Parks with People?

Action Research in Bridging Conservation and Livelihoods in Limpopo National Park, Mozambique

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Front cover (L-R): Drought affected maize crop & Cattle in the Elefants river in dry season, Macaringue (photos: Nícia Givá). Top: Kruger Park elephants (photo: Wikimedia/freestock.ca)

Back cover: Granaries filled with good harvest following 2012/13 floods (photo: Nícia Givá)

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Abstract

Reconciling conservation and people's livelihoods has faced multiple dilemmas, particularly prominent in human-inhabited protected areas with high levels of poverty and vulnerability to climate adversities. This thesis examines the relationship between wildlife conservation and people's livelihoods in a human-inhabited protected area and analyses the challenges and opportunities for reconciling the two. Drawing from the empirical case of Limpopo National Park (LNP), conceptualised from the outset with the 'Parks with People' paradigm, I argue in this thesis that reconciling conservation and livelihoods objectives requires co-management alternatives that are flexible, context-sensitive, and adaptive. Therefore systemic action research was adopted as the methodological approach for collaborative exploration of co-management opportunities that could resonate with the local complexity and dynamics. Findings show that agricultural livelihoods and food security of the LNP residents are strongly contingent on the climatic conditions. People's ability to cope with and overcome drought-related food insecurity has been negatively affected by wildlife incursion, since strategies to simultaneously cope with both are inconsistent. The park lacked an adequate management strategy for tackling both wildlife conservation and people's livelihoods. This study also demonstrates the potential of the systemic action research approach in engaging the multiple actors in a social learning process, which improved actors' knowledge and understanding of their conflictual perspectives and needs. Local communities enhanced their agency towards improving their responsibility and accountability in the management of LNP, particularly regarding the 20% benefit sharing. Likewise, park staff became aware of the improvement necessary in their praxis and gained sensitivity for collaborative approaches. However, the LNP governance structure is dominated by the neoliberal and donor-driven conservation agenda which disregards the local context of poverty and vulnerability to climate adversities. This hindered the possibilities to further develop the emergent collaborative signs into long-term co-management practice. I conclude by emphasising the need for communicative spaces across all levels of governance to address simultaneously the complexity of the conservation-livelihood nexus and challenge the normalised and hegemonic neoliberal prescriptions.

Keywords: Conservation, Livelihood, Inhabited protected areas, Action research, Adaptive co-management, LNP

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Dedication

To Nino, Náizn and Niarah for your unconditional surrender

‘We need to engage in a persistent, sustainable transformational dialectic between our ‘seeing’ and our ‘doing’: between our thought and our actions.’

Richard Bawden

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List of Publications

This thesis is based on the work contained in the following papers, referred to by Roman numerals in the text:

I Givá, N., Cavane, E., Sriskandarajah, N., (Submitted). Human-Wildlife Coexistence in Limpopo National Park: Coping Strategies in a Climate Change Context, *World Development Journal*.

II Givá, N. and Raitio, K. (in press). 'Parks with People' in Mozambique: Community Dynamic Responses to Human Elephant Conflict at Limpopo National Park, *Journal of Southern African Studies*.

III Sriskandarajah, N. Givá, N., Hansen, H.P. (2016). Bridging Divides through Spaces of Change: Action Research for Cultivating the Commons in Human-Inhabited Protected Areas in Nicaragua and Mozambique. In: Hansen, H.P., Nielsen, B., Sriskandarajah, N. and Gunnarsson, E. (Eds.).*Commons, Sustainability, Democratization: Action Research and the Basic Renewal of Society* Routledge Advances, In: Research Methods, 139-166.

IV Givá, N. and Sriskandarajah, N. (manuscript). Creating a Communicative Space: Systemic Action Research towards Adaptive Co-Management in Limpopo National Park.

Papers II-III are reproduced with the permission of the publishers.

My contribution to the papers included in this thesis was as follows:

I I developed the research design, performed the fieldwork and analysis, developed theoretical conceptualisation, and wrote the text. E. Cavane assisted with statistical analysis and N. Sriskandarajah provided inputs in the data discussion.

II I developed the conceptual idea, undertook the empirical work and the analysis, wrote the text. K. Raitio assisted with the discussion of both theoretical framework and the findings.

III I am the second author in this article. I provided the empirical material and the analysis of one of the case studies and I wrote the text regarding the case study.

IV I was responsible for the theoretical framework, the empirical work and analysis, and I wrote the text. N. Sriskandarajah participated in the research design.

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Abbreviations

AFD	Agence Française de Développement (French Development Agency)
ANAC	Administração Nacional de Áreas de Conservação (National Administration for Conservation Areas)
ARA Sul	Administração Regional de Águas – Sul (Regional Water Administration – South)
CEO	Chief Executive Officer
DNAC	Direcção Nacional das Áreas de Conservação (National Directorate for Conservation Areas)
FAEF	Faculty of Agronomy and Forestry Engineering
GLTCA	Great Limpopo Transfrontier Conservation Area
GLTP	Great Limpopo Transfrontier Park
IFAD	International Fund for Agricultural Development
IUCN	International Union for Conservation of Nature and Natural Resources
KFW	Kreditanstalt für Wiederaufbau (The German Development Bank)
KNP	Kruger National Park
LNP	Limpopo National Park
NGO	Non-Governmental Organisation
NRM	Natural Resource Management
PIU	Project Implemetation Unit
PPF	Peace Parks Foundation
SDAE	Serviços Distritais de Actividades Económicas (District Services for Economic Activities)
TFCAs	Transfrontier Conservation Areas
UEM	Universidade Eduardo Mondlane (Eduardo Mondlane University)

USD	United States Dollar
WB	World Bank
WWP	World Wide Fund for Nature

1 Introduction

1.1 Reconciling Conservation and Livelihoods in the Age of Climate Change

The global aim of achieving 17% of terrestrial protected areas by 2020 (CBD, 2010) has increased the growth of protected areas worldwide. One of the major challenges concerns the reconciliation between global biodiversity conservation goals and the livelihood needs of the local people. In many areas, this challenge is emphasised by impacts of climate change in the form of increasingly unexpected and intense weather conditions such as droughts and floods.

In Southern Africa, 43% of the total land area corresponds to protected areas of different forms, parks, reserves, game management areas and a considerable number of transboundary protected areas (IUCN, 2010). Most of them overlap with rural settlements which in total encompass some 128 million people. As much as 85% of these people live, according to the Rural Poverty Portal, under the poverty line (below 2USD/day) and depend on land for their livelihoods (IFAD, 2016). In addition, 40% of such rural settlements are located in deserts and semi-arid areas, where annual precipitation is expected to decrease by more than 20% by 2080 due to climate change (IFAD, 2016; Conway *et al.*, 2015). In these situations, competing for scarce resources such as water and struggling to produce food to overcome food insecurity while dealing with Human-Wildlife Conflict (HWC) is one of the daily challenges faced by these settlements. In addition, the limited access to natural resources imposed by the protected area, the poor infrastructure and consequent poor connectivity are other issues shaping the complex and dilemmatic situation of most of the protected areas in Southern Africa. Mozambique faces the same situation, with 26% of its territory covered by conservation areas. Up to 92% of parks and reserves are entrenched with human settlements, conflicting over space, resource use and management (Ministry for the Coordination of Environmental Affairs, 2014).

The rural villages in Gaza province in southwest Mozambique have found themselves in the middle of these clashing policy goals. The villages along Limpopo River in the southwestern part of Gaza province are situated in one of the poorest and most drought-prone areas in the country and are highly affected by El Niño phenomena (Conway *et al.*, 2015; INGC, 2009). More than half of the population live on less than 1.25 USD a day (UNDP, 2013). The people depend on rain-fed subsistence agriculture and livestock husbandry to make a living. Their remote location undermines their connection to the market and opportunities for livelihood diversification. Since 2001, these villages have been enclosed in the buffer zone of Limpopo National Park (LNP). It is part of the Great Limpopo Transfrontier Park, bridging Kruger National Park in South Africa and Gonarezhou National Park in Zimbabwe. The LNP was established within the Peace Parks ideology, which in principle advocates transboundary 'Parks with People'. Hence, the LNP was conceptualised as a national park with fuzzy boundaries where people and wildlife could move freely, thus acknowledging the social and economic legitimacy of local people (Ministry of Tourism, 2003). In practice, however, besides the already existing hardships caused by drought and poverty, the villages now also need to deal with wildlife incursion, particularly the increased elephant crop raiding prompted by the opening of the borders shared between Kruger and Limpopo National Parks.

Tackling the multiple dilemmas of reconciling conservation and livelihood goals in a human-inhabited protected area has thus proved to be a challenge not only in Limpopo, but internationally (Agrawal & Redford, 2006; Roe & Elliott, 2004; Wells & McShane, 2004; Brandon & Wells, 1992). The challenge is particularly acute and important in protected areas with a higher level of poverty, such as LNP. Here, means and ends becomes controversial – often questioning which of the two, conservation or poverty alleviation, should be prioritised and whether the two goals can be attained simultaneously (Roe et al., 2013; McShane et al., 2011; Salafsky, 2011; Hawken & Granoff, 2010; Adams & Hutton, 2008; Buck et al., 2007; Agrawal & Redford, 2006; Hutton et al., 2005). Reported failures are conceptual, design and implementation related, demanding more contextually-based conservation areas rather than implementing international pre-conceived ideas of conservation (Brechin et al., 2010; Hawken & Granoff, 2010; Roe & Elliott, 2004; Brechin et al., 2002; Brandon & Wells, 1992). Contemporary research promotes adaptive co-management between the park management and the local communities as a way forward to address conservation and livelihood dilemmas while also dealing with the complexity of the socio-ecological systems (Plummer et al., 2012; Armitage et al., 2008c; Fennell et al., 2008; Armitage et al., 2007). Within the field of natural resource management, adaptive co-management emphasises inclusiveness of multiple actors, collaboration and sharing of rights, responsibilities and decision making, and adaptability through iterative social learning (Berkes, 2009).

Notwithstanding the prevailing literature indicating significant advances in management alternatives towards reconciling the two goals, their operationalisation has been far from a mainstream practice (e.g. Berkley, 2013; Brechin *et al.*, 2010; Constantino *et al.*, 2008; Bekkers & Edwards, 2007; Brown, 2003). This would demand a shift in the mind-set and in the praxis of the policy makers and practitioners respectively (Ison *et al.*, 2015; Redford & Agrawal, 2006; Brechin *et al.*, 2002), to move from simple prescriptive solutions to more flexible, experimental and adaptive management alternatives. Along these lines, a significant amount of research stresses the need to adopt flexible, systemic, learning-oriented, democratic, iterative ways of generating knowledge and knowing, with an emphasis on the context and its spatial and temporal dynamics (see for example Hansen *et al.*, 2016; Ison *et al.*, 2015; Koontz *et al.*, 2015; Ison *et al.*, 2013; Plummer *et al.*, 2012; Armitage *et al.*, 2011; Miller *et al.*, 2011; Robinson, 2011; Armitage *et al.*, 2008c; Bäckstrand, 2006).

Building on this literature, this study argues that in practice, the limited extent of the operationalisation of these adaptive co-management ideals advanced in the literature represents a significant gap between the ways protected areas are conceptualised and management approaches are implemented. This gap is particularly prominent in the context of human-inhabited protected areas with conflicting interests over space, resources and limited livelihood alternatives, demanding alternative management approaches that are flexible and continuously reassessed and readapted (Paper II in this thesis). Addressing this gap in a practical way demands an alternative methodological approach that is consistent with ideal attributes of adaptive co-management (inclusiveness, collaboration, learning and adaptability). Therefore, Systemic Action Research has been adopted as a methodological approach in this study to experimentally test the adaptive co-management ideals in the context of a human-inhabited protected area, by exploring the real case of LNP.

Limpopo National Park is an extensive wildlife park covering 10,000 square kilometres and also encompassing 35,000 people settled in 44 villages along the main water courses, who have access and usage rights to land and natural resources. Due to the need to establish the park while acknowledging these rights of the local inhabitants, LNP adopted the Multiple Use Management approach. In theory this approach implied that people could remain in the so-called buffer zone, and continue to benefit from the rights to access and use of natural resources for subsistence purposes, although restrictions were set for hunting and charcoal production. Nonetheless, the experienced wildlife interplay conflicting with people's agricultural based livelihoods and its association to climate variability have increased people's vulnerability to food insecurity, and therefore threatened the park -people relationship. On the other hand, poaching of important conserved wildlife (rhinoceroses and elephants) in the Kruger-Limpopo intersect has risen in the last 5 years (Massé & Lunstrum, 2016), which also threatens conservation goals. This situation is challenging the LNP management, which seems today to be shifting from a 'Park with People' to a 'Park without People' approach.

1.2 Aim and Research Questions

The context described above provided a scholarly opportunity to understand the complexity and its implied challenges, and the opportunities and limitations of reconciling conservation and livelihood needs in an inhabited protected area. This study focuses on understanding the conservation and livelihood dynamics of communities in the LNP's buffer zone. The buffer zone was chosen as the empirical focus of the study for two reasons. First, to diversify the scholarly literature on the LNP and GLTP, which tends to concentrate on the core area of the park or on communities with ongoing resettlement processes or plans to be resettled (see for instance Lunstrum, 2016; Witter & Satterfield, 2014; Lunstrum, 2010; Milgroom & Spierenburg, 2008; Spierenburg *et al.*, 2008). Second, because the buffer zone was established as an integral part of the park, conceptualised as having fuzzy boundaries where people and wildlife could move freely. This makes Limpopo different from other parks where the buffer zone is commonly located outside the park's boundaries, separating the core area from the resource use zone (see Andrade & Rhode, 2012; Heinen & Mehta, 2000). Shifting the focus to the buffer zone thus not only fills the gap within the LNP literature, but also contributes to the broader scholarly debates in understanding the challenges of how to 'get conservation right'.

By using the action research approach, which resonates with the principle of adaptive co-management in the field of protected area management, this study will contribute with insights on how and to what extent action research represents a potential approach to practically foster adaptive co-management. The study also examines the contribution of the approach towards improving practitioners' praxis – a practice informed by the theory and theory refined by the practice, and consistent with the complexity of 'wicked' problems (Ison *et* *al.*, 2015) such as the human-inhabited protected area context. Engaging all relevant actors in the interactive cycles of learning, reflecting and acting within social learning theory was used to progressively improve the understanding of the complexity of human-wildlife interaction within the buffer zone of LNP. These collective interactions aimed at creating communicative spaces or 'community agoras' (Hansen *et al.*, 2016); spaces where actors participate and collectively and continuously build knowledge with the purpose of consistently (re)-evaluating feasible management practices to reconcile people's livelihood needs and wildlife conservation objectives. The thesis also advances reflections on the limitations faced in the attempt to institutionalise the tested co-management approach.

The research questions are presented in two sets. The first set of questions concern the substance related to bridging conservation and livelihood needs. The second set focuses on the action research process and the lessons drawn from it.

