would be willing to move away from the post-resettlement site.

The deeper contributions from Chapter 4 illustrate how resettlement can induce a backward and downward pressure on the development of goals and aspirations. Most acutely, this is felt through the emergence of the aspiration for social justice following resettlement. The literature has demonstrated that resettlement often results in multiple negative outcomes (Cernea 2000), so the presence of the aspiration for social justice is not surprising; however, these findings indicate a resettled population forms goals and aspirations that attempt to rectify losses from

resettlement rather than take advantage of new opportunities available in the post-resettlement site.

Unlike the situations reported by High (2008) and Fletcher (2001), my findings illustrate that resettlement does not necessarily serve as a chance to expand options and enhance opportunities for the resettled population. Resettlement resulted in the development of the aspiration for social justice, but in this case, it does not manifest as a positive outcome for the resettled population. In fact, this aspiration represents a narrowing (as opposed to broadening) of the community's aspirations window (Ray 2002). High (2008) reported that Laotians sought resettlement because it provided a mechanism for rural individuals to access markets and schools; however, Bairro Chipanga's residents already had these things in the former Chipanga. For them, resettlement did not represent forward momentum, but rather a backward slide.

The respondents noted opportunities in the local community (e.g. to rent houses for extra income, to obtain day laborer positions, to attend a secondary school) but the failed promises of the resettlement refocused their attention on what they did not have in the post-resettlement site rather than what they did. In this way, then, Vale's failure to provide what had been envisioned, anticipated, and expected has resulted in individuals who focus their attention on achieving these goals rather than being able to build upon the anticipated successes of the resettlement process. This is an important point because it highlights the ways that aspirations can harm a community instead of being the positive, future-oriented hopes and dreams reported in the literature (cf. Appadurai 2013).

These findings also suggest that the presence of many unfulfilled promises in the resettlement process can result in community members moving away from the post-resettlement site, at best, and complete disengagement from trying to improve the community, at worst. Either way, it is unlikely that residents living in such an environment will come to see the place as a good place, and this harms community dynamics. When considered in conjunction with other findings from this dissertation, namely the ways that changing social composition impacts place attachment, it increases the impoverishment experienced by resettled populations. My findings show that resettlement plans must deliver what residents anticipate and expect or the likelihood that resettled populations will want to or be able to form place attachment to the post-resettlement site is very low.

5.2 Directions for future research

These findings brought attention to the ways that place attachment, aspirations, and rapidly changing environments intersect in resettlement contexts, but there is still room to improve how we can interpret and use these relationships to better the lives of individuals and communities facing resettlement. This dissertation primarily focused on how each variable influenced the desire to move, whether that was the desire to move away from a post-resettlement community (Chapters 3 and 4) or the desire to move away from a community not facing resettlement but where resettlement was a known entity through the examples of neighboring places (Chapter 2). There may be other variables, however, driving the observed relationships that bear investigation via future research—for example, to name a few, political context, urbanization, global economic change, and feelings of agency.

Chapter 2 brought attention to how residents exulted the building of a boundary fence as a means to reterritorialize their villages and resolve the challenges to place attachment they faced in a changing environment. The interviews were conducted prior to the building of the fence so follow-up research on life after the fence is necessary. Did feelings of disemplacement diminish or do residents still feel their traditional relationships to the physical environment are threatened by the nature park? Interestingly, the use of a fence to separate the park from the village is usually described as a negative action in nature tourism enterprises, so this is an odd finding. Residents in this context used forest resources as alternative, supplementary strategies when farming failed; however, would residents relying more heavily on forest resources seek the same remedy to challenges to their place attachment as was observed in this case? Future research should consider other contexts where relationships with the physical environment differ from that observed in Chapter 2 for comparison and to help build a more precise model outlining how nature tourism enterprises impact place attachment in changing physical environments. Finally, the emerging body of research on solastalgia (cf. Albrecht et al. 2007) has the potential to inform studies on changing physical environments, especially those that seek to understand the impacts these changes have on the formation of place attachment.

Chapter 3 observed that social diversity following resettlement hindered the development of place attachment and may be contributing to a willingness to move away from the post-resettlement site. This finding supports the literature, but it does not capture what type of diversity, specifically, has an impact on this relationship. A content analysis of the interviews suggested that increasing ethnic diversity resulted

in the observed relationships to the social environment, but future work will need to address whether or not ethnic diversity alone results in this relationship, or if perhaps any type of post-resettlement diversity may create similar conditions. I also believe it is necessary to investigate if communities not separated during the resettlement process, as was true for this case, experience similar social dynamics post-resettlement. Social disarticulation has received attention as a risk following resettlement, but in this context the question as to whether that is the result of changing community composition through in-migration of non-native Nyungue or because of the disruption to established community social networks lingers. Finally, the risks of resettlement are many, but these findings suggest that diminished place attachment must be added to that list. Whether or not it is a unique risk or merely a manifestation of one of the others (e.g. homelessness) remains to be determined. Future research should address how diminished place attachment, as an outcome of resettlement, intersects with models like the one proposed by Cernea (2000).

Chapter 4 considered the development of goals and aspirations in resettled populations and how these impacted decisions to move away from a post-resettlement community. While this dissertation contributed preliminary work on which goals influence this decision more than others, it is still a post-hoc analysis. The findings would be much enriched if they played out similarly prior to the resettlement process. It is important to know if goals reflecting the desire to better the future of the community's children drive this relationship for individuals who have not already resettled. Chapter 4 also explored goals at the community level, illustrating the ability to map a goal profile beyond the individual scale, but what if those individual

characteristics actually make a big difference? Future research should explore how individual characteristics (e.g. age, gender, educational level, employment, family size, income, etc.) influence the type of goals. It would also be interesting to understand if it is possible to map an aspirational profile for different populations within the community. This would help in the design of RAPs making use of goals as incentives to resettle and help to address the problems in communities where resettlement has gone wrong.

5.3 Policy implications of research findings

This dissertation has drawn attention to the often unseen and uncompensated invisible losses of resettlement (Witter and Satterfield 2014), including the loss of place attachment not currently discussed in the literature. There is wide consensus in the place attachment literature that describes the formation of place attachment as a generally positive thing contributing significantly to the happiness of individuals. This is true even for those who are economically deprived and living in impoverished areas with few opportunities for income-generating activities. The findings presented in this dissertation indicate that much of the dissatisfaction occurring post-resettlement—and what leads to the assessment of the post-resettlement site as a “bad” place to which residents cannot form place attachment—result from failures on behalf of the resettling agent.

The primary policy recommendation promoted by this dissertation is the need to understand local concepts of justice and fairness in a population earmarked for resettlement. Failure to do so can result in resettlement outcomes that impede the formation of place attachment to the post-resettlement site; diminish perceptions that

the post-resettlement site is, and ever will be, a “good” place; promote community instability and out-migration; engender feelings of frustration as individuals fail in their attempts to rectify the resettlement’s short-comings; and, create a situation where community members disengage from attempts to improve the post-resettlement community.