1. How has the 'Parks with People' approach been implemented in park management practices to accommodate people's livelihood needs and wildlife conservation goals?
    a) How have the communities' livelihoods and their ability to deal with climatic adversity been affected by the establishment of the park?
    b) How has the park addressed the conflicts between the communities' livelihood needs and the wildlife conservation goals?
    c) How do the management approaches of the park resonate with the principles of 'Parks with People' and adaptive co-management?
    d) What insights from people's livelihoods and wildlife conservation conflicts at LNP can be drawn to improve management practices towards reconcilable coexistence?
2. How can systemic action research and social learning approaches contribute in creating spaces for change and opportunities for concerted actions towards co-management in a context of human-inhabited protected areas?
    a) How did the social learning approach affect the understanding of the problematic situation by the park management and the communities?

b) To what extent and how did the interactive cycles and the communicative actions help build the capacity of involved actors to improve the outcomes of addressing the conflict between conservation and people's livelihoods?

c) To what extent and how did the interactive cycles and the communicative actions influence institutional and management change at LNP?

d) What theoretical insights could be drawn from such experiences in human-inhabited protected areas?

1.3 The Outline of the Thesis

This thesis consists of an overview (*kappa*) monograph with eight chapters in it and four scientific articles appended to it. Figure 1 below illustrates the content and the contribution of each the articles to the thesis. This introductory chapter is followed by Chapter 2, which presents the context of the Limpopo National Park as a Peace Parks in the Southern Africa region (section 2.1). It provides a brief history of the LNP area prior to the establishment of the park, the people and respective livelihoods (Section 2.2) as well as presenting the setup of the park in relation to settlements together with the research sites (Section 2.3). Chapter 3 presents the theoretical literature review on the conservation and livelihood debate and adaptive co-management. The methodology chapter (chapter 4) starts with a brief description of systemic action research and its relational systems thinking concept which helped to conceptualise the methodological approach. Section 4.2 provides the research approach, methods and data collection techniques used, which are described in three phases in which the research evolved. Chapter 5 presents a synthesis of the four articles that compose this thesis, and found in the annex. Chapter 6 follows with the findings which are arranged in three sections. The results on the people's livelihood and wildlife conservation interactions and respective responses from both the park and communities are presented in section 6.1. The following section, 6.2, narrates the action research process in sequential and chronological form. The chapter finishes with section 6.3 where the main findings are synthesised, before chapters 7 and 8 present the discussion and the conclusions respectively.

Thesis in context

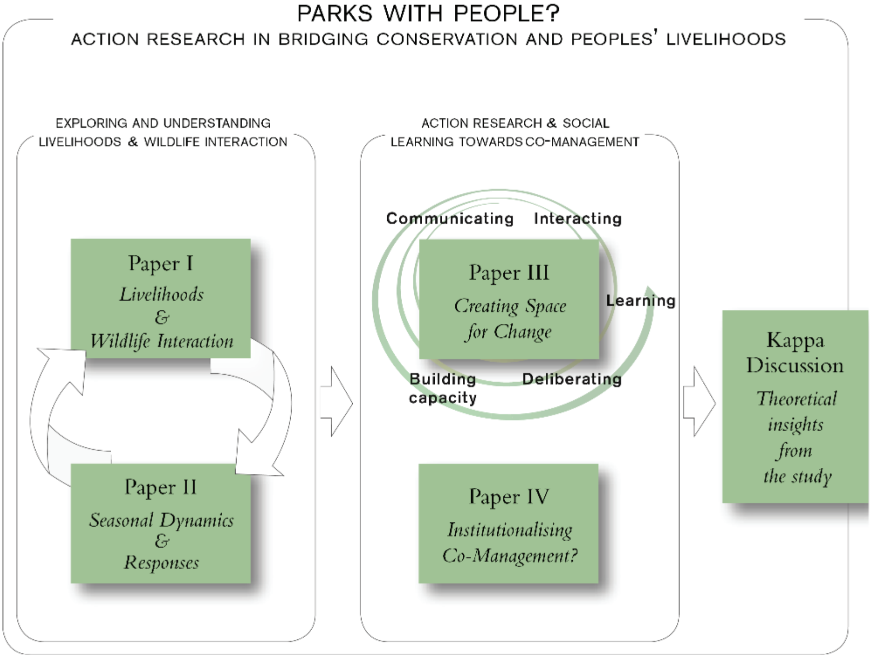
PARKS WITH PEOPLE?
ACTION RESEARCH IN BRIDGING CONSERVATION AND PEOPLES' LIVELIHOODS
EXPLORING AND UNDERSTANDING LIVELIHOODS & WILDLIFE INTERACTION
Paper I
Livelihoods & Wildlife Interaction
Paper II
Seasonal Dynamics & Responses
ACTION RESEARCH & SOCIAL LEARNING TOWARDS CO-MANAGEMENT
Communicating
Interacting
Paper III
Creating Space for Change
Learning
Building capacity
Deliberating
Paper IV
Institutionalising Co-Management?
Kappa Discussion
Theoretical insights from the study

Figure 1. Positioning of the four Papers in relation to the Thesis

2 The Context of Transfrontier Conservation Areas

This chapter provides an overview of the history of Transfrontier Conservation Areas (TFCAs) with a focus on Southern Africa. It points out some concerns around the Southern Africa TFCAs as a way of placing the LNP in a bigger perspective and the context of its integration as part of the Great Limpopo Transfrontier Park (GLTP) (section 2.1). A brief history to contextualise the area and the people pre- and post-LNP is presented in section 2.2, followed by section 2.3 describing the study area and the last section, 2.4, characterises the main actors.

2.1 Claiming Peace and 'Development' across Borders

The transfrontier (also known as transboundary) approach of natural resource management emerged from the bio-regionalist philosophy in the United States, and was reproduced in ecological terms by arguing that important ecological processes are well supported in large, contiguous and non-fragmented habitats (van Aarde & Jackson, 2007; Wolmer, 2003). This gave rise to the ecosystem approach to natural resources management, especially in wildlife conservation, whereby transboundary conservation initiatives in Africa were endorsed as 're-establishing the connectivity of bioregions and restoring 'ecosystem functions' (Wolmer, 2003).

The terminology around transboundary initiatives varies from transboundary/ transfrontier conservation areas (TB/TFCAs), transboundary/transfrontier Parks (TB/TFPs) to simply Peace Parks. While these concepts are used interchangeably, they differ in their details. The use of 'park' implies one land use option, which is classified as strict conservation, with prohibitive access to natural resources, under IUCN category. Whereas the 'conservation areas' encompasses multiple land use options within the same site (for example, parks, hunting concessions, community-based natural resource management initiatives)

(Wolmer, 2003; IUCN, 1994). The designation of an area as transboundary or transfrontier means it transcends not only countries' boundaries but also both political and protected area boundaries beyond national parks, game reserves, communal land, private land, forest reserves and wildlife management areas (Hanks, 2003). Transcending boundaries is seen by conservation scientists as an important requirement to adopt ecosystem-based approaches, considered as more effective for protecting habitats and biodiversity, particularly for large mammals (van Aarde & Jackson, 2007; Wolmer, 2003; Zbicz, 2003).

However, this approach is challenged by the fact that most of the designated areas are inhabited by humans, and their establishment fails to include the analysis of the consequences and the costs of such an approach to local people (e.g. DeMotts & Hoon, 2012; Lunstrum, 2010; Spierenburg *et al.*, 2008; Brosius & Russell, 2003). Apart from the ecological perspective, there are other rationales claimed in the transboundary initiatives, one being the notion of bonding divided ethnic groups, restoring cultural and historical ties, as well as strengthening international peace, regional cooperation and fostering a 'cultural renaissance' (van Amerom & Büscher, 2005; Wolmer, 2003).

The idea of TFCAs as a culture of peace goes back to 1932, when Canada and USA declared Waterton/Glacier as the first international 'Peace Parks' (Hanks, 2003) and the movement spread worldwide. In Africa, TFCAs arose around 1999 and in 2010 over 20 such conservation areas at different stages of development had been established in the Southern African Development Community (SADC) (Büscher & Schoon, 2009). The prospect of strengthening peace and cooperation between neighbouring countries is argued to be an important prerequisite for sustainable economic development and foreign investment in the region (Hanks, 2003), although in the Southern African context this has been pictured as 'an opportunity to heal the wounds of pre- and post-independence wars of destabilisation' as suggested by Wolmer (2003, pp 265).

The SADC's Transfrontier Conservation Areas are commonly referred to as "Peace Parks". They were prompted by a South African businessman and wildlife patron, Anton Rupert, who founded conservation NGOs in South Africa, such as the Southern African Nature Foundation, which became affiliated to WWF International (Spierenburg & Wels, 2010). In the 1990s, as the patron of WWF-South Africa, then founder and president of Peace Parks Foundation (PPF), he became the main driver of TFCAs or Peace Parks in Southern Africa (Büscher, 2013; Spierenburg & Wels, 2006).

Whether the transboundary initiative does or does not promote peace and cooperation among involved countries is a debatable question (see for instance Büscher, 2010; Büscher & Schoon, 2009; Brosius & Russell, 2003; Zbicz, 2003), since the allied countries present dissimilar levels of development and preparedness to deal with transboundary issues. Similarly debatable is the alleged potential to promote biodiversity conservation and socioeconomic development simultaneously (Hanks, 2003). The evidence to date suggests that this has not occurred (Dhliwayo *et al.*, 2009; Spierenburg *et al.*, 2008; Draper *et al.*, 2004). Despite the fact that the Peace Parks concept has gained sympathy from the large international donors such as the World Bank, USAID, and KFW, and attracted a huge amount of funding, its commitment to socioeconomic development is seen as merely rhetorical by some critics (Spierenburg & Wels, 2010; van Amerom & Büscher, 2005). Critics argue that the Peace Parks are more centred on neo-liberal prospects characterised by privatisation, free trade, private land ownership and commercialisation of nature (Büscher et al., 2012; Büscher, 2010; van Amerom & Büscher, 2005). Wolmer (2003) critically framed the whole idea of TFCAs in Southern Africa as follows:

> […] strange alliance of eco-centric, managerial, neoliberal and populist priorities has conspired to encourage a shift in the conservationist agenda from viewing protected areas as inviolate sanctuaries to looking to them increasingly as potential sources of revenue that should be extended across the landscape. (Wolmer, 2003, pp.266)

Other recent studies are equally critical and have concurrent views that the Southern Africa Development Community's TFCAs are dominated by a neoliberal ideology, driven by philanthro-capitalists taking advantage of their enormous financial power and wide influential network of elites to penetrate the system, overcome bureaucratic obstacles, and shape the agenda with a particular emphasis on finding harmony between capitalism and nature through nature- based tourism (Büscher, 2013; Holmes, 2012; Spierenburg & Wels, 2010; Heynen *et al.*, 2007; Draper *et al.*, 2004).

These views are further discussed in Chapter 7, when analysing the LNP management practices towards implementing 'Park with People' as an approach to address both conservation goals and people's wellbeing.

2.2 Limpopo National Park: a brief history

The LNP was created in December 2001 as a precondition to enable the formation of GLTP, a mega park to accommodate the international enthusiasm for saving African elephants (van Aarde & Jackson, 2007). The GLTP was formally launched on 9 December 2002, preceded by the Tri-nations (Mozambique, South Africa and Zimbabwe) agreement signed on 10 November 2000 (Dhliwayo et al., 2009).

The idea of creating an integrated park has its origins in the 1920s, when General Jan Christiaan Smuts dreamed of creating a wildlife paradise, an idea later supported by Gomes de Sousa, a Portuguese ecologist, in the 1930s. Implementing this idea was impossible due to the Second World War, the Cold War and the Civil War in Mozambique (Dhliwayo et al., 2009; Draper et al., 2004). The idea re-emerged with the end of the Civil War in Mozambique together with the end of the apartheid regime in South Africa in the 1990s.

Between the 1930s and 1969, the LNP area was known as Shingwedzi Nature Reserve and was then converted into the hunting area, Coutada 16 (Mavhunga & Spierenburg, 2007). In the course of the civil war [1980s-1992] settlers from this area dispersed and sought refuge in nearby towns or in neighbouring countries, while the displaced area served as the source of bush meat for the guerrilla fighters (Rodgers, 2009).

The post-war resettlement programme after the peace agreement in 1992 was facilitated by the government, and the majority of people returned. However, the human displacement caused by civil war was used as an 'illusionary and precipitated' argument to classify the LNP area as 'largely depopulated and abandoned', and appropriate for the mega project of Transfrontier Parks (Wolmer, 2003). Lunstrum (2010) claims the ecological destruction caused by war was used as 'productive discourse' to justify the wildlife restocking of LNP as part of the Transfrontier project.

The underlying issue is that the LNP was established with 35,000 people encompassed within the park borders. Located in the northwest of Gaza Province, one of the prominent semi-arid areas of southern Mozambique, LNP covers an area of about 10,000 square kilometres. Communities settled in the LNP have historical connections with a clan of Tsonga people who migrated and settled along the Limpopo River between 1000 and 1500AD, and the Gaza Nguni group who are said to have invaded and displaced the Tsonga in the 19th century (Harris 1989 in Milgroom, 2012; Witter, 2010). Shangaan is both the local language and also the term used to connote people originating from this region, as well as from the entire Gaza province. The term Shangaan seems to have derived from Shoshangane, the name of the first king of Gaza Nguni. (Milgroom, 2012 citing Junod 1962, Liesegang 1977 and Harris 1989).

Rain-fed agriculture, mainly maize and livestock husbandry, are the main livelihood sources for communities inhabiting the park. Archaeological studies carried out in the LNP region have confirmed rainfall variability as an important feature shaping the landscape and people's livelihood since the 18th century, but the recurrent droughts phenomenon became more notable at the beginning of the 20th century (Ekblom et al., 2011).

Despite the scarcity of rain, maize cultivation in the Limpopo valley was reported to have spread in the 18th century, although production was limited by the frequent droughts (Huffman, 1996). Cattle emerged as an alternative source of income for Gaza state rulers between the 18th and 20th centuries, induced by recurrent drought and clan conflicts (Ekblom et al., 2011). Another reason that encouraged the adoption of cattle was that hunting had become a less viable option both for household subsistence and as an income source due to the rapid reduction in numbers of the wildlife (Hughes, 2005).

By acknowledging the existence and history of these people, LNP was advocated within a 'Parks with People' approach with fuzzy boundaries, where the people-wildlife interface was taken as a positive reality (Ministry of Tourism, 2003). This approach recognises communities as important partners in the conceptualisation of the transfrontier park as a booster for local development through tourism and other business opportunities. This can be seen in an objective of the LNP Management and Development Plan (Ministry of Tourism, 2003):

> To ensure the participation of local communities in the development and management of the LNP, and to ensure an equitable flow of benefits to these communities. Such benefits should include equity-sharing in tourism developments and operations, human resource development and capacity building, employment creation, the development of SMME[1] opportunities and improved natural resource management leading to improved livelihoods.

The establishment of LNP and the consequent creation of Great Limpopo Transfrontier Park (GLTP) resulted in a 50km of the fence between KNP and LNP being removed to encourage free movement of wildlife, especially elephants. Simultaneously, 5,000 animals were trans-located from Kruger National Park (KNP) to LNP within the restocking plan (PPF, 2011).

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1. Small, Medium and Micro Enterprises

2.3 The Buffer Zone

For management purposes, the LNP was initially demarcated into six zones (Figure 2). The special protected and wilderness zone in the area immediately adjacent to KNP was followed by low and higher density tourism, then the low use zone, before the last two, the resource use zone and the support zone towards the Elefantes river. The support zone is also called the Multiple Uses Zone (MUZ) or the buffer zone and is where the communities are allowed to settle. The MUZ or buffer zone is comprised of land about 5km inwards from the Limpopo and Elefantes rivers (AFD & MITUR, 2005). However, adjustments were made to this in the last 10 years. For instance, the strip representing the resource use zone in the south-eastern corner between the two rivers is currently part of the buffer zone (see Figure 3 for comparison). About 28,000 people distributed between 44 villages are settled in the buffer zone along the Limpopo and Elefantes rivers. The remaining 7,000 people are part of the 8 villages located along the Shinguedzi river, in the so-called tourism zone or core area of the park. These are the settlements planned to be resettled either in the buffer zone or outside the park according to people's own preferences. The resettlement process started in 2003 and is a slow, ongoing process.

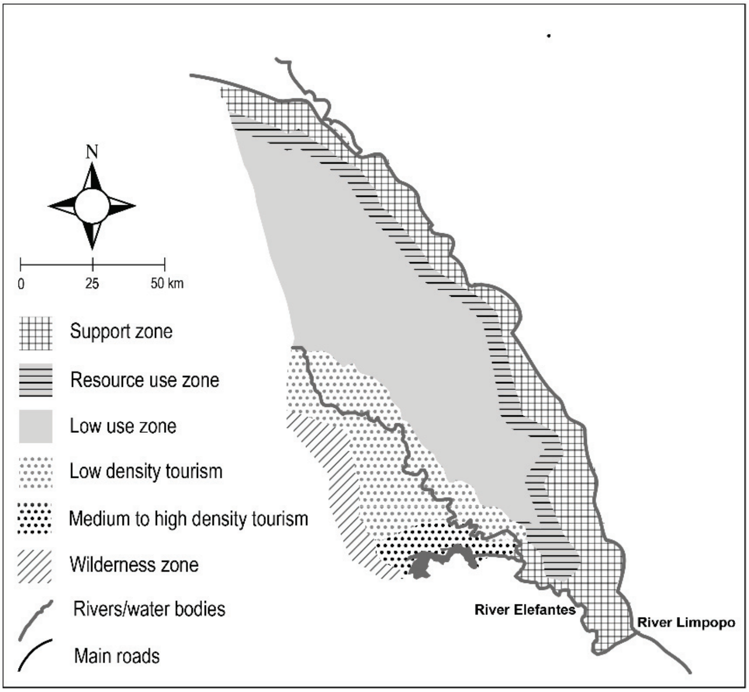

N
0
25
50 km
Support zone
Resource use zone
Low use zone
Low density tourism
Medium to high density tourism
Wilderness zone
Rivers/water bodies
Main roads
River Elefantes
River Limpopo

Figure 2. Management zonation of Limpopo National Park Source: Ministry of Tourism (2003)

Contrary to the norm of having the buffer zone adjacent but external to the limits of the park, LNP has its buffer zone inside the park limits, as a way of benefiting from the two main water sources, the Elefantes and Limpopo Rivers, considered important for wildlife conservation, as it is too for the people's livelihoods. According to the literature, buffer zones in protected areas serve two purposes. One is to provide additional protection to the core area by preventing disturbances or possible encroachment. Another is to benefit the local communities with respect to subsistence and economic use (Andrade & Rhodes, 2012)

By adopting the multiple use approach, LNP policy allowed people to remain in the buffer zone, continuing with their farming activities, including use of forest products for their everyday needs. However, hunting of any kind was not permitted. Hunting small game used to be a great source of protein and an important coping alternative in the drought season, but is no longer allowed within the park.

The creation of the park raised people's expectations, since several promises were made during the process. Promises were made that the park would enhance local development through tourism, diversify people's livelihoods by engaging local communities in tourism business, providing jobs and opportunities or employing them (LNP, 2010; Ministry of Tourism, 2003). There were also perceived promises by the communities about development of infrastructures such as roads, bridges, schools and health centres.

The main livelihood activities for the majority of communities at LNP are rain-fed agriculture and livestock husbandry. Fruits, roots and other non-timber forest products are collected as alternative livelihood sources, especially in drought periods. The regular rainy season in the region lasts from October to March, with an annual average rainfall varying between 320 and 450mm and the maximum average temperature oscillating between 29 and 35°C (Brito *et al.* 2009). However, due to climate change phenomena, rainfall patterns are expected to change throughout Africa. For instance IPCC (2007) projected a 5-8% increment of arid and semi-arid areas in Africa by 2080 and also water scarcity affecting 75 to 250 million people by 2020, which would lead to a decline in projected crop yield by 10-20% by 2050 in Africa (Thornton *et al.* 2009). In Mozambique, the worst drought scenario is expected to be in southern Mozambique. According to the INGC climate change report (2009) the length of the rainy season will decrease, with rains starting later; evaporation indicates a significant increase trend in the Limpopo valley which would result in a decrease in soil moisture before the main cropping season starts. The erratic and scarce rainfall makes the LNP area drought-prone and vulnerable to food insecurity.

This research focused on the southeast corner of the park's buffer zone. This was a strategic location to explore this research topic because of the way in which the park area converged between the two rivers in the southeast corner, there is relatively less land available to settlements here, compared to other locations in the buffer zone. As a result, settlements (villages) in this part of the buffer zone have to share the limited natural resources for grazing and other uses such as for gathering building material, firewood, and wild fruits. Typically such sharing was common among two or three villages.

Macaringue village, situated 71 km away from Massingir town towards the south-eastern tip of the park, is the largest of the 10 villages located in the southeast corner. It occupies the inland part of the confluence of the two main rivers, the Elefantes and Limpopo. Its relatively higher population density and the higher incidence of elephants prompted by the convergence of the two rivers influenced the choice of Macaringue as the main research site. Apart from presumably offering an opportunity to capture the livelihood dynamics and their relationship with wildlife (elephants), this feature of the village provided the possibility to observe the social dynamics related to population growth and completion for natural resource use. Macaringue village included another 2 satellite settlements: Gushué, located about 5 km south and Chibombe about 4km north of the main Macaringue settlement (see map below). Gushué and Chibombe were included in this study as part of Macaringue village. Later on, in 2013, due to population growth and the need to provide infrastructure such as schools, these settlements were promoted to village status, becoming two independent villages, but for the purposes of this study they remain associated with Macaringue.

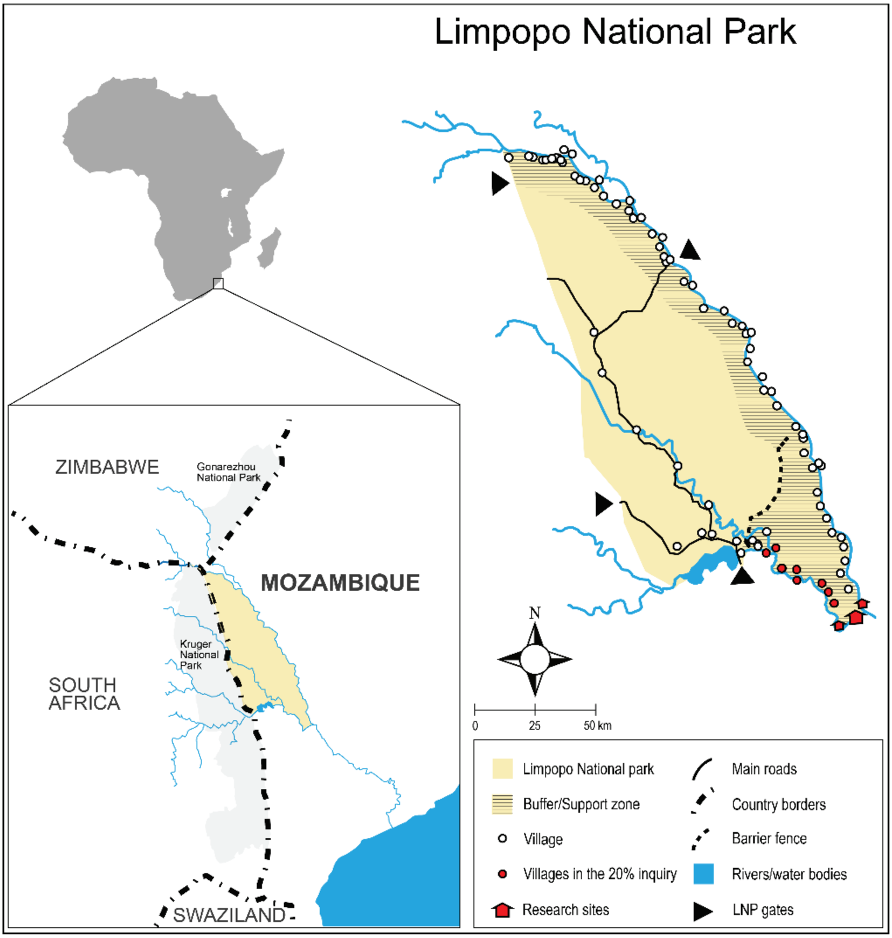

Limpopo National Park
ZIMBABWE
Gonarezhou National Park
MOZAMBIQUE
Kruger National Park
SOUTH AFRICA
SWAZILAND
N
0
25
50 km
Limpopo National park
Buffer/Support zone
Village
Villages in the 20% inquiry
Research sites
Main roads
Country borders
Barrier fence
Rivers/water bodies
LNP gates

Figure 3. The GLTP, LNP, the buffer zone, villages and the research sites. Map credit: Anni Hoffrén. Data source: PPF

Macaringue village was established in 1977 during the compulsory post-independence "villagisation" programme, following the Marxist-socialist regime adopted by the single-party FRELIMO (*Frente de Libertação de Moçambique*) (Pijnenburg, 2004). The relocation of rural people to communal villages was FRELIMO's socialist policy to promote state farms and cooperatives on abandoned colonial farms to serve the industrialisation and modernisation development strategy (Dinerman, 2001). But it was also presented as the relocation of people to a village to provide better social and economic services (Pijnenburg, 2004). The ideal of the socialist project fell short, but people remained in the village, and at the time, agriculture and livestock were considered the main livelihood activities. Between 1989 and

1993, due to civil war, people from Macaringue moved to Chókwè and/or South Africa seeking refuge. People settled as refugees in Chókwè had as their main livelihood sources firewood collection and commercialisation, food aid and selling of seasonal labour to local farms. Livelihood opportunities in South Africa varied from working in mining to short-term contracts on farms. Between 1993 and 1994, after the peace agreement, a process of post-war resettlement took place and old and new families returned to Macaringue. In this process, they were allowed to resettle anywhere they wished. Thus, some families chose to go back to the place where they lived before the "villagisation" programme because (they claimed) they had larger and better land for farming, which therefore saw the emergence of the Gushué and Chibombe settlements referred to earlier.

Rain-fed agriculture, mainly growing maize (as staple food), beans, vegetables, pumpkins and sweet potatoes in a mixed cropping system, is the main source of food. Cattle is the principal livestock, with multiple roles such as social status, capital, draught power and safety net, whereas the small livestock (goats, pigs and chickens) are the trade means for cash.

Temporary migration to South Africa is still practised but mainly for short-term contracts on farms, car repair workshops or other types of opportunity, but not mining work.

Despite the fact that the research initially had its focus on Macaringue village, mainly during the explorative and understanding phase of the problematic situation, during the course of the research, and especially during the action research intervention, the research also covered other villages in the southeast corner. All other remaining villages in this location became involved through their representatives (village leaders, NRM committee members or other key informants) in the discussion, capacity building, action plan and decision making process regarding the 20% benefit sharing mechanism; one of the streams of inquiry that emerged from the Action Research intervention.

2.4 Important Actors and Their Roles

Several actors at different levels were identified during the explorative phase of articulating conservation and people's livelihoods. Table 1 provides a list of the main actors, briefly characterises them and indicates the roles they played and the level of influence they had. Three categories of actors: international, national and local are distinguished in the table. The action research intervention in this study has actively engaged with all local actors listed in the table, and in some cases has also included actors from a provincial level (for example, the tourism provincial directorate representative). The national level actors have mainly contributed to the research through interviews, and also participated in some discussions of preliminary findings that I presented to a small group of National Directorate of Conservation Areas (ANAC) staff. Despite the research finding that international actors were important and influential, it was difficult to get them to participate in the research. However I managed to get a very brief interview with the Peace Parks Foundation's CEO in Uppsala. I also had interviews with an AFD environmental aid representative and the consultant responsible for the LNP buffer zone's project evaluation.

With an overview of the research site and principal actors in the conservation-livelihood interplay, the next section elaborates on the conceptual lenses used in this thesis to analyse the complexity of this interplay and the opportunities for adaptive co-management approaches.