Even where the post-resettlement conditions offer new opportunities to diversify incomes (e.g. through acquisition of rental properties) or to engage alternative means of improving lives (e.g. through access to higher levels of education), residents focus their attention on seeking justice for losses rather than using the new opportunities to improve their lives. Residents map the injustices of the resettlement process onto the post-resettlement site, and such an action virtually assures that the post-resettlement site will never become a place worthy of forming place attachment. This overshadows the potential for any gain via resettlement as residents become consumed with the aspiration for social justice and the desire to right the wrongs that have been perpetrated against them.

With such a diverse, negative set of potential outcomes from resettlements that the resettled population perceived as unjust and unfair, there can be no doubt regarding the importance for resettlement agents to understand local concepts regarding fairness and justice. Therefore, in the concluding paragraphs of this dissertation, I offer advice for resettlement agents, policy advisors, and governments as they seek to design, implement, and assess better resettlement action plans. It is my hope that these recommendations may improve resettlement outcomes for the affected populations.

First and foremost, in the context of resettlement, justice and fairness primarily imply that communities receive the outcomes in the post-resettlement site that they had reason to expect through discussions with the resettlement agent (RA). This means, more than anything else, that resettlement agents deliver what they say they will deliver, but this also means there is a need to manage expectations so they are realistic. A sound resettlement action plan (RAP) begins with a design that does just this. RAs must collect information about hopes and desires of the community, its leaders, household heads, and household members. By using focus groups comprised of different community members—and it is important that this reflect different perspectives, like those of women compared to men or farmers compared to non-farmers—RAs can compile a list of outcomes anticipated by community members to result from the resettlement.

A variety of techniques exist to narrow down this list into common denominators shared by the majority of community members. For example, RAs could ask residents to select the three most important features from the overall list and then insert the most commonly selected features into the planned resettlement outcomes. It is likely that residents will select those things that reflect the reasons why they have established place attachment to the pre-resettlement community (even though they may not articulate this); therefore, it is important that RAs measure those features of the place that lead to positive feelings in the early stages of the resettlement design. Tschakert et al. (2013) present one such example as to how this can be done successfully. Replicating these conditions in the post-resettlement site will ease the transition for the resettled community (Ryan and Ogilvie 2001).

It is important to note that RAs may need to expend some time and energy raising aspirational capacity before they can engage in activities designed to capture community members' aspirations for the future. This is especially true when the population targeted for resettlement is already impoverished. The literature describes the capacity to aspire as negatively impacted by poverty (Appadurai 2013) so impoverished communities may lack the capacity to voice what they aspire to achieve through resettlement. Raising aspirations may require RAs to set up a community network where individuals who have already resettled interact with those who have not yet resettled. It may require taking community representatives to visit other places that differ from their own so they have an opportunity to see what is possible elsewhere. It may require providing residents access to telecommunications and Internet services (with appropriate training) so that residents can make their own investigations without feeling supervised by the RA. Even doing all the above, though, might still result in some residents needing assistance voicing their aspirations for the future.

There is a contradiction in the desires of the community and the desires of the RA. Residents with high aspirational capacity and strong sense of agency and voice will seek to gain from the resettlement process, and with good reason. They are, after all, giving up their home and moving elsewhere, and that deserves fair compensation. Meanwhile, the RA will seek to minimize expenses and time commitment, especially if it is a for-profit company, because it has a reasonable responsibility to ensure returns to its stockholders. Given these dueling goals for the resettlement process, I recommend the use of an impartial third-party (i.e. not the government, a community

leader, or a company representative) to mediate between the resettling community and the RA. Possible options include a local religious figure (depending upon the context) or a foreign diplomat. (Again, this would need to be context-specific.) This can only happen, though, once the community has been able to clearly voice its desires for the resettlement process.

One successful model used elsewhere is the Namibian Association of Community Based Natural Resource Management Support Organizations (NASCO). NASCO supports communities that seek to manage and utilize their natural resources for various enterprises. It offers a suite of services that provide advice on governmental and policy issues, the management of resources, and assistance with financial planning. While this type of organization may not work everywhere (after all, it should be a culturally appropriate entity), the idea behind an entity like NASCO is to serve as a pseudo Ombudsperson working on behalf of the community. Like the NASCO entity, such an agency would continue interacting with and on behalf of the community long after resettlement concludes so that the conversation started in the earliest days of the resettlement process continues until the community acquires self-sufficiency and establishes place attachment to the post-resettlement site. Thus, it would behoove governments to enact policy that creates a NASCO-like entity alongside a resettlement planning board.

This Ombuds agency would be responsible for establishing the rules of engagement between the RA and the community. Once the initial phase of gathering aspirations for the resettlement and collecting data on place attachment has ended, the Ombuds agency would serve as the supervisor responsible for establishing a

resettlement timeline. The findings in this dissertation support the belief that resettlement should not begin until the entire post-resettlement site has been fully constructed and community representatives and the Ombuds agent have signed off on the final product. This supervisory role, though, should begin with site selection. Individuals steering the design of the resettlement could be shown the proposed site, provide feedback on where important facilities should be located, and approve the design of these facilities and the community layout once they are complete.

Ideally, the RA and the community would negotiate a written contract stipulating the outcomes of the resettlement process for community members. Critical to that would be the need to address how the community can resolve disputes with the outcomes, and for how long the community could seek amendments to the post-resettlement design after the resettlement concludes. While the RA is responsible for providing a safe and productive environment in the post-resettlement site, it cannot reasonably be held accountable for the community's well-being indefinitely. There has to be a cut-off point, and this should be agreed upon prior to the community's resettlement. Additionally, this contract should include post-resettlement visits from representatives of the RA to address unforeseen consequences in the resettlement process. In the case study presented in this dissertation, the community was permitted to retain access to its farmlands because they were not part of the mining concession; however, upon resettlement, it was determined they were too far away from the post-resettlement site for community members to access them. The RA in this case provided additional compensation as a result. Such an outcome would not be unreasonable elsewhere. Therefore, it is critical that the RA, the Ombuds agent, and

the community recognize that the resettlement process may be much lengthier in time than the movement from place-to-place.

What I have just presented represents an ideal resettlement process. In the real world, such a process is unlikely to unfold until governments uniformly prioritize development of their citizens over the needs of multinational corporations or private financiers. Governments viewed as corrupt and lacking transparency are less likely to engage in such an open process as what I have described. Therefore, there is a need for the international community to push for reform to resettlement practices as a condition of foreign aid and foreign direct investment. Despite this rather grim outlook, though, there is reason to remain optimistic about the future.

Understanding what transforms a resettled population into placeless peoples can inform not just situations where resettlement is planned or underway, but also provides a mechanism to improve the outcomes for communities that have already resettled. There is even reason to believe this process could be used to investigate environmental changes and their impacts on populations that do not face resettlement. Certainly, the initial steps suggested in the preceding paragraphs could identify what the community seeks and why it believes the changing environment hurts the person-place bond. Realizing the potential benefits of such a process broadens the findings of this dissertation beyond the resettlement context. In fact, these findings have the potential to inform planners as they seek to improve community outcomes and respond to any number of changing environments. In a future marked by global climate change and on-going economic development, such a mechanism will prove to be very valuable.

Appendix A: Survey Instruments

Two survey instruments were used throughout the interview process for residents of Bairro Chipanga in Chapters 3 and 4. These are reproduced in this appendix; however, please note that not all questions were asked in the field due to time constraints. As the data informing the analysis for Chapter 2 were secondary data and were not collected by the author of this dissertation, I do not have access to a copy of the survey instrument used to interview residents of the *zona tampão* of the Limpopo National Park.

ENUMERATOR: Please introduce yourself and then explain to the respondent that you will be reading them an oral consent script that explains the study. Be sure to explain that they may ask questions about anything they do not understand.

PART ONE: RESPONDENT CONSENT

ENUM: Read the oral consent in the presence of a witness.

Does the person give their oral consent to participate in the research? [Circle 1 or 2 below.]

YES **1** Continue with the interview.

NO **2** Terminate the interview.

Interviewer initials:

Witness initials:

PART TWO: REVIEW OF QUESTIONNAIRE

To be completed by the interviewer:

Time Interview Started: _____ Completed: _____

Name of Interviewer: _____

Signature: _____

Comments on Consent Process:

Date of Interview:

Day _____

Month _____

Year **2015**

To be completed by the supervisor:

Date of Review: _____

Name of Reviewer: _____

Signature: _____

Comments:

Questionnaire Checked?

1 = YES _____

2 = NO

Household Follow-Up?

1 = YES _____

2 = NO

Interview Status: 1 = Completed
 2 = Refused
 3 = Terminated Early

Number of Sessions to Complete Interview:

PART THREE: HOUSEHOLD IDENTIFICATION

SECTION 3.1: LOCATION

ENUM: Write out the location where you interviewed the respondent (e.g. house, garden, plaza, kitchen house, etc.)

1. Interview Location:

- | | |
|-------------------------------------------|-------|
| 2. Did you confirm the respondent number? | 1=YES |
| | 2=NO |

SECTION 3.2: RESPONDENT ELIGIBILITY

ENUM: Ask the respondent each of these questions. If the answer is YES, proceed to the next question. If the answer is NO, explain the requirements to participate in the survey. If someone within the household meets all the requirements, ask to interview that person.

- | | | |
|---------------------------------------------------------------------------|------------|---|
| 3. Are you the head-of-household? | 1=YES | 3 |
| | 2=NO | |
| 4. Did you resettle to 25 de Setembro from a village in Moatize District? | 1=YES | 4 |
| | 2=NO | |
| 5. Was the resettlement part of the Vale Resettlement Action Plan? | 1=YES | 5 |
| | 2=NO | |
| 6. In which village did you live prior to resettlement? | 1=BAGAMOYO | 6 |
| | 2=CHIPANGA | |
| | 3=MALABWE | |
| | 4=MITHETE | |

ENUM: If respondent did not live in one of the listed villages, ask these questions.

- | | | |
|------------------------------------------------------------------|------------|---|
| 7. Was your village sometimes called one of the villages I said? | 1=YES | 7 |
| | 2=NO | |
| a. If “yes”: Which village was it sometimes called? | 1=BAGAMOYO | 7 |
| | 2=CHIPANGA | a |
| | 3=MALABWE | |
| | 4=MITHETE | |
| b. If “no”: Was it really close to one of the villages I said? | 1=YES | 7 |
| ENUM: “Really close” means a 10-15 minute walk. | 2=NO | b |

ENUM: If the answer is still NO, terminate the interview. This respondent is not eligible to participate in the study.

- | | | |
|-------------------------------------------------------------------------|-------|---|
| c. Is there another person in this household that meets these criteria? | 1=YES | 7 |
| | 2=NO | c |

ENUM: If the answer is still NO, terminate the interview. This household is not eligible to participate in the study. Thank the respondent for their time.

If you terminated the interview during Section 3.2, please write out your reasoning in the space below.

Do you have any reason to suspect the respondent/household was being untruthful and actually qualifies? If the answer is YES, please describe why below.

PART FOUR: FREE LIST EXERCISE

SECTION 4.1: ASPIRATION TO IMPROVE ONE'S LIFE

ENUM: Read the following statement to the participant. Do not suggest items for them to list. Record their responses below. It is very important that you record these items in the order they are said.

I want you to think about all those things that would improve your life if I could give them to you. These can be simple things for your house that others might have but you don't have, or they could be things that no one in this community has. They can be things you can buy or things you cannot buy.

ENUM: If the respondent has problems answering, rephrase the initial statement. You might say: (a) What would make you happier? (b) What would make you have fewer worries? (c) What would make your daily life easier?

Try to get the respondent to say at least one thing.

8 Initial List of Items

9 Read the list again. Ask:

10 If you cannot have _____, what would you substitute?

Did I forget anything?

8a

10a

8b

10b

8c

10c

8d

10d

8e

10e

8f

10f

8g

10g

8h

10h

8i

10i

8j

10j

SECTION 4.2: IMPORTANCE OF ITEMS

ENUM: Read the next statement to the respondent. (Skip this question if the respondent did not list anything in Q8.)

I want you to think about how important these things you just listed are to you. Some items may be more important than others and we want to understand which things are most important to you.

ENUM: Read the list of items to the respondent and confirm you have recorded everything correctly. Ask Q11 and record the responses below. It is important you write them in the order they are said. You may need to read the list several times to remind the respondent what they said.

*If the respondent cannot choose items, start with the last item listed and ask: **Do you need ___ to be happy?** If yes, write the item. If no, move to the next item. Once you have eliminated some items, ask Q11 again using this reduced list. The respondent must choose three things. If they did not list more than three things, ask them which item is most important.*

11 You can only choose three items from the list you just made. Of those items you have listed, what three items do you need to improve your life?

ENUM: If they did not list more than three things, ask them which item is most important.

11a

12 Is there anything you want to add to the list because you need it to be happy?

ENUM: Allow them to list anything they didn't already say in response to Q11. If they say something not originally listed in Q8, you should write it down too.

11b

12

11c

SECTION 4.3: ITEMS FOR SURVIVAL AND HAPPINESS

ENUM: Read the following prompt to the respondent.

I am now going to ask you about specific things that might improve your life if you had them. For each I am going to ask you to tell us if you need this thing to survive and if having this thing makes you happy.

Respondents should answer not in terms of whether they have this item or not, but only if the item is required for survival and for happiness.