Table 1. Main Actors involved in the LNP establishment and its operation

Actors	**Description**	**Major Role**	**Level of Influence**
International level			
Peace Parks Foundation (PPF)	International Conservation NGO	Peace Parks promoter, Conservation advocacy, Fund raiser, Influence on the Legal framework	Donors policy, Central & Provincial Government, LNP Management approach & strategy through Project Implementation Unit (PIU)
The German Development Bank (KfW)	Main donor for establishing the LNP project	Financial support, Implementation of pilot project, Resettlement, Infrastructures,	Central government, Ministries and LNP
World Bank (WB)	Funder of the Transfrontier Project	Financial support and Resettlement policy	Central Government, Ministry of Tourism, and LNP
French Agency for Development (AFD)	Buffer zone donor	Feasibility studies, Buffer zone livelihood projects, Buffer zone Infrastructures, Fencing project	Ministry of Tourism , and LNP
National level			
Ministry of Tourism (ANAC, DNAC, TFCA unit)	Government agencies responsible for conservation and tourism	Coordination (donors, conservation agencies, researchers, NGOs), bridge with other entitled Ministries such as Agriculture and Environmental affairs, responsible for development of legal framework, Supervision of policy and project implementation,	National, Provincial and District
Provincial directorate of Tourism	Provincial branch of Ministry	Coordination and supervision of Ministry action plan, supervise policy implementation, collect the parks' annual fees	Provincial and District and reports to the Ministry

Actors	Description	Major Role	Level of Influence
Local level			
Limpopo National Park (LNP)	Wildlife Park	Promote wildlife conservation, regulate NR access and Use, monitoring LNP resource, manage HWC, patrol for illegal activities, coordinate with District authorities, provision of infrastructure (e.g. roads, bridges)	National, Provincial, District and Local
District Administrator	Represents the Government at District level,	Represent and defend the state interests, advocate for community rights, bridge between LNP and Community in conflict resolutions	Provincial, LNP to some extent and Local (communities)
District Services for Economic Activities (SDAE)	Provincial directorate branch at District level	Operationalise application of the law & policy, and regulations; Technical assistance/advice	Provincial & District and Communities
Lhuvuka NGO	National NGO	Service provider to buffer zone communities (advocacy, training, technical advice), conflict mediator	District and Communities
LUPA NGO	National NGO	Agricultural Technical assistance (irrigation, cropping practice, agri-business training)	LNP and Communities
Community Leaders	State representative at local level	Represent state's and communities' interests, advocate community rights and benefits, promote NR customary laws	District and Communities
Committee for NRM	Community representatives for NR use and management	Ensure observation of NR restriction policy in the buffer zone, appropriate use and management of NR, Access, use and management of the 20% benefit sharing	Communities
Community members	Residents of LNP's buffer zone	Advocate for NR access and rights, claim for livelihood alternatives, LNP benefit sharing	District, to some extent Provincial

3 Conceptual Framework

3.1 'Parks with People': Bridging Conservation & Livelihood Goals

The concept of 'Parks with People' emerged to foster societal support of protected areas and biodiversity conservation through management approaches that recognise the rights and address the welfare of local communities. The integration of the two goals is expressed and debated in the literature in various and sometimes exchangeable ways, for example as 'conservation and development', 'conservation and livelihoods', 'poverty alleviation and biodiversity conservation' (Roe *et al.*, 2013; Salafsky, 2011; Roe, 2008; Agrawal & Redford, 2006; Roe & Elliott, 2004; Wells & McShane, 2004). These different formulations in pursuing the coupled conservation and livelihoods goals prompted from the debates emerged in connection with events and policies in a specific period (see Roe, 2008). The shift towards people-centred approaches gained impetus in the 1980s, and the IUCN re-classification of protected areas provided a formal basis for inclusive governance (IUCN, 1994). Conservation organisations started to promote management of protected areas by means of sharing social and economic benefits from the protected areas with local constituents (Wells & McShane, 2004).

The conceptual integration of biodiversity conservations and livelihood goals is formulated by assessing the perceived dependence on natural resources by the local people in three categories: no linkage, indirect linkage, and direct linkage (Brown, 2002; Salafsky & Wollenberg, 2000). Salafsky and Wollenberg (2000) define no linkage as no access to natural resources in situations where livelihood activities conflict with biodiversity conservation objectives, leading to protected areas with strict boundaries with no consumption prerogative. The indirect linkage implies developing livelihood alternatives that substitute the restricted biodiversity resources; usually these are done by establishing buffer zones. The direct linkage recognises a strong relationship between local people's activities and the biodiversity conservation and therefore the protected area directly benefits from local people's participation. In practice, Brown (2002) argues that these linkages are not so clear cut, but interpreted and implemented differently based on the discourse and agenda of the conservation organisations, which in turn determines the strategies and efforts to involve local people. In other words, these linkages are more likely to be overlooked by the environmental organisation in situations where the conservation interests conflict with local needs (such as in LNP). According to Brown (2002), these agendas can be captured in three clusters: as conservation-driven, conservation and development discourse and the neo-liberal agenda. The conservation-driven agenda means that participation of people is needed to attain conservation ends (for example, to minimise poaching of protected species). The second cluster takes participation as the key process to empower people to use resources sustainably, and bottom-up approaches prevail. Lastly, the neo-liberal agenda highlights the economic value of biodiversity and uses economic benefits as an incentive for conservation (for example, benefit sharing or wildlife utilisation).

As the conservation-livelihood attempts have evolved, their integration has proved difficult. Scholarly debate has continued in discerning which of the two – conservation or livelihood needs – constitutes the means and the ends (Brown, 2003; Brechin *et al.*, 2002; Bruner *et al.*, 2001). Further, views differ about whether poverty alleviation will lead to biodiversity conservation or vice versa, or even if both goals can be simultaneously achieved (Agrawal & Redford, 2006; Roe & Elliott, 2006; Roe & Elliott, 2004; Wells & McShane, 2004). Analyses of reasons for unsuccessful anchoring of conservation and poverty reduction vary from conceptual debates to deficiencies in different stages of design, planning and implementation (Roe *et al.*, 2013; Agrawal & Redford, 2006; Roe & Elliott, 2004; Brown, 2002).

This has led to the understanding that integrating conservation and poverty reduction is a complex process rather than a simple matter of complementarity and finding win-win approaches (Adams & Hutton, 2007; Wells & McShane, 2004). For instance, Roe and Elliott (2004) pointed out conceptual issues related to mismatches between conservation areas relevant to the people in the local context and the pre-conceived idea of international conservation policies. They argued for emphasising the value that a protected area provides to fulfilling the local socio-cultural and livelihood needs prior to the global concerns and discourses. In addition, Brechin et al. (2002) point out that relevant social and political aspects have not been taken into account in the implementation processes of conservation areas. They stress the lack of attention to human dignity (ethical consideration in setting priorities), legitimacy (appropriate and just institutions), governance, and accountability (inclusive decision making, accounting for rights and responsibilities), adaptation and learning (iterative reflection and experimentation) and finally the importance of external influences on the local setting (influence of different forces at local, national and international levels). These are all considered as crucial social and political aspects to collectively build a long-term legitimate process and develop responsible community conservation embedded in specific concepts, methods and organisational modes that contribute to fostering collective action (see also Andrade & Rhodes, 2012; Robinson, 2011; Brown, 2003).

In the same vein, practical experiences reveal that different actors' values and interests often compete at various levels and scales of decision making. Therefore, decision making processes that explicitly disclose the stakes and allow for a democratic negotiation of social, political, cultural and economic values, interests, costs and losses are required (McShane *et al.*, 2011; Campbell *et al.*, 2010). McShane *et al.* (2011) argue that such negotiation processes imply trade-offs and hard choices and require a social process, whereby actors' engagement takes into account multiple perspectives, allows for compromise, acknowledgment and respect for things that actors are not willing to trade off.

At least two strands can be drawn from these critical comments regarding reconciliation of conservation strategies with people's livelihood needs. One highlights the need to focus primarily on understanding the context and particularities of the protected area and the value and links it has with people living in and surrounding it, so that consistent management approaches can be designed. The second emphasises collaborative management processes that are flexible enough to be able to incorporate views and experiences from a diverse range of actors, hence highlighting learning, knowledge and adaptability as essential properties of the process (Armitage *et al.*, 2012).

Based on this understanding, this thesis seeks to address these two critical suggestions; the contextual and collaborative approaches. It starts by looking at the interactions between people's livelihoods and wildlife through exploring factors impacting the communities' livelihoods and adopted strategies to address livelihood-related climate adversities and food insecurity. Through such understanding, the thesis analyses the extent park management strategies are consistent with the captured context and the effectiveness of park responses in addressing issues emerging from such interaction. The thesis further explores opportunities to develop collaborative forms of management by engaging the park, communities and other relevant actors in a joint searching process that accounts for the captured contextual dynamics, towards reconciling people's livelihoods and wildlife conservation in the LNP.

3.2 Governing Protected Areas through Adaptive Co-Management

In protected areas, governance is considered as the key factor for effective management, which enables achievement of the prospective goals (Dearden et al., 2005). Governance and management are two distinctive but interconnected concepts. While management deals with operational decisions to attain given conservation goals, governance encompasses a set of processes and institutions governing such decision-making processes (Armitage et al., 2012). The set of processes in protected area governance includes aspects of authority and responsibility in decision making, how these process take place (formally and informally) and the role of legal and customary institutions (Borrini-Feyerabend et al., 2013). Governance in protected areas had its importance elevated as part of the recommendations in the conference of parties to the Convention of Biological Diversity (CBD), held in 2010. Thus, a document to operationalise such a recommendation was prepared by the International Union for Conservation of Nature and Natural Resources (IUCN), which underlines respect for rights and the rule of the law, constructive dialogue, equitable access to information, accountability in decision making and ensuring appropriate institutions and procedures for conflict resolution as the central principles of protected area governance (Borrini-Feyerabend et al., 2013).

Within the field of natural resource management, environmental governance is proposed as one pathway useful for exploring effective governance processes in conservation practices that can embrace emergent hybrid governance arrangements (Armitage *et al.*, 2012; Kooiman *et al.*, 2008). This approach calls for more collaborative forms of governance conceptualised as dynamic, problem-solving processes focusing on continuous learning of the socio-ecological changes to inform management processes (Armitage et al., 2008b). Such collaborative management processes should become flexible enough to be able to incorporate views and experiences from a diverse range of state and non-state actors (Armitage et al., 2012). Based on a short review, Armitage et al. (2012) highlight five key concepts relevant to environmental governance, namely fit and scale, adaptiveness and learning, knowledge, actors and roles, and accountability and legitimacy (*Table 2*). The authors perceive these concepts as both analytical and/or guiding lenses to practically address the principles of governance proposed by the IUCN.

Table 2. *Key concepts in environmental governance*

Governance issues	**Main characteristics**	**Challenges**
Fit and scale	Strong horizontal & vertical links among diverse actors; Flexible institutional designs	Entrenchment of power Excessive organisational complexity
Adaptiveness, flexibility and learning	Collaboration and learning accounting for different types of knowledge & perspectives	Unpredictable learning outcomes Difficulties in facilitating and monitoring learning processes
Knowledge	Coproduction of knowledge Joint fact-finding processes	Acceptance of knowledge as dynamic and uncertain
Actors and roles	Bridging organisations Clear defined roles and interaction Redundancy and overlapping of role is beneficial	Position authority of non-state actors to assure participation
Accountability and legitimacy	Clarity on roles and responsibilities among actors; actors' performance, responsiveness, auditing and transparency; free flow of information & open system of communication	Conditions difficult to achieve in diffuse networked approach

Summarised based on Armitage *et al*. (2012).

Co-management can in turn be seen as an outcome of, or an approach to, implementing the above concepts. The core idea underlining co-management is to allow people whose livelihoods are affected by management decisions to participate and take an active role in decision making (Berkes, 2009). As noted by Armitage et al. (2007), various definitions can be applied to co-management, but the essence of it refers to a range of arrangements, with different degrees of power sharing for joint decision making by the state (or management authorities) and communities (or user groups) with the ultimate goal of building appropriate, effective and equitable governance. In short, co-management suggests that all interested parties have 'formally or semi-formally agreed on the process for sharing management rights and responsibilities' (Berkes, 2009). Thus, as Berkes (2009) maintains, co-management can be reached through long deliberation and negotiation processes comprising cycles of knowledge generation and joint learning evolving over time, and in which the outcome is greatly shaped by the 'history of the case'. Thus, co-management is site-specific and can evolve in many different forms influenced by the context, history and other socio-cultural dynamics. Further, co-management should not be seen as an end-point but rather as an evolving process where relationships among the parties are continuously changing (Berkes, 2009; Pinkerton, 1992).

Adaptive co-management emerged as a specific approach to co-management of natural resources to embrace the uncertainties and complexities of social-ecological change. It acknowledges the need for continuous, collaborative and diverse learning experiences towards flexible and innovative management approaches (Olsson et al., 2004). Adaptive co-management provides then an ‘evolving and specific governance approach that supports strategies that help respond to feedback (both social and ecological) and orient social-ecological systems towards sustainable trajectories’ (Armitage *et al.*, 2007 p.5). In other terms, it helps to continuously foster management strategies consistent with the context and its emergent socio-ecological dynamics. It also resonates with complex systems thinking by recognising the iterative processes of learning through experiencing or adaptive capacity as contributing to the building of institutions and trust (Armitage et al., 2007). Despite its potential for providing a governance model that addresses complexity and uncertainty towards ecosystem dynamics, criticism has been levelled at the ambiguous conceptualisation of adaptive co-management that fails to clearly distinguish the use of the concept as a process, outcome or the expected goals (Plummer et al., 2012).

In order to address this critique, the use of the adaptive co-management concept in this thesis will now be clarified. The principles of adaptive co-management have informed the selection of the research approach and the design of the methodology and I have conceptualised adaptive co-management in the following three dimensions. First, as a process to foster opportunities for collaboration by engaging with relevant actors in an iterative process of learning (Berkes, 2009), seeking improved understanding of wildlife-livelihood interplay. Second, through such understanding, collective engagement to continuously seek improved management practices synchronised with the LNP context, and accommodates possibilities for conservation-livelihood reconciliation. Third, adaptive co-management as a process to strengthen actors’ relationship and trust, thereby leading to sharing of power and responsibilities in decision making regarding natural resources management (NRM) and benefit sharing mechanisms. The intended goal is to develop a governance system that involves a hybrid partnership (government, the park, local communities, NGOs) and incorporates all actors’ knowledge and experience in addressing conflicts and decision making (Armitage et al., 2012; Fennell et al., 2008), thereby giving precedence to local capacity and empowerment.

With the above ‘ideal reasoning’, attention should be paid to ethical concerns: as Fennell et al. (2008 pp.73) argue, ‘adaptive co-management without ethics may simply be window dressing for well-established dilemmas of power and ultimately livelihoods’. This emphasises the need for a diagnosis of the contextual situation, the socio-cultural values and perception, the local norms and the power relations for an informed ethical decision, in order to avoid simply reproducing the problems and elites. Berkes (2009) avers that adaptive co-management as well as co-management are not synonymous with fairness or equity in resource sharing, because it depends on the extent of trust and power relations among actors and how these are reflected in the knowledge co-production and its use in the decision-making process. Likewise, learning will only lead to adaptation if a learning experience leads to problem solving and other successive learning to solve other cases.

Besides the challenges of designing appropriate processes, governing protected areas through adaptive co-management may face additional challenges associated with contemporary global and national pressures such as the global market economy and the dominance of private and international alliances in the face of limited or non-existent national financial support for protected areas. These can undermine the public benefits of nature conservation (McNeely, 2015). Several scholars have highlighted some of these governance drawbacks. For instance, addressing power relations between actors in the context of transboundary protected areas has proven to be challenging due to the complex networks and the large variety of actors (for example NGOs, national governments, international donors, communities, private companies, and so on) acting on different levels (from the local to the global level) (Duffy, 2006; Büscher & Dietz, 2005). There are studies highlighting failure of governance in establishing and managing inhabited protected areas due to negligence of local livelihoods, an undemocratic decision making process over access to natural resources, and displacement (see Lunstrum, 2016; Witter & Satterfield, 2014; Lunstrum, 2010; Witter, 2010; Milgroom & Spierenburg, 2008; Spierenburg et al., 2008). These insights highlight the need for caution when dealing with complex network of actors with complex power relations (such as financial dependence) where the principles of co-management might not be sufficient and effective. Innovative forms of governance through reframing institutions and refinement of praxis are necessary (Ison *et al.*, 2015) in order to craft appropriate and more effective institutions within and across levels.