13 List of Items	Item is essential for SURVIVAL		Item is essential for HAPPINESS	
13a Cement/brick house	YES	NO	YES	NO
13b Tile/zinc roof	YES	NO	YES	NO
13c Doors/windows that can be locked	YES	NO	YES	NO
13d Wall around house	YES	NO	YES	NO
13e Courtyard	YES	NO	YES	NO
13f Garden plot	YES	NO	YES	NO
13g Maize field	YES	NO	YES	NO
13h Electricity	YES	NO	YES	NO
13i Potable water source	YES	NO	YES	NO
13j Bedroom for parents and children	YES	NO	YES	NO
13k Kitchen	YES	NO	YES	NO
13l Refrigerator	YES	NO	YES	NO
13m Television	YES	NO	YES	NO
13n Satellite	YES	NO	YES	NO
13o Cooking utensils	YES	NO	YES	NO
13p Licensure	YES	NO	YES	NO
13q High school education	YES	NO	YES	NO
13r Primary school education	YES	NO	YES	NO
13s Basic number skills (add, subtract, count)	YES	NO	YES	NO
13t Ability to read/write (sign name, read signs)	YES	NO	YES	NO
13u Speak Portuguese	YES	NO	YES	NO
13v Speak English	YES	NO	YES	NO
13w Speak another language	YES	NO	YES	NO
13x Formal wage employment	YES	NO	YES	NO
13y Small business	YES	NO	YES	NO
13z Car	YES	NO	YES	NO
13aa Motorcycle	YES	NO	YES	NO
13ab Bicycle	YES	NO	YES	NO
13ac Live close to parents	YES	NO	YES	NO
13ad Live close to children	YES	NO	YES	NO
13ae Have respect in community	YES	NO	YES	NO
13af Own my house	YES	NO	YES	NO
13ag Sports field nearby (less than 2 km)	YES	NO	YES	NO
13ah Radio	YES	NO	YES	NO
13ai Trust in community	YES	NO	YES	NO
13aj Mutual help during funerals/death	YES	NO	YES	NO
13ak Mutual help during famine	YES	NO	YES	NO
13al Children	YES	NO	YES	NO
13am Spouse	YES	NO	YES	NO
13an Member in a community association	YES	NO	YES	NO
13ao Ability to vote	YES	NO	YES	NO
13ap Economic independence	YES	NO	YES	NO

13aq Ability to make own decisions	YES	NO	YES	NO
13ar Health clinic nearby (less than 1 km)	YES	NO	YES	NO
13as Three meals per day	YES	NO	YES	NO
13at One meal per day	YES	NO	YES	NO
13au Ability to eat meat daily	YES	NO	YES	NO
13av Ability to access small loans	YES	NO	YES	NO
13aw Ownership of land	YES	NO	YES	NO
13ax Large livestock: cow/oxen	YES	NO	YES	NO
13ay Small livestock: Pig, goat	YES	NO	YES	NO
13az Poultry: duck, chicken	YES	NO	YES	NO
13ba Bank nearby (less than 2 km)	YES	NO	YES	NO
13bb Market stall	YES	NO	YES	NO
13bc Feeling happy most of the time	YES	NO	YES	NO
13bd Absence of feelings of fear	YES	NO	YES	NO
13be Shops nearby (less than 2 km)	YES	NO	YES	NO
13bf Paved roads in community	YES	NO	YES	NO
13bg Charcoal burning stove	YES	NO	YES	NO
13bh Church nearby (less than 2 km)	YES	NO	YES	NO

SECTION FIVE: PHOTOGRAPHY EXERCISE

ENUM: Read the following statement to the respondent and show them the picture associated with this exercise.

I will now show you an image of an average house in Unidade 6. This might even be your house or the house of your neighbor. I will ask you to tell me what things you would add to make this house a better house. You may list anything you want.



14	What would you add to make this house better?	
14a	14f	14k
14b	14g	14l
14c	14h	14m
14d	14i	14n
14e	14j	14o
15	Which item that you listed is most important to you?	
		15

SECTION SIX:
PLACE ATTACHMENT INVENTORY
SECTION 6.1:
DEMOGRAPHIC INFORMATION

ENUM: Read the following statement to the respondent.

I will now ask you a few questions about yourself.

16	What is your ethnic group?	16
17	What language do you speak?	17
<i>ENUM: Review the name of the village where the respondent used to live. Confirm that you have recorded it correctly.</i>		18
	1=BAGAMOYO	
	2=CHIPANGA	
	3=MALABWE	
	4=MITHETE	
18	I would like to confirm that I have recorded your former village correctly. Which village did you live in before your resettlement?	

SECTION 6.2:
PLACE ATTACHMENT TO FORMER VILLAGE

ENUM: You may need to remind the respondent throughout this next part about the need to think about their former village ONLY. Read these instructions to the respondent. When the respondent disagrees, clarify if they strongly disagree or just disagree a little. Do the same for when the respondent agrees. Use the training you received if you need to make a judgment about the degree of agreement. If the respondent seems particularly animated or begins to tell a story, please note this with a mark of X in the right column. Use the last page of this questionnaire to take notes on important details. Reference each note with the question number to which it refers. If the respondent has no basis to judge (e.g. has no children), enter 3.

Now I will ask you about your former village. I will read a statement and you will tell me if you agree with this statement. You may agree, disagree, or have no opinion.

19	I lived among other <ethnic group> in <village>.	1=STRONGLY DISAGREE	4=AGREE	19
		2=DISAGREE	5=STRONGLY AGREE	
		3=NO OPINION		

20 You could trust people in <village>.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	20
21 There was mutual help in <village>.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	21
22 When I left <village>, I wanted to move to a place that looked like <village>.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	22
23 <Village> had everything I needed to feed my family.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	23
24 My children lived better in <village>.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	24
25 I liked living in <village>.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	25
26 I did not want to move from <village>.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	26
27 <Village> was my home.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	27
28 I would have advised/I advised my grandchildren to live in <village>.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	28
29 I lived among my extended family in <village>.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	29
30 I was proud of <village>.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	30
31 There was a lot of jealousy in <village>.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	31
32 We were a community in <village>.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	32
33 I felt like an outsider in <village>.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	33
34 I felt safe in <village>.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	34

SECTION 6.3: PLACE ATTACHMENT TO UNIDADE 6

ENUM: You may need to remind the respondent throughout this next part about the need to think about Unidade 6 ONLY. Read these instructions to the respondent. When the respondent disagrees, clarify if they strongly disagree or just disagree a little. Do the same for when the respondent agrees. Use the training you received if you need to make a judgment about the degree of

agreement. If the respondent seems particularly animated or begins to tell a story, please note this with a mark of X in the right column. Use the last page of this questionnaire to take notes on important details. Reference each note with the question number to which it refers. If the respondent has no basis to judge (e.g. has no children), enter 3.

Now I will ask you about Unidade 6. I will read a statement and you will tell me if you agree with this statement. You may agree, disagree, or have no opinion. These may sound the same to you as questions I already asked but please remember that your answer is about Unidade 6.