Building on Armitage *et al.* (2012) list of key aspects in governance (summarised in Table 2), four key concepts will be focused on in this thesis: social learning, adaptability, accountability and institutions. In the next section, I will elaborate on *social learning* and *adaptability* as a combined theme where elements of participation, collaboration, knowledge, learning and adaptability are discussed in an intertwined manner. The main argument is that the iterative cycles of the social leaning process provide the grounds for adaptability. Subsequently, I will examine *accountability* and *institutions* together in order to look at institutions regarding the roles and responsibilities among actors as an important element of accountability, as stressed by Armitage *et al.* (2012) .

3.3 Social Learning and Adaptability

A variety of learning theories have contributed to the conceptualisation of social learning, with its origins in the 1970s when Bandura explained the contribution of social interactions to individual learning through imitation (Bandura, 1977). It evolved to give focus to the collective aspect of learning by emphasising learning mediated through social interactions and learning as sharing of practices (Wenger, 1998). In resource management, the social learning process became more substantiated by theories of experiential learning ('learning by doing'), transformative learning (reflective process enabling modification in perceptions and consciousness) and social learning (iterative reflection resulting from sharing experiences and ideas with others) (see Armitage et al., 2008a). In the field of NRM, social learning has become prominent as a framework to address natural resource dilemmas and in understanding mechanisms for sharing of power and responsibility between public-private-civil society and local users' partnerships (Berkes, 2009; Blackmore, 2007; Folke et al., 2005). Its self-organised learning processes are emphasised as important vehicles for collaboration, collective decision making and co-management (Berkes, 2009).

Some scholars (e.g. Reed et al., 2010) contend that the diversified use and interpretation of social learning with confusing and interchangeable meanings between conditions and methods affects its rigorous scrutiny. Blackmore (2007) argues that social learning can be theorised in different ways and evidence of outcomes depends on the lenses of theories of knowledge and knowing one carries. Changes in behaviour, changes in a learner, and changes in learners' relationships with others and/or their environment are aspects to look at when seeking outcome-based evidence (ibid.). Similarly, Ison et al. (2013) argue that the diversity and fluidity in conceptualising social learning is consistent with the adaptive practices that demand context-sensitive responses. They argue for a shift in the researchers' agency in selecting lenses consistent with the context; and in that of the practitioners for context-sensitive design, rather than fixed social learning boundaries. Based on experiences from Social Learning for Integrated Water Management (SLIM), there is an acknowledgement that social learning is not simply about gathering actors together, but more importantly is co-generation of knowledge and the evolving transformation in the learning and social relationships (Steyaert & Jiggins, 2007). The emphasis is given to the actors' collective learning that does not simply lead to collective action (all performing the same thing), but more importantly to concerted action – actors taking coordinated action with a common goal (van Bommel *et al.*, 2009). Within the same research experience, Blackmore (2007) made the observation that to address resource dilemmas and sustainable development, there is a need for concerted action where all actors are engaged in understanding and facilitating learning towards institutional and social change. A similar argument is proffered by Givá and Raitio (in press), where engagement of actors at village level in a concerted action have led to institutional changes in conflict situations where stakes are high.

This study builds on these insights from Ison *et al.* (2013) and Blackmore (2007). It adopts social learning as the processes of social interaction where different actors concerned with the intersection of people's livelihoods and wildlife conservation in Limpopo National Park will engage in knowledge co-production through sharing of information, experiences and perspectives. Thereby the interaction and sharing will lead to new knowledge formulation among the group members and eventually a new understanding of the situation, which might induce concerted actions towards improved coexistence. It also sees the social learning process as the means for actors' collaboration and collective decision making leading to the emergence of co-management opportunities.

This approach provides the opportunity to move from a kind of 'participation' that simply seeks people's acceptance of protected areas, to participation levels that empower actors towards sharing decision making as well as taking responsibility (Mannigel, 2008). The latter is necessary to sustain the shift of paradigm from top-down, standardised, and short-term activities to NRM practices that are context-sensitive, flexible and long- term, as asserted by Pimbert and Pretty (1997). Participation in this sense takes an interactive format of a process of knowledge production and co-production where the emergent people's agency serves to stretch the boundaries of the possible, and influences the transformation of social and power relationships (Gaventa & Cornwall, 2006). Building on the notion of knowledge as power, the same authors claim that through knowledge co-production, knowledge is spread and made more accessible, and therefore structural relationships of power can be challenged. Hence social learning in an action research format in its various forms is recognised as a pathway for empowering people, as it contributes to joint knowledge creation and thereby creates conditions for informed actions and (self-)critical awareness of the problematic situation (Reason & Bradbury, 2008). Social learning, in this sense, serves as the basis to build the knowledge partnership by playing a coupled function: first as the means for the participation and cooperation of partners or actors where knowledge and information is constructed collaboratively, and second as the outcome of partners' participation and cooperation – the collective property with shared vision (Ison et al., 2013; Berkes, 2009).

Connected to social learning is the actual space where the participation or social interaction takes place. Some authors call such spaces arenas – a space and time that allows for new means to emerge through exploration of natural or technical phenomena – and thereby challenging legitimacy, power relationships and identity of human communities (Steyaert et al., 2007). Others, following from the work of the German philosopher, Jürgen Habermas, argue that the creation of public arenas for deliberation on issues of common relevance would open up to higher levels of democracy and participation in the creation of more sustainable futures in contemporary society, and refer to such public arenas as community 'agoras' (Sriskandarajah et al., 2016). This approach is also an emerging focus for research within Environmental Communication for exploring issues at this human-nature nexus, making way for understanding social complexity superimposed on the natural complexity of national parks and protected areas and in understanding and re-imagining the 'commons' in these contexts. In these spaces or 'community agoras', different competing interests are discussed through a dialogue process, contributing potentially to the learning and development of relationships among the actors.

Such interactions provide possibilities for power relations to surface, be challenged and possibly be transformed, and therefore the next section offers further reflection on the aspects of the institutions to be taken into account in fostering collaborative and concerted action and also in analysing aspects of accountability.

3.4 Institutions on the Roles and Accountability of Actors

The term 'institution' continues to be used in two main senses in the literature; as rules or as organisations. I use it in the sense of Edquist and Johnson (1997) to refer to sets of routines, rules or practices that regulate the interactions between and among individuals, and in this case between and within groups and organisations. In a similar vein, institutions can be seen simply as formal and informal rules that govern people's behaviour towards collective goals (Woodhill, 2010; Ostrom, 2005). Formal institutions are referred to here as institutionalised rules such as legislation and other formal regulations, while informal institutions encompass the customary rules and other forms of unwritten norms that influence people's behaviour in a specific situation (Woodhill, 2010; Raitio, 2008). In the context of adaptive co-management, institutions account for practices and routines or simply the 'rule of the game' (Raitio, 2012) that influence and shape the actors' process of interactions and knowledge co-creation. The effectiveness of an institution in influencing a certain situation depends on interplay with other institutions (Mitchell, 2003;

Young, 2003). The interplay can be distinguished as horizontal or vertical based on the level of interaction. Horizontal interplay refers to interactions among institutions and/or actors at the same level of governance. These interactions among actors may result in meaningful synergies or in conflicting institutions, norms and rules, thereby offering opportunities for new institutions to emerge (Mitchell, 2003). On the other hand, vertical interplay concerns the interaction between institutions and/or actors across levels, and normally reflects the interdependent linkages of allocation of authority and responsibility between local, national and even international institutions (Young, 2003).

In the light of adaptive co-management, institutional interactions should therefore be flexible and dynamic and allow room for reflection and innovative responses (Plummer et al., 2013; Berkes, 2009; Armitage et al., 2008a). In a parallel vein, Young (2002) offers the notion of institutional diagnostics as opposed to institutional design, suggesting efforts towards a research process that enables institutions to self-design and redesign so that they become consistent with the problem they are seeking to address (Mitchell, 2003; Young, 2002). Accordingly, institutions should evolve in either direction to accommodate the emergent context by altering the existing ones, by developing new institutions or by allowing both in order to foster adaptability (Koontz et al., 2015). On the other hand, the diverse characteristics of actors in adaptive co-management is seen as an advantage in increasing legitimacy, attaining improved and diverse knowledge, equitable sharing and allocation of resources, costs and benefits (Armitage et al., 2012). However, the inclusion of non-state actors in sharing decision making, often limiting the role of the state, brings concerns about the exercise of authority, which can result in poor accountability. To overcome such difficulties and improve accountability, actors' roles and responsibilities need to be clear and transparent. Nevertheless, a certain amount of redundancy, that is to say overlapping of roles, can be beneficial if complementarity is observed (Plummer et al., 2013; Armitage et al., 2012).

These are the conceptual considerations regarding institutions which will serve to examine the outcomes of the iterative series of social learning cycles among Limpopo National Park's actors in the process of improving the LNP's governance in general but particularly in analysing the improvement of the benefit sharing mechanism. The concepts outlined above and their operational meaning for the thesis are represented in the Figure 4.

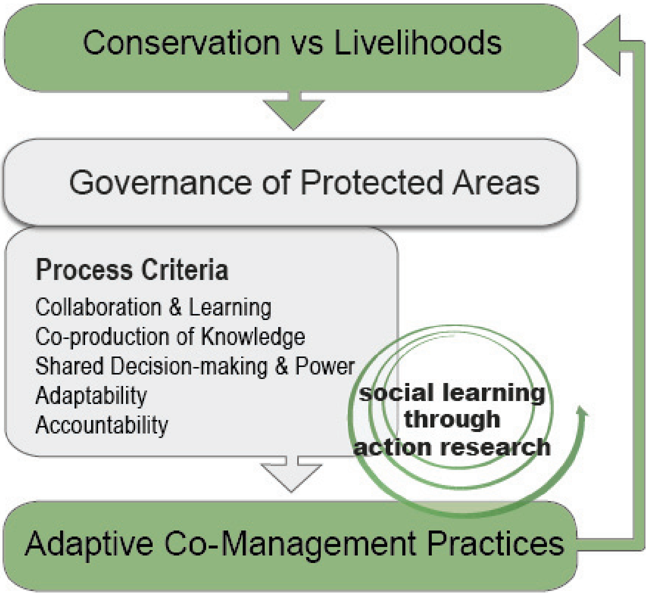

Conservation vs Livelihoods
Governance of Protected Areas
Process Criteria
Collaboration & Learning
Co-production of Knowledge
Shared Decision-making & Power
Adaptability
Accountability
social learning through action research
Adaptive Co-Management Practices

Figure 4. Conceptual Framework of the Thesis

The next chapter starts by conceptualising the systemic action research approach, prior to the detailed description of the research process and data collection methods.

4 Methodology

4.1 Systemic Action Research

… It is through systemic thinking that we know the unknowable…

Robert Flood (2006:127)

Action Research is “a research paradigm explicitly concerned with the improvement of a situation through the taking of informed action and the development of relevant theory, which then is used to guide further action” (Packham & Sriskandarajah, 2005). In other words, it is a research process used as a means to contribute to improving societal problems. Action research is also considered a pathway for providing power to people to act in order to bring about change (action) by improving or building knowledge (research) through conscious reflection on personal and/or collective experiences (Reason & Bradbury, 2008). Three main properties distinguish action research from other research, according to Dick (2012). First, those who seek the changes (those affected by the problem or situation) are engaged in the research, so the likelihood of resisting the change is reduced. Second, the iterative process provides an opportunity to learn collectively and progressively about the situation so that the understanding emerges gradually. Third, each cycle consists of research and action, and a conscious reflection of the outcomes towards the change being sought. Action research also has the advantage of combining a range of research techniques and tools to generate a methodological procedure that is appropriate for the situation, giving privilege to diagrams and qualitative data, while quantitative data can also be included as necessary (Dick, 2012; Ison, 2008; Checkland & Poulter, 2006).

Different strands of action research have emerged over the decades such as collaborative inquiry, participatory action research, and systemic action research (Reason & Bradbury, 2008). Systemic action research builds on action research by overlaying the notion of systems – the idea of a perceived whole whose parts are interconnected (Checkland, 1981). Such a perspective has contributed to systems thinking, a scholarly field that emerged as a critique of the reductionism of the scientific method. It is a method that relied on reducing the complexity of the real world in 'experiments' validated by their repeatability and progressive knowledge building through the refutation of hypotheses (Checkland, 1981). It is argued that this approach fails to address the complexity of contemporary societal issues (Dick, 2012; Checkland, 1981). Thus, systems thinking, as seen by Checkland (1981), is an attempt to supplement reductionist science by tackling the complexity of the problem via holism – emphasising the whole and its interconnected components. In other words, it is a form of thinking that connects and interrelates constituents of the wholes and their emergent properties, rather than the components themselves (Checkland, 1981). The core idea in systems thinking is that the whole is more than, or different from, simply the sum of the parts (Burns, 2007; Checkland, 1981). From this it followed that if one concentrates on the interconnections, that person is being systemic, which is distinct from being systematic, to follow a linear and sequential procedure (Ison, 2008). Having systemic awareness results from an understanding of interactions, relationships and feedback, thus understanding things in a systemic way means to 'put them into a context to establish the nature of their relationship' (Ison, 2008 p142).

In practical terms, systemic action research is intertwined research and actions that takes into account the dialectical relationships between the problematic issue and the 'whole' context to bring about changes that strongly resonate with the context (Bawden, 2012; Flood, 2010; Ison, 2008).

Systemic action research has been applied in a range of contexts such as agricultural and rural development (Bawden, 2005; Bawden & Packham, 1993), organisational change (Burns, 2007) and complex social and organisational environments, such as in water governance projects (Ison *et al.*, 2013; Blackmore, 2007). The essence of the approach is not only to study organisations and processes but also to improve them, by engaging and enabling people to develop their own analysis and create actions to impact social change through emancipation, empowerment, and participatory and cyclical processes of research (Coghlan & Brannick, 2010; Grant et al., 2008; Checkland & Poulter, 2006).

Building from this perspective, the present study adopts the systemic perspective to action research in both research content and research process. Hence, systemic action research as an approach here helps in exploring the interplay of people's livelihoods and wildlife conservation by focusing on the interactions and the relationship of relevant interconnected socio-environmental factors. The systemic perspective has also informed the design of the iterative cycles of social learning by constantly reflecting on the process (methods), the practice (methodology) and the outcomes as intertwined features of the work. In practical terms, it informed the facilitation process to seek the engagement of the actors in a process of understanding, reflecting and re-examining their understanding. Such a process leads the development of new relational capacities that allow for possibilities to improve the management approach to better accommodate people's livelihood needs and conservation objectives. Figure 5 illustrates the conceptualisation of the evolving process of social learning through action research and its iterative cycles of planning, acting, reviewing and re-planning towards seeking co-management opportunities.

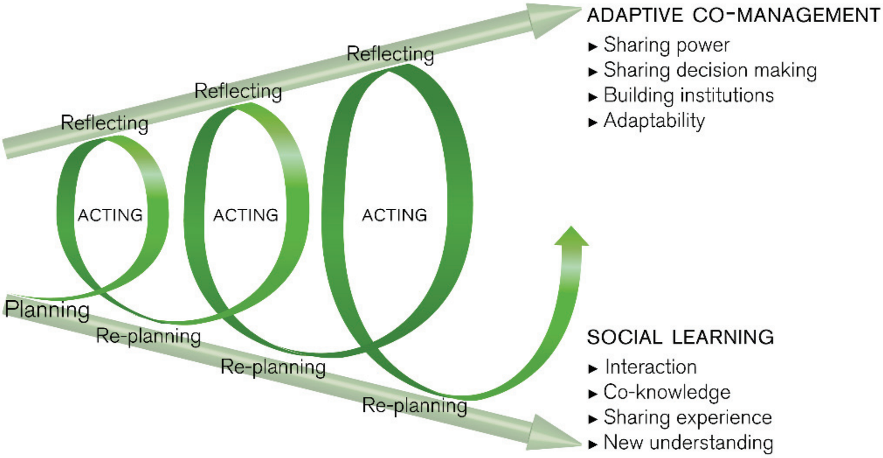

ADAPTIVE CO-MANAGEMENT
▸ Sharing power
▸ Sharing decision making
▸ Building institutions
▸ Adaptability
Reflecting
Reflecting
Reflecting
ACTING
ACTING
ACTING
Planning
Re-planning
Re-planning
Re-planning
SOCIAL LEARNING
▸ Interaction
▸ Co-knowledge
▸ Sharing experience
▸ New understanding

Figure 5. An illustration of the Methodology

The next section describes the detailed research process and respective methods applied in the three main phases that compose the research.

4.2 Research Process and Data Collection Methods

The data collection and action research was carried out in three main phases. Phase 1 consists of data collected within an inter-university research programme 'Competing Claims on Natural Resources' at Wageningen University in the Netherlands in 2008-2009. This constitutes a baseline study.

The data collected were used to formulate this PhD research proposal as well as being used as baseline information for further inquiries in the subsequent phase to deepen the understanding of the problematic situation and its temporal and seasonal dynamics.

Phase 2 - Bridging the data (2009-2012), marks the actual start of this PhD research project in March 2012. This phase focused on consolidating the understanding of the problematic situation in comparative terms, and on exploring the temporal evolution of the situation, emergent patterns and their dynamics, as well as local perceptions and their historical perspectives over the three-year period. It also enabled my reconnection with the village members.

The third phase (2013-2015) consisted of the actual Action Research process, engaging relevant actors in the cyclical process of interacting and learning together towards transforming the perceived problematic situation into a more desirable, improved situation.

Approaches and methods used in each of the three phases are described below. *Table 4* gives an overview of the research design in terms of the method used, period, location and persons involved in the fieldwork.

4.2.1 Phase 1:The baseline study (2008-2009)

In this phase of the research, a combined qualitative and quantitative research approach was adopted. In the space of eight months, starting from March 2008, I spent a total of about 90 days spread over 6 trips in the field to explore and understand the interactions between the park and the people living in the Buffer Zone. In this phase, which was prior to the action research phase, I adopted a participatory research methodology (Conroy, 2002; Chambers, 1994) and used a combination of different methods and techniques such as participant observation, life history, village and resource mapping, transect walk, interviews with key informants, and focus group discussion to understand the communities' history, natural resource characterisation, values and uses, description of the livelihood systems and the implications of park establishment and regulations in the park residents' livelihoods.

I normally travelled to Macaringue village and stayed in the field for an average of 15 days on each trip. While in the village, I stayed in a tent in the backyard of a family. In the first trip, I spent the first week just being around without any concrete agenda. I followed the daily routines of the families in the neighbourhood, especially accompanying them to the field and performing certain domestic duties. On such occasions, we engaged in conversations about everyday life (farming, livestock herding, natural resource use and respective norms, marriage and family heritage). This provided an overall understanding of the daily life of Macaringue, its inhabitants' connection with natural resources and the threats and opportunities perceived by the local communities. Before exploring this through a mapping exercise, I interviewed 3 village elders who were indicated by the village leader as the first settlers to capture the history of the village, by conducting an oral life history with them.

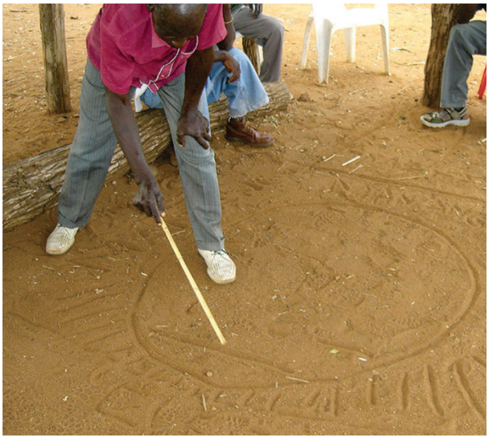
A transect walk (a systematic walk along a defined direction across the community) guided by local village members was done as a follow up after the village participatory mapping exercise, which was done collectively with a group of local residents towards the end of my first visit.

I preserved more or less the same routine in the subsequent trips, but different methods were used to gather information, and the number of people and households involved in the research gradually increased with each trip. Below I describe the main methods and techniques used in different circumstances over this research phase.

Participatory village and resource map

Two separate groups of men and women were guided to draw a map of their village, including the location of what they considered the main resources. These consisted of 12 and 15 local participants respectively. Each group was composed by the settlements' chief (*secretário do bairro*) plus two people (men and women) from each of the 5 villages' settlements selected randomly from the village list. The map was drawn in the sand by the participants, and each participant took turns presenting what they considered relevant infrastructure or resource location or to suggest a different location if it was not well represented by the previous person. This method was used to provide an overview of the main natural resources, their main use and importance for the village and their respective locations. It was done separately by groups of men and groups of women in order to capture perceptions and gender sensibilities regarding natural resource use, but also for my own understanding of gender relations in the village to inform the research process.

The two maps were then copied to a flipchart to be compared and discussed in the plenary by both groups of participants. This served two purposes: to exchange views and merge the two which represented the village map, and also for the participants to learn each other's perspectives.



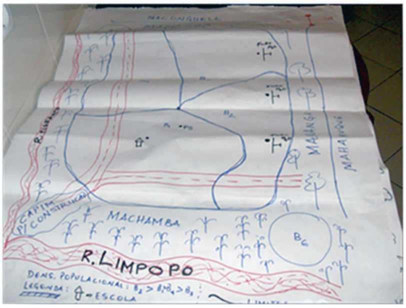


Figure 6. Drawing their own village and resources map in Macaringue village. Photo: Nícia Givá.

Transect Walk

This technique was used in different phases of the research. The process was guided by two local individuals who had great historical knowledge of the village. Distinct phases of the research used the transect walks with different purposes. In the first phase, the transect walk was used to verify the local-drawn map and to enhance my understanding of different land uses (grazing land, different cropping locations, as well as to relate the settlements in relation to other natural resource harvesting such as fuelwood, building materials, non-timber products).

From the centre of the village (the meeting point) we took several directions (north, south, east and west) towards the forest and grazing areas, the cropping fields, water points, village settlements and borders to other villages and resource-sharing areas. Along the walk, I took the opportunity to ask about different uses of certain natural resources such as trees, shrubs, grasses, wild fruits and others. I also learned about different practices in upper land cropping versus other cropping land locations.

In the later phases of this research, the transect walk was also used to identify and monitor the elephant incursion routes, and the expansion of farming land due to flood events.

Interviews and Focus group discussions

In Phase 1, interviews were held with key informants such as the community leader, village elders, Chief of the land (different from the village leader, who deals with issues such as land heritance and rain-making ceremonies), school teachers and the local nurse. The interviews were open-ended, more in the shape of open conversation on different themes such as: village settlement history, resource use and customary management practice, farming practices, park establishment and local perceptions. Selection of key informants was based on the position held in the village as mentioned above, otherwise people were selected in a snowball sampling process based on the topic and information from the last interviewee about who else in the village would have information on that specific topic.

In Phase 2, I interviewed some of the key informants from Phase 1 and some households also from the Phase 1 sample (for sample details, please refer to Table 4).

Focus group discussion was yet another method used to triangulate gathered information in different phases of the research. It was used throughout the research fieldwork in all three phases. The objective of the group discussion was to validate information that appeared as the village consensus or to clarify what seemed divergent. The group discussions were organised such that most often men were separate from women. However on some occasions, I worked with mixed groups, for example to discuss the elephant routes towards crop raiding, measures taken in different seasons and the workload and implications of those for the households. For detailed information regarding the number of people interviewed and focus groups, please see Table 4.

Participant Observation

For the entire period of the research, covering the three phases, I followed the same routine as mentioned above. For each trip I pitched my tent in a yard in a settlement that was central to the village, I spent my leisure time in the central area of the village, chatting, and playing with kids. I attended village meetings and other ceremonies (traditional marriages, funerals). From Phase 1 onwards, I systematically followed the 26 households I had been in contact with, located in Macaringue and in two other ‘satellite’ settlements attached to Macaringue: Gushué and Chibombe. While in the village I engaged in different farm and household tasks, mainly with the women of the households. Observations were made as we engaged in farming practices and other livelihood-related activities, about the choices and decisions made by the households. These observations and further conversations with household members enriched the understanding of the livelihood alternatives employed by the households under different circumstances, as well as the different factors and conditions influencing the household decision-making process. This process helped in the design of a survey and the identification of relevant variables to be included.

Survey

The survey was carried out in June and July 2009. The 106 households (20% of the total households) participating in the survey were selected randomly from household lists provided by the local authorities. The questionnaire measured different parameters related to the following main topics: household socio-economic characteristics, farming practices including size and spatial location of different cropping fields, crop diversity and yield. It also explored alternatives or strategies developed by the households to cope with constraints imposed on their farming system by drought and elephants' crop raiding, and strategies adopted by the households at different levels of exposure to food shortage. The last section of the survey focused on the perception of the households concerning rainfall patterns over the previous 10 years in terms of frequency, distribution and intensity. Their perceptions of the elephant incursions and crop raiding events in relation to dry and wet seasons were also included in the survey.

The survey was conducted in the local language *Shangaan*, and I filled in the survey while I carried out the interview. Each survey took approximately 2 hours. An adult member of the household was invited to respond to the questionnaire, and respondents varied between the head of the household (male or female) and the older son or daughter.

Data generated from the survey was mainly used in this research as baseline information and partially used in Paper I. Data were analysed using the Statistical Package for Social Sciences SPSS version 15 and AMOS Graphics 7 (SPSS Inc. 2006). Primarily, descriptive statistics and chi-squared tests were undertaken to explain the associations between variables, which were then triangulated with the qualitative data and field observations. For more information about the analysis on the survey data used in this study, please refer to Paper I.

4.2.2 Phase 2: Bridging and Reconnecting (January-May 2012)

Findings from Phase 1 triggered further research questions that I translated into a PhD research proposal which was successful in 2011. In January 2012, I re-established the contact with Limpopo National Park's leadership to express my interest in continuing to work with the park. Together with the Dean of the Faculty of Agronomy and Forest Engineering (FAEF) at Eduardo Mondlane University (UEM), I met the park manager and presented the PhD research project and the intention to formalise the research collaborations between the FAEF-UEM and Limpopo National Park. Ideas for the research and the approach to be adopted were presented and the park manager was invited to express the park's interest within the presented scope so that we could adjust the research proposal accordingly. He was receptive about the research collaboration, and in his talk elaborated on the changes to come in the buffer zone based on the revised management plan that was in preparation, as well as the six irrigation system projects targeting farmers' associations that were in the pilot stage started around October 2010.

The manager was somewhat sceptical of the proposed process of engaging different actors within the suggested action research approach, which implied a collective seeking of livelihoods and management alternatives that would reduce the conflicts and work towards greater coexistence possibilities. Instead, the park manager emphasised his interest in linking the research to assessing the performance of the six pilot irrigation projects, most of which (five) were located in another District - Mabalane, in the central part of the park. In this regard, the he was willing to include Macaringue as a beneficiary of the irrigation scheme so that I could also continue working with that community.

Following the meeting, I committed to reworking the proposal to incorporate the interests discussed and agreed to present the revised research proposal before starting the intensive fieldwork period planned for 2013. In this meeting, prior to the formal research agreement between the two institutions, I was given permission to return to Macaringue for a complementary scoping study to help adjust the research proposal. However, the trip to Macaringue was only possible two months later due to the heavy rainfall and discharge of water from Massingir Dam, which resulted in floods that limited the access to the villages inside the park.

My return to Macaringue was finally possible at the end of March 2012 with the intention to reconnect and update my knowledge and understanding of the research site based on my previous research experience. To my advantage, the social structure of the village had not changed in the three years that I had been away, that is to say the village leadership, including settlements' secretaries (*secretário do bairro*) and some key informants remained unchanged. I was also able to reconnect with the same farmers/households that I had been following previously, with a few exceptions due to deaths or migration. Meeting the same leadership worked as an advantage as they were already familiar with the research focus, although they would, as before, question my interest in such research, and my return triggered in them even more questions about the real benefit for me in doing research in such a remote and difficult area. Nevertheless, they were all happy to see me again and were very enthusiastic to tell me about how things had evolved in the three years. Thus, the re-engagement was smooth.

Different from the cyclic droughts that were the predominant feature in the research period of 2008-2009, the beginning of 2012 brought unpredicted and occasional flooding to the village, caused by the discharge of water from Massingir Dam, as explained above. Despite the destruction caused by the water in terms of field erosion through the opening of several craters, and the loss of cattle due to drowning, people were satisfied with the floods, because it had ensured maize production.