35 I live among other <ethnic group> in Unidade 6.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	35
36 You can trust people in Unidade 6.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	36
37 There is mutual help in Unidade 6.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	37
38 If I leave Unidade 6, I want to move to a place that looks like Unidade 6.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	38
39 Unidade 6 has everything I need to feed my family.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	39
40 My children live better in Unidade 6.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	40
41 I like living in Unidade 6.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	41
42 I do not want to leave Unidade 6.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	42
43 Unidade 6 is my home.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	43
44 I would advise my grandchildren to live in Unidade 6.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	44
45 I live among my extended family in Unidade 6.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	45
46 I am proud of Unidade 6.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	46
47 There is a lot of jealousy in Unidade 6.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	47
48 We are a community in Unidade 6.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	48
49 I feel like an outsider in Unidade 6.	1=STRONGLY DISAGREE 2=DISAGREE 3=NO OPINION	4=AGREE 5=STRONGLY AGREE	49

50 I feel safe in Unidade 6.

1=STRONGLY
DISAGREE
2=DISAGREE
3=NO OPINION

4=AGREE
5=STRONGLY
AGREE

50

End of Interview:

ENUM: *Thank the respondent for their cooperation. Move on to your next interview. Record finish time on front. Tick level of cooperation below. If there are any responses that you think are unreliable, write under "comments" which questions and why you think they are unreliable.*

Level of Cooperation

1=HIGH
2=MEDIUM
3=LOW

COMMENTS ON UNRELIABLE QUESTIONS:

COMMENTS ON PLACE ATTACHMENT PROMPTS: *Remember to include the number of the prompt to which your comment refers.*

ENUMERATOR: Please introduce yourself and then explain to the respondent that you will be reading them an oral consent script that explains the study. Be sure to explain that they may ask questions about anything they do not understand.	
PART ONE: RESPONDENT CONSENT	
ENUM: Read the oral consent in the presence of a witness.	
Does the person give their oral consent to participate in the research? <i>[Circle 1 or 2 below.]</i>	
YES	1 Continue with the interview.
NO	2 Terminate the interview.
Interviewer initials:	Witness initials:
PART TWO: REVIEW OF QUESTIONNAIRE	
To be completed by the interviewer:	
Time Interview Started: _____ Completed: _____ Name of Interviewer: _____ Signature: _____ Comments on Consent Process: _____	Date of Interview: Day _____ Month _____ Year 2015
To be completed by the supervisor:	
Date of Review: _____ Name of Reviewer: _____ Signature: _____ Comments: _____	Questionnaire Checked? 1 = YES 2 = NO Audio Recording Collected? 1 = YES 2 = NO Household Follow-Up? 1 = YES 2 = NO
Interview Status: 1 = Completed 2 = Refused 3 = Terminated Early	
Number of Sessions to Complete Interview:	
PART THREE: HOUSEHOLD IDENTIFICATION	
SECTION 3.1: LOCATION	
ENUM: Write out the location where you interviewed the respondent (e.g. house, garden, plaza, kitchen house, etc.) 8. Interview Location:	1

9. Did you confirm the respondent number?	1=YES 2=NO
SECTION 3.2: RESPONDENT ELIGIBILITY	
<i>ENUM: Confirm that the respondent is the same person you spoke with during the first round of interviews. If it is not, identify that person. You must complete the interview with the same individual.</i>	
10. Are you interviewing the same respondent? <i>ENUM: If NO, terminate the interview.</i>	1=YES 2=NO

PART FOUR: DEMOGRAPHIC INFORMATION				
SECTION 4.1: HOUSEHOLD				
1. <i>ENUM: Enter the respondent's gender.</i>	1=MALE 2=FEMALE	1		
2. How old are you? <i>ENUM: Allow the respondent to estimate if they are unsure but don't spend time waiting for them to find official papers. If it is an estimate, mark with * to indicate. You can ask some questions to help estimate the age, including: (1) Were you alive/an adult when the peace agreement was signed? (2) Were you alive/an adult when the war between FRELIMO and RENAMO started? (3) Were you alive/an adult when the Portuguese still lived in Mozambique?</i>		2		
3. Are you married?	1=YES 2=NO	3		
<i>If Male:</i> 3a: How many wives do you have?	1=YES 2=NO	3a		
3b: Do they all live here?		3b		
<i>If Female:</i> 3c: How many wives does your husband have?		3c		
3d: Are you the head wife?	1=YES 2=NO	3d		
3e: Do all his wives live here?	1=YES 2=NO	3e		
4. What is the ethnicity of your household? (<i>ENUM: Write out.</i>)	4			
5. How many people "belong" to this household? <i>ENUM: "Belong" means members the respondent believes consider this household their home, even if they live elsewhere.</i>		5		
5a: Number living here		5a		
5b: Number living elsewhere		5b		
6. What is this household's primary source of income? <i>ENUM: Enter one of the codes listed below.</i>		6		
<table border="0"> <tr> <td>Income Codes</td> <td> 1 Farming 2 Fishing 3 Livestock 4 Other Agriculture 5 Mining: Coal 6 Mining: Other 7 Charcoal Production 8 Other Forest-Based 9 Tourism: Hotel 10 Tourism: Guide 11 Tourism Other 12 Cleaning 13 Office Work 14 Teacher 15 Healthcare 16 Government 17 Military 18 Vendor/Stall Owner 19 Other Formal 20 Other Informal </td> </tr> </table>			Income Codes	1 Farming 2 Fishing 3 Livestock 4 Other Agriculture 5 Mining: Coal 6 Mining: Other 7 Charcoal Production 8 Other Forest-Based 9 Tourism: Hotel 10 Tourism: Guide 11 Tourism Other 12 Cleaning 13 Office Work 14 Teacher 15 Healthcare 16 Government 17 Military 18 Vendor/Stall Owner 19 Other Formal 20 Other Informal
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6a: What category of work do you do? <i>ENUM: "Formal" means paid in regular wages that are taxed.</i>	1=FORMAL 2=INFORMAL	6a											
6b: What is this household's total monthly income in metacais? <i>ENUM: Enter one of the codes listed below.</i> Earnings Codes <table border="0"> <tr> <td>1.....0 – 250</td> <td>5.....1501 – 2000</td> <td>9.....10.001 – 15.000</td> </tr> <tr> <td>2.....251 – 500</td> <td>6.....2001 – 3500</td> <td>10.....15.001 – 25.000</td> </tr> <tr> <td>3.....501 – 1000</td> <td>7.....3501 – 5000</td> <td>11.....More than 25.000</td> </tr> <tr> <td>4.....1001 – 1500</td> <td>8.....5001 – 10.000</td> <td></td> </tr> </table>	1.....0 – 250	5.....1501 – 2000	9.....10.001 – 15.000	2.....251 – 500	6.....2001 – 3500	10.....15.001 – 25.000	3.....501 – 1000	7.....3501 – 5000	11.....More than 25.000	4.....1001 – 1500	8.....5001 – 10.000		6b
1.....0 – 250	5.....1501 – 2000	9.....10.001 – 15.000											
2.....251 – 500	6.....2001 – 3500	10.....15.001 – 25.000											
3.....501 – 1000	7.....3501 – 5000	11.....More than 25.000											
4.....1001 – 1500	8.....5001 – 10.000												
6c: How many hectares did anyone in your household use to farm crops in the last 12 months ? <i>ENUM: If the household doesn't farm, enter zero.</i>		6c											
6d: Does your household have any livestock or other animals?	1=YES 2=NO												
If yes: 6d1: How many cattle/oxen do you have?		6d1											
If yes: 6d2: How many goats do you have?		6d2											
If yes: 6d3: How many chickens/ducks do you have?		6d3											
If yes: 6d4: What other animals do you have that I have not listed? <i>ENUM: Please write the names of these animals. Dog or cat do not count unless the dog is used for protection.</i>		6d4											
6e: Has anyone in this household worked abroad in the last 12 months AND sent/brought money back home?	1=YES 2=NO												
If yes: 6e1: How much (in metacais) has been sent/brought in the last 12 months ?		6e1											

6f: Do you sell goods in a marketplace, shop, or along the road? <i>ENUM: This can be any type of good (e.g. charcoal, clothing, farm products, firewood)</i>	1=YES 2=NO	6f
If yes: 6f1: In the last 12 months ?	1=YES 2=NO	6f1
If yes: 6f2: In the last 6 months ?	1=YES 2=NO	6f2
If yes: 6f3: In the last month ?	1=YES 2=NO	6f3
6f4: Where do you sell goods most frequently? <i>(ENUM: Write out name.)</i>	6f4	

7. How much do you spend per month (in metacais) on ...? <i>ENUM: If the respondent doesn't know, ask if the person can estimate. If they cannot estimate, enter X and continue with the interview. You must write "X" in the space. Do not leave it blank.</i>	
7a: Food	7a

7b: Fuel for cooking (Charcoal, Gas, Firewood, Electricity, Etc.)	7b
7c: Electricity	7c
7d: Water	7d
7e: School supplies	7e
7f: Other Household Expenses	7f
7g: How many times per month do you go to the market to buy food?	7g
7h: How many times per month do you go to the market to buy charcoal?	7h
7i: How many times per month do you go to the market to buy other household items?	7i
8. Which of these items did your household acquire/gain access to AFTER you resettled?	
8a: Primary school	1=YES 2=NO 8a
8b: Secondary school	1=YES 2=NO 8b
8c: Health clinic	1=YES 2=NO 8c
8d: Marketplace to sell goods	1=YES 2=NO 8d
8e: Marketplace to buy goods	1=YES 2=NO 8e
8f: Electricity	1=YES 2=NO 8f
8g: Access to water	1=YES 2=NO 8g
8h: Access to chupa	1=YES 2=NO 8h
8i: Television with local channels	1=YES 2=NO 8i
8j: Television with African channels (not Mozambique)	1=YES 2=NO 8j
8k: Television with international channels (not African)	1=YES 2=NO 8k
8l: Cellular phone	1=YES 2=NO 8l
8m: Recreation center	1=YES 2=NO 8m
8n: Access to bank	1=YES 2=NO 8n
8o: Local police station	1=YES 2=NO 8o
8p: Computer with access to Internet	1=YES 2=NO 8p
9. How many children between ages 6-16 live in this household?	
8a: Are all school-age children attending school?	1=YES 2=NO 9a
<i>If no:</i> 8b: How many school-age children are not in school?	9b
<i>If no:</i> 8c: What is the primary reason children are not in school? ENUM: Enter one of the codes listed below.	9c

Education Codes	01 No money to pay for supplies 02 Student quit school for job 03 Student failed out 04 School is not a good school	05 Required grade level not here 06 Student needed at home 07 Other reason	
10. Has any member belonging to this household and living here experienced ... in the past six months?			
10a: Major illness <i>ENUM: "Major" means the person was unable to perform their household duties, job, schoolwork, etc. for a period longer than two weeks. "Illness" does not include accidents (e.g. crocodile attack, vehicle accident, falling out of a tree, etc.)</i>		1=YES 2=NO	10a
10b: Accident <i>ENUM: "Accident" means harm to the individual person not caused by an illness (e.g. malaria, fever). Examples include crocodile attack, vehicle accident, falling out of a tree, etc.</i>		1=YES 2=NO	10b
10c: Hunger <i>ENUM: "Hunger" means not feeling full after meals for two or more consecutive days.</i>		1=YES 2=NO	10c
10d: Concern for the future <i>ENUM: "Concern" means a fear that the future will have bad outcomes for the individual/household or a preoccupation with the ability to provide for the household in the future.</i>		1=YES 2=NO	10d
11. In our previous conversation, you said you lived in/near ... village. Did we record this correctly? <i>ENUM: Refer to the village code derived from the first round of interviews. If the answer is NO, identify which village the respondent lived in and write it below.</i>		1=YES 2=NO	11

SECTION 4.2: HOUSEHOLD ROSTER								
<i>ENUM: Only include information for the head of household and any household member who earned an income (either formal or informal) within the past six months. If they have not earned an income in the past six months, do not include them.</i>								
	12a	12b	12c	12d	12e	12f	12g	12h
	What is the relationship of ... to the head of household?	Is ... male or female?	How old is ... now?	What was the highest grade ... obtained? <i>ENUM: Write number of years below. If finished more than secondary school, indicate appropriate level.</i>	What is ...'s main economic activity?	Is this activity formal or informal?	Is ... engaged in any other economic activity other than that listed in Q10e?	What is ...'s occupation?
	1 Spouse 2 Child 3 Parent 4 Grandparent 5 Other Relative 6 Unrelated	1=MALE 2=FEMALE	<i>ENUM: Enter whole year only.</i>	A0 Secondary A1 Certificate A2 Some University A3 University A4 Master's A5 Doctoral	<i>ENUM: Refer to the codes in Q6.</i>	1=FORMAL 2=INFORMAL	1=YES 2=NO	<i>ENUM: Write out the name.</i>
P1	HEAD OF HOUSEHOLD							
P2								
P3								
P4								
P5								
P6								