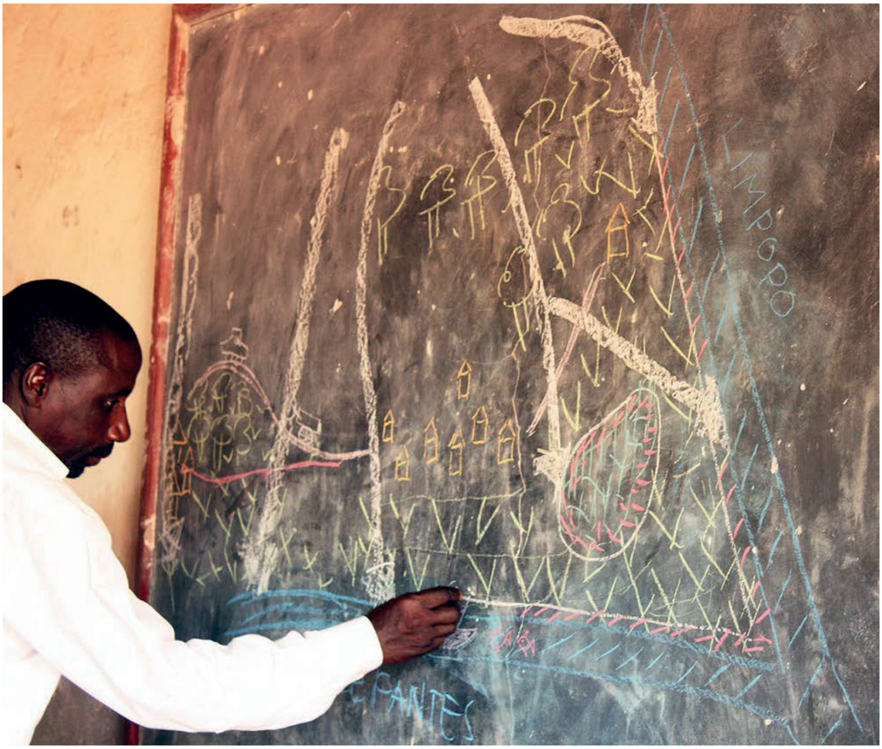


Figure 7. Discussing and mapping elephant routes in Macaringue village. Photo: Nícia Givá

During this phase, I spent a total of about 34 days in the village divided across four trips. Participant observation, field visits, informal talks, interviews with key informants and participation in village meetings and actions against crop raiding were the main research methods and techniques used to reconnect and re-engage with Macaringue villagers' daily lives, challenges, opportunities and limitations (Table 4). I also spent 2 to 3 days during each trip in Massingir town, where the park headquarters and the District government and services are located, to meet park staff and district officials to explore information and perceptions about people-park interface issues. In the two last visits to Macaringue, I organised a focus group discussion with mixed groups of men and women to triangulate and consolidate information gathered, especially concerning elephant routes (Figure 7), the new organisational forms of protecting the field crops, distribution of tasks and workload as well as their communities' complaints about the park's ineffective response to addressing the human-elephant conflict. The differences in climate between the two research periods (2008/9 and 2012) drew my attention to seasonal dynamics and their impact on people's livelihoods, and their adopted strategies. Therefore, I have continuously followed this dynamic, which I describe in Paper II.

During the fieldwork in the three phases, I obtained assistance from colleagues and students in different field tasks. In the table below, I provide a list of these people with their names, affiliations and respective roles.

Table 3. *List of People involved in the Fieldwork*

Name & Initials	Affiliation	Role
Afonso Nhoela (AN)	Faculty of Agronomy - UEM	Driver
Arsénio Jorge (AJ)	Faculty of Agronomy - UEM	Research assistant
Joaquim Bucuane (JB)	Faculty of Agronomy - UEM	Research Assistant
Natasha Ribeiro (NR)	Faculty of Agronomy - UEM	Professor & Local Supervisor
Nadarajah Sriskandarajah (NS)	Environmental Communication - SLU	Professor & Main Supervisor
Tania Muhave (TM)	Faculty of Agronomy - UEM	Undergraduate Student
Tomas Meque (ToM)	Limpopo National Park	Department Community Affairs

Table 4. *Research Design during the three Phases, presenting methods used, people involved and data obtained*

	Research Period	Methods Used & Sample	Participants & role	Data & Outcomes
Baseline study phase	**March –November 2008** 90 days – 6 trips Objective: Scoping study: Understanding the Livelihood System and the 'new' interaction with the Park establishment	Participant observation Life histories: 1 chief of land, 1 largest livestock owner, 1 elderly woman Village & NR mapping : 2 groups (Men & women) Transect Walk: 2 total Key informants interview: 1 village leader, 1 land chief, 1 village nurse, 1 school teacher, 5 settlements secretaries	Nícia Givá (NG) – Main Researcher AN: driver & Shangaan 'advisor'	Natural Resources mapping Local Land use mapping Farming Systems Descriptions and seasonal dynamics Village History (settlement, displacement and post-war resettlement processes & memories) Climate (drought) influences & seasonal changes
	March –July 2009 83 days – 6 trips Objectives: Detailed understanding of Farming & livestock practices and seasonal dynamics; Quantify the parameters in the livelihood system	Participant Observations Semi-structured interviews: 26 families Focus group (FGs) discussions - 13 total (group size:7-9 participants separated men & women) 26 Kraal monitoring & talks with livestock keepers (size of the herd, health of the herd & Kraal management)	NG, AN – Driver & Shangaan advisor NG	Systemic description of the Livelihood activities and its seasonal variations; *FGs topics*: Farming practices Livestock management practices; Wealth perceptions & Wealth ranking exercise NRM: local laws & institutions Socio-economic data, Coping strategies
		Survey: 106 households (20% of total)	NG	
Bridging Phase	**March – May 2012** 34 days – 4 trips 7 days at district level Objective: Reconnect, validate 2008-2009 data to be used as baseline, get updated information on Households' livelihood strategies and dynamics in the past 3 years	1st visit (4 days): Participant Observation conversation with previous 4 key informants & 5 heads of household Field tours Participated in village parades, meetings, elephant night guarding; Systematic follow up of 11 households Interviews with Key informants: 6 total (VL, R, nurse, PAID, AVE, CRI) Focus group discussions - 2 (mixed male & female)	NG & AN- driver	Field notes & flipchart notes on: New dynamics on people's livelihoods (droughts/floods) Emergent social arrangements in relation to droughts/floods Elephant movements, routes & patterns Updated information of the situation and next field planning

	Research Period	Methods Used & Sample	Participants & role	Data & Outcomes
Bridging Phase	**August 2012** 8 days – 1 trip Objective: Estimate maize production; Monitoring elephant field incursions and collect maize samples in the household granaries to determine humidity in the harvested maize	19 Field measurements: GPS field area estimation, nr. of maize plants & cobs/m^2, weight and size of the cob, weight of the maize grain; 19 granary inspections 28 maize cob samples to determine post-harvest moisture; Short questionnaire about elephant incursion events and losses	JB - Researcher Assistant	Maize production estimated % of moisture in the harvested maize determined Overview of the elephant field incursion patterns and crop raiding events and impact;
The Action Research Phase	**March – May 2013** 25 days - 3 trips Goal: Explore & Monitor the drought/flood changes discuss & assess the workshop process and outcome and follow up action plan	1st Workshop, see Table 5 2 Focus Groups in Macaringue village: a total of 13 participants, mixed males & females: Field visits & introduction to Tania's work Instruction to 2 local young farmers to monitor the elephant incursion plots Establishment of 12 elephant monitoring plots 54 Household Surveys - short and adjusted version of 2009 livelihood questionnaire	NG, NS NG & TM - BSc final project TM	Feedback & evaluation of the workshop Follow-up Action Plan Elephant incursion & maize loss monitoring plots installed; 50% of the 106 surveyed households interviewed and comparative drought/flood dynamic established regarding household assets, farming practices, livelihoods & coping strategies, perception on climate variability and elephant incursions;
	August – December 2013 43 days - 5 trips Goal: Research and Actors' engagement on understanding, reflecting, learning about the 20% benefit sharing	2 (days) Focus group discussions:7 park staff 3 focus groups -Natural Resources Management Committee (CNRM) - 5, 7, 8 participants Interviews: 1 president CNRM, 6 village delegates and random CNRM members, 2 locality leaders 2 focus groups CNRM members of Macaringue & Manconguele Villages (11 & 7); 2 focus groups with CNRM members of Munhamane, Chipandzo, Mavodze and Chibotane (11 & 5 participants) 7 Interviews with community leaders & non-members of the CNRM (in Macaringue, Gushue, Chibombe) 4 Interviews with community leaders & random non-members of the CNRM (Munhamane, Chipandzo, Mavodze, Chibotane)	NG & ToM NG NG & ToM NG	The 20% benefit sharing LNP current practices & 20% policy, knowledge and application of laws & regulations; LNP's role and responsibility CNRM understanding of the 20% management, their knowledge of law & regulations, roles & responsibilities, current practices, limitation Assessed perspectives of the members & non-members of CNRM about the current 20% allocation, utilisation and management practices, perceptions and improvement needs;

	Research Period	Methods Used & Sample	Participants & role	Data & Outcomes
The Action Research Phase	**February 2014** 8 days – 1 trip Objective: Assess and consolidate the Workshop outcomes & develop an action plan & monitoring mechanism;	Maize production estimation (fields & granaries – 54) Granary inspections (54) Visit elephant monitoring plots (12) Meetings with park leadership, park staff, locality & community leaders, and District Services of Economics Activities (SDAE) officials 1 round table (park staff, locality leaders, & SDAE) – 7 participants	TM NG & ToM	Elephant incursion plots monitored and data recorded Maize production estimated for 54 households Moisture of the harvested maize determined
	July 2014 20 days – 2 trips Objective at village level: Activate the 20% action plan building local capacity;	Workshops (See *Table 5*) 4 Interviews with park staff & leadership 5 Interviews with Locality leaders & key informants	NG & ToM	Detailed Action Plan (March – July) with different actors' commitment to the roles and responsibilities; Mechanism for monitoring the planned activities established
	November – December 2015 9 days – 1 trip Objective: Assess the progress of the 20% Action Plan; Overall research evaluation	Household interviews – validation of path coefficient analysis model estimations (10) Interviews with park leadership & park staff (4) Interviews with CNRM members (3) Interviews with Macaringue & Chipandzo leadership (2) Focus group discussions at Macaringue (4 groups total 21 participants, 3 female groups of 3,5,5 & 1 male group of 8)	NG & AJ – researcher assistant	See *Table 5* Factors and conditions affecting the performance and progress of the planned activities identified Local validation of the estimated relationships between drought, elephant incursions and household coping strategies Local interpretation and/or explanations of the estimated relationships & emergent relationships park , CNRM and community perception/perspective on the action research as the methodological approach & perceived learning outcomes

4.2.3 Building Trust With the Macaringue Villagers

Trust building is a process that requires time and needs to be carried out slowly. It involves various steps where patterns of trust and distrust may emerge in due course (Sultana, 2007). One of the requisites in action research is to create enabling conditions for involved actors to be able to engage and share knowledge and experience, and hence trust building is one of the preconditions (van Bommel *et al.*, 2009). My research entry point was agronomy oriented, engaging with households in learning about their agricultural practices by contrasting them with theories and experiences learnt as part of my agronomy training. Our dialogue has evolved in different topics by interrelating agriculture with other subcomponents of the system such as other uses of natural resources, the water scarcity problems and local alternatives, the conservation restriction policy and the implications of those in their daily lives. In the process of understanding the farming system in its complex context, important dynamics emerged as worthy of further exploration. For instance, one impressive aspect was the households' strategic capacity to deal and cope with drought, which triggered my further inquiry. Consequently, I have persisted within the same research focus over several seasons and years, which has allowed time to explain and engage the communities in this investigation and together observe, record and discuss the variations. The process of slowly and collectively building an understanding of the agricultural system and its interrelated subsystems and together with the community members inquiring about certain phenomena, such as drought and cropping patterns and the elephants' incursion behaviour in a dry and wet season, helped to create a closer collaboration with the local communities.

These factors were matters that affected their daily lives and they were concerned about alternatives to improve their livelihoods. Therefore the research became attractive to them, and slowly more members of the community started to show interest and willingness to collaborate, sharing knowledge, experiences and ideas.

Certainly, this process did not flow smoothly as it may appear here, and it had its pitfalls. First, it took almost a year before the community members believed in my declared research objectives. They would keep questioning the reason I was interested in research in a remote area with such difficult living conditions. Secondly, despite being Mozambican, speaking the local language, *shangaan*, my own mixed ethnicity (resulting from Indian and African grandparents' backgrounds) – instead of pure Mozambican lineage – meant they distinguished me from themselves and were suspicious. Moreover, because of the research equipment such as university car, camera, GPS, camping stove and so on, I was also positioned as different from them. This had triggered their imagination about what my role or interest was in the village. Some speculated that I was part of an aid development project, others suggested that I was there serving the park's interest and being paid to probe the community's position regarding the park. I explained that I was affiliated to the University and my interest was explicitly research (to study the people's ways of living and the local practices of coping with agricultural-based livelihood and phenomena such as drought, conservation and respective implications). I also pointed out that my main motivation was to conduct research that was both meaningful and useful for the users, and therefore my expectation was that with their collaboration and engagement we would both learn and together hopefully build knowledge that might contribute to improve the future livelihood situation.

The continuous contact with the community over the years through several visits during fieldwork as well as the contacts I kept with key informants and 'close' household members (who had become friends) by phone in periods that I was absent from the field, helped to continuously build a closer relationship with the community members. I started with the phone calls as a research tool to keep myself updated when I was away from the field, but it proved to be a good way to continuously build relationship and trust, since the message that I had called to a certain key informant or household member was spread out literally to the entire village. They interpreted this as care, respect and gratitude and they expressed their appreciation in the next encounter we had, and those who had heard about the phone call kindly offered their mobile number so that I would be able to call them too. Apart from the expressed interpretation of caring for them even while abroad, the phone calls might also have represented for them a *status quo* of having an 'outsider' friend. This relationship grew and we reached a stage where most community members became excited by my arrival with a lot of stories to tell – the rapport was built. As argued by Goldberg (2005), achieving a relationship of understanding, empathy and trust is an important requisite in a facilitation or mediation process.

With the rapport built and my growing understanding of the local situation and its dynamics, we started moving the research to the third phase of collectively seeking alternatives for the constraints faced. From these engagements with the community I also learned that park-community communication was problematic, almost non-existent. Establishing that link was one of the complaints by the communities, but was also an important prerequisite for the action research phase. In parallel, in my meetings with the park officials I also worked with them to open up such possibilities. Sharing and discussing selected research findings that showed, for instance, the implications of miscommunication or lack of information among the two was used to persuade the park to engage in an interactive approach. As argued by Leeuwis (2004), in a situation where unequal power relations can hamper possibilities of social learning, persuasive strategies can help to enhance the sense of interdependence among actors. Thus, while reflecting on the implication of a particular finding, a contrast with an alternative of adopting an interactive approach was made in order to bring awareness of the advantage of collaborative approaches.

At this point, prospects for community and park officials to meet existed in order to negotiate conditions that would contribute to minimising the negative impact of the park in people's livelihoods. I therefore, started work to enable a productive dialogue. For that, I hypothetically advanced to community members the possibility of a dialogue with park staff to collectively seek alternatives, thereby also hypothetically, discussed different approaches that would probably be more appropriate (see section 6.2.1). The encounter finally happened in the form of a workshop, with the first multiple actor workshop taking place in March 2013 (see *Table 5*).

The recognition of my research role and its importance for the community was publicly acknowledged by the community only after some time. This happened after some rounds of the action research interventions, in the 3rd workshop in December 2013 (see *Table 5*), where at the end of one of the interactive meetings with park staff, a community representative said as part of their closing speech that they had been very wary about my research and intentions for many years, first because they did not understand what research was but also because it was hard for them to believe that I was purely interested in studying. However, he went on to explain that now they were finally seeing the benefit of the research, and also explained how they have learnt in the process and what they were able to achieve through the study and their engagement in the research process and the dialogue process with the park staff.