PART FIVE: ABOUT THE FORMER VILLAGE		
Now, I want to ask you questions about the village where you lived before 25 de Setembro. ENUM: You may need to refer back to the village listed in the Village Code.		
13. For how many years had you lived in the village before you resettled? ENUM: If born there, enter the age of respondent from Q2.		13
13a: Were you born there?	1=YES 2=NO	13a
13b: Was your mother born there?	1=YES 2=NO	13b
13c: Was your father born there?	1=YES 2=NO	13c
13d: Are your ancestors buried there?	1=YES 2=NO	13d
14. Did you engage in farming in your village?	1=YES 2=NO	14
If yes: 14a: How many hectares of crops did you grow?		14a
If yes: 14b: What did you grow? ENUM: List the crops grown.	14b	
If yes: 14c: How long did it take you to walk from your house to your field? ENUM: Record this in kilometers		14c
14d: Did you sell your crops?	1=YES 2=NO	14d
If yes: 14e: How much in metacais did you earn from selling crops?		14e
If yes: 14f: Where did you most regularly go to sell your crops?	14f	
14g: Did you own livestock or other animals?	1=YES 2=NO	14g
14h: What type of animals did you own? ENUM: Please write the names of these animals. Dog or cat do not count unless the dog is used for protection.	14h	
15. I would like to ask you about natural disasters in your village. ENUM: The time periods are in the year BEFORE the respondent was approached to resettle to 25 de Setembro.		
15a: Did you have flooding?	1=YES 2=NO	15a
If yes: 15b: How many times in the past 3 years did it flood?		15b
If yes: 15c: Did you experience damages to your fields?	1=YES 2=NO	15c
If yes: 15d: Did you experience damages to your home?	1=YES 2=NO	15d
15e: Did you have insect plagues?	1=YES 2=NO	15e
If yes: 15f: How many times in the past 3 years did you have insect plagues?		15f
15g: Did you have drought?	1=YES 2=NO	15g
If yes: 15h: How many times in the past 3 years did you have drought?		15h
15i: Did you have animal conflict?	1=YES 2=NO	15i
If yes: 15j: How many times in the past 3 years did you experience animal conflict?		15j

<i>If yes:</i> 15k: Did you experience damage to your fields?	1=YES 2=NO	15k
<i>If yes:</i> 15l: Did you experience damage to your home?	1=YES 2=NO	15l

Rate Codes 1 Very Bad ☹ 4 Good 2 Bad 5 Very Good ☺ 3 Fair ☹	16. I would like to ask you about access to natural resources in your village. How would you rate your access to ? <i>ENUM: Use the following codes based upon the respondent's answer. You may place the faces on the table for the respondent to choose from.</i>		
	16a: Clean drinking water		16a
	16b: Water for crop irrigation		16b
	16c: Firewood		16c
	16d: Medicinal plants		16d
	16e: Bushmeat; Wild animals for meat		16e
	16f: Good soil for crops		16f
17. I would like to ask you about roads in your village. 17a: Did your village have a road to Moatize/Tete? <i>If yes:</i> 17b: Could you use the road all year? <i>If yes:</i> 17c: What type of road was it? (e.g. dirt, asphalt, gravel)			
		1=YES 2=NO	17a
		1=YES 2=NO	17b
		17c	
18. I would like to ask about your house and other houses in your village. 18a: How many houses were there in your village? <i>ENUM: Respondent should make their best guess.</i> 18b: Were there any houses made of cement or bricks? 18c Was your house made of cement or bricks? 18d: How many rooms did your house have? 18e: Did you have a separate room for sleeping in your house? 18f: Did you have a bathroom in your house? 18g: Did you have a kitchen in your house? 18h: Did your village have access to electricity? <i>If yes:</i> 18i: Did you have access to electricity in your house? <i>If yes:</i> 18j: Did it work? <i>If yes:</i> 18k: Did you use the electricity? <i>If no:</i> 18l: Why did you NOT use the electricity? <i>ENUM: Please record the response.</i> 18m: Did you have access to a water pump in your house? <i>If yes:</i> 18n: Did it work?			
			18a
		1=YES 2=NO	18b
		1=YES 2=NO	18c
			18d
		1=YES 2=NO	18e
		1=YES 2=NO	18f
		1=YES 2=NO	18g
		1=YES 2=NO	18h
		1=YES 2=NO	18i
		1=YES 2=NO	18j
		1=YES 2=NO	18k
		18l	
		1=YES 2=NO	18m
		1=YES 2=NO	18n

<i>If yes:</i> 18o: Did you use the water pump?	1=YES 2=NO	18o
<i>If no:</i> 18p: Why did you NOT use the water pump? ENUM: Please record the response.	18p	
18q: What was your roof made from?	18q	

19. I would like to ask you about other things you may have had in your village. Did you have ... in your village?		
19a: Primary school	1=YES 2=NO	19a
<i>If yes:</i> 19b: How would you rate the quality of the primary school?	1=VERY BAD 2=BAD 3=FAIR 4=GOOD 5=VERY GOOD	19b
19c: Secondary school	1=YES 2=NO	19c
<i>If yes:</i> 19d: How would you rate the quality of the secondary school?	1=VERY BAD 2=BAD 3=FAIR 4=GOOD 5=VERY GOOD	19d
19e: Health clinic or hospital	1=YES 2=NO	19e
<i>If yes:</i> 19f: How would you rate the quality of the clinic/hospital?	1=VERY BAD 2=BAD 3=FAIR 4=GOOD 5=VERY GOOD	19f
19g: Police station	1=YES 2=NO	19g
19h: Market	1=YES 2=NO	19h
<i>If no:</i> 19i: How long did it take to get to a market? ENUM: Record the units used by the respondent (e.g. minutes, hours, days, etc.) This should be collected in time.		19i
19j: Government office	1=YES 2=NO	19j
20. How frequently did you leave the village? ENUM: This does not include the respondent going to his fields or to the river to wash clothes, collect water, etc. Record the units used by the respondent (e.g. 3 times per week, 1 time each month, every September for a week, etc.)		20
20a: How many of those trips were to buy something at the market?		20a
20b: How many of those trips were to sell something at the market?		20b
20c: How many of those trips were to visit relatives?		20c
20d: How many of those trips were to the clinic or hospital?		20d

PART SIX:
OPEN-ENDED QUESTIONS ABOUT VILLAGE

ENUM: This part of the interview represents questions with no specific answer. The respondent may say whatever they want in response to these questions. Let the respondent finish speaking. If they say something that is unclear, ask them to repeat themselves or clarify by asking what they meant. You may ask probing questions if the answers are short or you think there is more to tell. Here is a list of good probing questions to use. You do not have to ask all of these questions. If you think the respondent has given enough information, you can move on to the next interview question. Please use your judgment based on the training we did. You should take notes on what is said, but you do not have to write everything down.

P1: Why do you think that happened?

P2: Why do you feel that way?

P3: What happened next? What happened as a result of that?

P4: Were you happy/sad/excited/angry/etc. with that decision?

P5: Would you do something differently now?

Read this to the respondent:

Now I am going to ask you just a few more questions. You may say as little or as much as you like. If you do not understand the question, you may ask us to explain what we mean. You do not have to answer any question you want but this information is important to us and will help us understand what you and others might want when asked to resettle. We are going to record this portion of the interview so we can remember what you have told us later.

21. Can you tell us the story of your former village?

22. Why did you live there in that village?

a. Were you born there?

1. **If no:** Why did you live there?

b. Were your parents born there?

c. Were your grandparents born there?

d. **If female:** Was this your village or the village of your husband?

e. **If female:** Did you go back to your village?

23. How were the social relations in the village?

ENUM: You should prompt the respondent to talk about these things.

a. Mutual help

b. Trust

c. Dignity and respect

d. Theft

e. Adultery

f. Fighting

g. Resolution of disagreements

h. Relationship with neighbors

i. Relationship with village leader/chief

24. How did people in the village make decisions?

a. Who was responsible for making decisions in your house?

b. How did you contribute to the process?

c. How often do you get to make the decision on your own?

25. Can you tell us about the resettlement process?

ENUM: Use these questions to find out more information.

a. When did you first find out about the resettlement?

b. Who talked to you about the resettlement?

c. How many visits did they make?

- d. What were you promised to resettle?
- e. Did you talk with your neighbors about the resettlement?
- f. Did you talk with other people in the community about the resettlement?
- g. Did you talk with people outside the community about the resettlement?

26. In your own words, can you tell me why you resettled?

27. Can you tell us about your life in 25 de Setembro since resettlement?

28. What is the community like in 25 de Setembro?

ENUM: You should prompt the respondent to talk about these things.

- a. Mutual help
- b. Trust
- c. Dignity and respect
- d. Theft
- e. Adultery
- f. Fighting
- g. Resolution of disagreements
- h. Relationship with neighbors
- i. Relationship with leader/chief

29. What risks do you face in 25 de Setembro?

- a. Are these risks new?
- b. What can you do about them?

30. What do you like more about 25 de Setembro than your former village?

31. What do you like more about your former village than 25 de Setembro?

32. What would you change about 25 de Setembro if you could? What do you need here?

33. If you are asked to resettle again, what would you like to be offered to resettle?

34. What else would you like to tell us?

PART SEVEN: RESETTLEMENT SUPPORT	
<p>We are going to end with two questions about the resettlement. Please listen to the options before you make a decision.</p> <p><i>ENUM: The respondent must choose one of these responses. If they do not say one of these responses, ask them to clarify which response is closest to their answer.</i></p>	
<p>35. Was the resettlement from your village a good thing?</p> <p>1 It was not good for anyone</p> <p>2 It was good for some people but not for me.</p> <p>3 It was good for me but not for some people.</p> <p>4 It was good for everyone.</p>	35
<p>36. If you were asked to resettle from 25 de Setembro, would it be a good thing?</p> <p>1 It will not be good for anyone.</p> <p>2 It will be good for some people but not for me.</p>	36

3 It will be good for me but not for some people.	
4 It will be good for everyone.	

End of Interview:		
<i>ENUM: Thank the respondent for their cooperation. Move on to your next interview. Record finish time on front. Tick level of cooperation below. If there are any responses that you think are unreliable, write under "comments" which questions and why you think they are unreliable.</i>		
Level of Cooperation	1=HIGH 2=MEDIUM 3=LOW	

COMMENTS:

Appendix B: Complete table for logistic regression presented in Chapter 4

In Chapter 4, I presented the results from 24 bivariate logistic regressions (see Table 4.4) using only the odds ratio, Cramer's V, and lambda. In this appendix, I present the full table (including those models not resulting in statistically significant findings) with further elaboration (Table B1). As noted in Chapter 4, there is a need for caution in interpreting the odds ratios presented in Table B1. Whenever the sample size is small (i.e. <100 cases), the algorithm that calculates the odds ratio does not fully correct for small sample bias, and therefore, it is possible that the effects may be larger than actually exist. Long (1997) advises against using maximum likelihood estimates if the sample size is less than 100, but Nemes et al. (2009) suggest this is study specific. They propose that only those studies where the outcome variable is very common or extremely rare should take Long's caution seriously. In this study, the outcome variable (*=being willing to move away from the post-resettlement site*) was neither rare nor common. In fact, it was coded 1 (*=yes, or true*) only 45.6% of the time. Nemes et al. (2009) also suggest that the independent variables can influence the decision to use a small sample size. Studies in which the independent variables are discrete (true for this study) or highly correlated (not true for this study as this is a bivariate logistic regression model) are advised to use larger sample sizes to avoid bias in the reported odds ratios (Nemes et al. 2009).

Table B1: Complete results for bivariate logistic regressions performed in Chapter 4

Variable Name	N	Odds Ratio	95% CI	P
Theme 1: Diversified Income Opportunities				
Acquire a formal job	68	0.93	0.35 – 2.42	0.874
Generate income from rental property	68	1.00	--	--
Obtain skill training	68	1.00	--	--
Realize promises made prior to resettlement	68	1.27	0.43 – 3.75	0.662
Receive fair compensation for resettlement	68	2.54	0.83 – 7.71	0.101
Start a business	68	1.03	0.31 – 3.46	0.964
Theme 2: Adequate Land Access				
Acquire more land	68	0.95	0.23 – 3.89	0.941
Gain access to forest/bush resources	68	0.82	0.28 – 2.40	0.720
Increase livestock holdings	68	1.21	0.16 – 9.11	0.855
Receive a machamba (farm)	68	2.32	0.87 – 6.16	0.091
Theme 3: Improved Community Infrastructure				
Build local primary school	68	2.92	1.04 – 8.17	0.042
Build local recreation center (football field)	68	4.54	1.27 – 16.19	0.020
Establish marketplace	68	1.23	0.32 – 4.72	0.762
Improve local transportation	68	0.57	0.10 – 3.34	0.532
Improve quality of community clinic	68	1.22	0.28 – 5.35	0.790
Increase reliability of electricity generation	68	0.14	0.02 – 1.23	0.077
Increase reliability of water distribution	68	1.50	0.57 – 3.95	0.412
Theme 4: Enhanced Safety				
Feel safe at home and on streets	68	0.57	0.20 – 1.62	0.293
Make repairs to house	68	1.43	0.55 – 3.72	0.466
Reduce public health risks	68	0.78	0.12 – 5.00	0.795
Repair non-functioning streetlights	68	0.82	0.23 – 2.91	0.764
Theme 5: More Harmonious Community Dynamics				
Adopt a new name for <i>bairro</i>	68	0.88	0.18 – 4.29	0.878
Elect a new community leader	68	1.21	0.16 – 9.11	0.855
Increase opportunity for shared decision-making	68	1.20	0.07 – 20.01	0.899

Note: Only those individuals not answering in a neutral fashion (i.e. had no opinion on moving away from the post-resettlement site) were included in this analysis.

Of the 24 goals derived from the content analysis, expression of thirteen increased the odds the respondent would be willing to move away from the post-resettlement site, nine decreased the odds, and two appeared to have no effect (OR=1.00). There does not appear to be any pattern to this as each theme contained goals increasing the odds and goals decreasing the odds. At the individual level, some relationships appear to make sense. For example, it is logical that an individual who wants to rename the bairro and adopt a new identity for the community would be less

willing to move away from the post-resettlement site, especially if they are advocating for bringing their identity to this new place. Other relationships, however, do not appear to make any sense at all. For example, in order to acquire more land or to gain access to forest/bush resources, individuals would have to move away from the post-resettlement site as neither are possible in Bairro Chipanga. Yet, the expression of these two goals appears to decrease the odds that a person would be willing to move away from the post-resettlement site. This latter example is the reason I chose to focus exclusively on the statistically significant goals that increased a respondent's willingness to move away from the post-resettlement site.

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