4.3 The Action Research Phase (2013-2015)

Towards the end of 2012, some changes took place in the management of Limpopo National Park, including the appointment of a new park manager. At some point, I thought this change would mean a setback in the process, as a re-introduction phase would be required.

In February 2013, the same procedure to negotiate the research with the new manager was adopted as the first time one year earlier by involving the Dean of the Faculty in meeting the new park manager in Massingir at the park headquarters. We linked this meeting with our previous visit with the former park manager, and presented the steps advanced towards formalising the collaboration between the two FAEF and LNP institutions. I presented the research project, its background, the follow-up process in 2012 and the planning for 2013. At this stage, the park's interest in attaching the research to the irrigation projects in order to improve their performance had become irrelevant, since none of those projects were functioning by the end of 2012. Some projects folded due to organisational issues related to collective management, others due to floods that destroyed either the motor pump or the fields. Thus, during my presentation to the new park manager, emphasis was given to the previous research proposal of engaging all relevant actors (park leadership and staff, the district government, the communities and the NGOs and researchers) through an action research approach in seeking management and livelihood alternatives that would better accommodate both conservation and livelihood needs.

The new park manager showed willingness to collaborate, albeit cautiously through fear of committing too much. He did this by reminding me that he was new and in the process of getting to know the park, while also advancing signs of having had some prior experience in interacting and collaborating with communities in another relatively small park where he had been the park manager. The park manager also had a general interest in community-based NRM from his educational background. This was for me a positive sign towards the prospects of the next research phase.

Meanwhile, he was receptive to the proposal about organising a workshop, with the participation of the above-named actors to initiate a dialogue towards actors' perceptions about the opportunities to explore possibilities to improve the somewhat tense relationship between the park and community. As part of the process, he nominated a team comprising the heads of Department of Community Affairs and the Department of Protection respectively to work together with me in the organisation of the workshop.

The point of departure was the assumption that the human-wildlife interaction at LNP was a complex situation that needed to be addressed through engagement and taking into account the diversity of all relevant actors. Thus, the systemic perspective in combination with an action research orientation approach held the potential to open up opportunities to reach functional 'community agoras'. A series of facilitated workshops in which all key actors participated following the process of iterative cycles of action research (Reason, 2006) was the core of the methodology adopted. Table 5 provides a summary of the series of workshops conducted at different levels along with the actors involved, the participants, the objectives and the main outcomes. Other relevant methods including participant observation, focus group discussions, semi-structured and in-depth interviews were at hand for use throughout the fieldwork process as a way of fulfilling the research requirements for interpretation and theory building.

4.3.1 Creating Space for Seeking New Solutions

The first multi-actor workshop marking the beginning of the dialogue process consisted of a facilitated interaction and deliberative processes between buffer zone communities' representatives, park officials and leadership, the district administrator and district government officials, local development NGOs and other UEM researchers with an interest in LNP. The workshop was facilitated by me in Portuguese and simultaneously translated into the *Shangaan* language by one of the park staff, which helped reduce the gap among actors, particularly to elevate the importance of the local community members in the meeting, who mainly spoke *Shangaan*.

The workshop started with a photo exercise as an 'ice breaker' by inviting all participants to choose one from a set of a variety of photographs, one that expressed something about themselves, and use the same photograph to give a self-introduction and also state the link the person had to the workshop. An introductory talk was given by the principal supervisor from SLU (NS) who elaborated on the theme by giving different examples worldwide and the various competing stakes. This was complemented by the short presentation by the UEM local supervisor (NR) presenting experiences from other protected areas in Mozambique. The introduction also emphasised the importance of the interactive process among actors as a means for sharing understanding of the situation, discussing different actors' interests or stakes and worldviews, and collectively engaging them in seeking alternatives towards addressing and/or accommodating those different interests. After the introduction, there was a general discussion on the workshop theme 'Human-inhabited conservation areas, what are the alternatives for Limpopo National Park?' followed by the somewhat contradictory conservation and people's livelihood needs, and participants illustrated this via several examples. This opened up the dialogue and gave the opportunity to briefly point out the contributions concepts such as social learning and collaborative management could offer in such situations.

This was followed by a collective historical timeline of LNP where all actors were invited to contribute to a 10 to 15 years' retrospective to identify all important events. This exercise not only contributed to building a shared history of LNP by participants, but also helped to map the stakes of the different actors by noting the aspects/events each group of actors gave more importance to or which remained memorable. The exercise was carried out in an informal and relaxed atmosphere which contributed to transverse the power dynamic among the participants, since all participants equally expressed aspects/events they considered relevant, and they also shared stories and/or experiences related to recalled events.

The next session consisted of a presentation about the overview situation on conservation and people's livelihood interface at LNP, informed by the baseline study from Phase 1 and the complementary research done in 2012. The presentation provided concrete facts for reflection which were further discussed in groups. In the plenary discussions of the groups, steps were taken to identify core issues that needed attention and improvements to the park-people interface.

This marked the first cycle of the action research process and actors' engagement towards searching for alternative possibilities to reconciling wildlife conservation and people's livelihood needs at LNP. The workshop outcomes in terms of the issues emphasised as needing immediate attention were listed as elephant crop raiding, improving park-community communication, revision of the buffer zone management plan, and alternative livelihoods, and these were used as the basis of the subsequent discussions to define the streams of inquiry that have unfolded in the course of the research.

4.3.2 The Action Research Cycles

The subsequent iterations of the action research process took place in different stages in 2013, 2014 and 2015 with different levels of actors' engagement and appropriate workshop designs to suit actors' interaction. Workshops were organised both with single and multiple groups of actors. Workshops with single groups were adopted mainly for building capacity or knowledge co-creation on a specific theme with a specific group. Workshops with multiple actors' groups (park residents, park staff, local government officials and non-government organisations) became the core event in an action research cycle and the forum to "validate", review and approve the action plan for the next cycle. In between the workshops, other types of interactions with actors were also used, in the form of meetings with formal or sometimes informal settings, focus group discussions, and interviews. These were adopted to explore specific topics and capture the diverse perspectives of the actors on a specific topic, thereby gaining a more in-depth understanding of the issues, which helped towards screening concerted actions and research interests that shaped the stream of inquiry.

Each workshop was designed and planned based on a central topic which also guided the objective of the workshop. These topics emerged from either the first multi-actor workshop or from subsequent work done with the actors. The work with actors also informed and shaped the streams of inquiry undertaken, which also determined the subsequent cycle of the action and research. Three main streams of inquiry (see Figure 8) had emerged in the course of the action research intervention. The first stream of inquiry consisted of actors' engagement in a facilitated communication and deliberative processes in order to provide opportunities to build up space for interactions and the social learning process to occur. The second stream of inquiry worked towards developing the capacity of park officials through experiential learning processes whereby they were exposed to practical experiences of interacting with the local community in a process of knowledge co-creation. This process served to build on knowledge and professional competences needed for supporting a participative and deliberative process to enhance the park-community relationship. The third, a bridge between the first two, this stream of inquiry became the core of the action research intervention from which the main actors were engaged in a collective and concerted work to address the livelihood diversification issue through improving the mechanism of the 20% benefit sharing of the park's annual revenue. With a tangible objective, this stream of inquiry contributed to and was fed by the other two streams of inquiry.

Each of these streams of inquiry demanded several cycles of action and research and different research methods and strategies were used accordingly. The second stream of inquiry included other research activities such as review of documents on park's management and communication strategies, assessment and consultancy reports, and interviews with park staff to learn about their profile, skills and competences as well as their perception about their own knowledge and skills gaps.

Likewise, the third stream of inquiry also included research activities and small working groups prior to the main multi-actor workshop, which became the key intervention within this stream. These consisted of revision of documents on national policy and regulation framework regarding the 20% benefit sharing, facilitating a working group with park staff to analyse their understanding and interpretation of the legislation, intervention structure and current practices around this topic. Perspectives on the current practices and the perceived situation of the allocation and application of the 20% benefit sharing of the park revenue were also gathered through conversations with community members and respective leadership, interviews and group discussions with members of committees for Natural Resource Management (CNRM), interviews with NGOs that assisted CNRM and the district administration. The CNRM were the community members responsible to manage the 20% benefit sharing, but faced several difficulties to undertake their role (see Section 6.2).

The final assessment of the work and respective outcomes was done through a collective reflection and discussed the new insights gained from the whole learning process. We engaged in this collective reflection on two levels: park officials (staff representative and leadership) and district government leadership. Another level of reflection was carried out with the community leadership, CNRM representatives and park staff representative. The series of workshop events and activities around each of them constituted one iteration of the action research cycle, with the enacted workshops themselves serving as spaces for deliberation and learning at the respective level (district, park, and/or community), and together establishing a space for seeking institutional change towards co-adaptive management. Table 5 summarises the series of workshops, the participants, the objectives and the main outcomes and Figure 8 illustrates the process and the described streams of inquiry within the PhD timeframe.

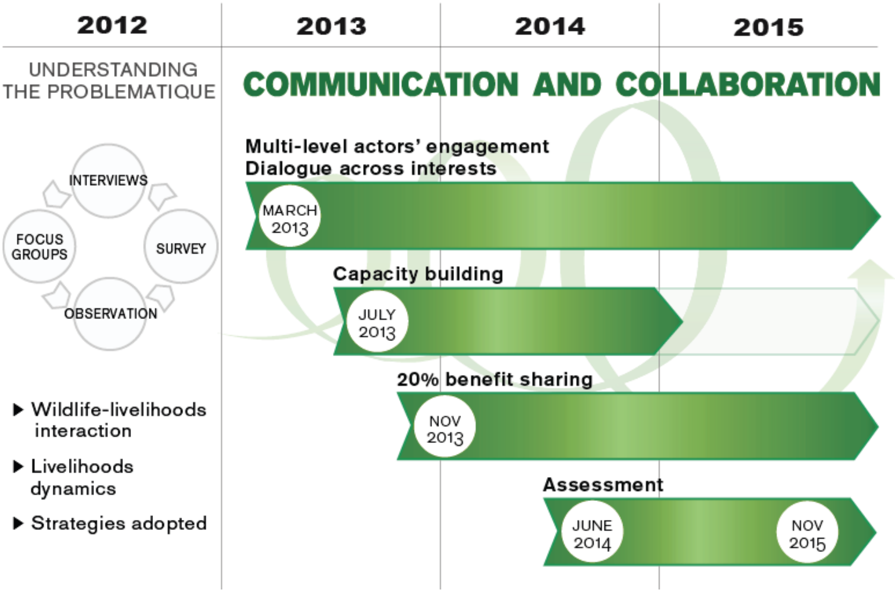

2012
2013
2014
2015
UNDERSTANDING THE PROBLEMATIQUE
COMMUNICATION AND COLLABORATION
INTERVIEWS
SURVEY
OBSERVATION
FOCUS GROUPS
▶ Wildlife-livelihoods interaction
▶ Livelihoods dynamics
▶ Strategies adopted
Multi-level actors' engagement
Dialogue across interests
MARCH 2013
Capacity building
JULY 2013
20% benefit sharing
NOV 2013
Assessment
JUNE 2014
NOV 2015

Figure 8. Methodology-in-use: Process and streams of inquiry within the PhD timeframe

Table 5. *Overview of Workshops held at different levels, actors´ involvement, objectives and main outcomes.*

Aim and Objectives	Participants	Methods and Tools	Outcomes
1st Workshop: 20-21 March 2013 "Inhabited conservation areas: are there alternatives? The case of LNP in Mozambique (District level)			
Aim: Initiate steps towards actors' engagement for seeking alternatives for co-existence Objectives: Share preliminary results of livelihood dynamics and alternatives for improvement; Start a dialogue process with all actors Create space for deliberation	**23 Participants** 5 Community members 4 District government officials 8 Park staff 1 Peace Parks Foundation rep 3 NGO reps 2 researchers at LNP	1.5 day workshop Tools: Baseline research Presentations, Pair and Group discussion; Group exercise, Photo exercise, Historical Timeline, Ranking through voting	Awareness raised about the complexity of the problem; Actors acknowledged the need for wider participation in establishing norms and regulations of NR use; Follow up: HWC, communication, collaboration in management decision making
2nd Workshop 2: 6-9 August 2013 "Communication for Conservation: A professional development for LNP's park staff" (park and community level)			
Aim: Professional development of park staff Objectives: Capacity building of LNP´s staff in communication and participatory processes	**24 participants** 11 Park staff: 6 Department of Community affairs 5 Protection Department 13 village members (part 2)	4-day training workshop; 2 days in class room Tools: World café, Group exercises, Discussions 2 days in the field (Macaringue village) Tools: Transect walks in 3 groups; Conversation with Local community; Mind mapping; Dialogue process and active listening; Groups' reflections about the process	Highlighted the difference of persuasive vs interactive communication; Acknowledged the value of interactive communication as reducing misinformation and trust building; Dialogue process pointed as useful tool to reduce conflict; Follow up: appropriate structure and mechanism to engage with community; Ongoing capacity building for both park staff and community members
3rd Workshop 3: 5 December 2013 "Reflection on the allocation and utilisation of 20% LNP's revenue" (at Community and District level)			
Aim: Re-engage the actors in interactive ways of working collectively towards improved the 20% benefit sharing mechanism Objectives: Share results of the study on current practice of allocation and application of 20% revenue from LNP; Initiate a discussion on the improvement of 20% benefit sharing	**38 participants** 1 Provincial Tourism Department 1 District administrator representative 01 Deputy Manager of LNP 4 Chiefs of locality; 2 Chiefs of administrative post 11 Community leaders; 10 CNRM members, 5 Park staff; 2 District government officials; 2 NGOs representatives	1 day multiple actors' workshop Tools: Presentations; Pair wise and group discussions; Ranking exercise	Legislation, current procedures & practices on the 20% management shared; Ways to improve functionality of the 20% discussed and proposed; Acknowledged the need for all actors' involvement; Different actors' roles discussed and clarified; Follow up: changing committee members, internal regulation, Means to improve communication and coordination 3 working groups created to address above priorities

4th Workshop “Your future at LNP and hands on in the 20% matter”			
In Macaringue Village (a): 9th July 2014 Villages included: Chipandzo, Munhamane, Macuachane, Cunze, Maconguele, Gushué, Chibombe, Macaringue) In Mavodze Village (b): 11th July 2014 Villages included: Chibotane, Madingane, Machaule, Bingo Aim: Build local capacity to empower community members to enact their needs, rights and opportunities Objectives: Activate the 20% action plan by building local capacity and addressing the limitations captured from the assessment feedback	**23 participants (a)** 1 Post-chief Zulo 2 Locality-chiefs (Mucatine & Zulo) 8 Village leaders 5 Macaringue secretaries & CNRM members 1 Macaringue traditional chief 2 Religious representative 2 School teachers 1 Women organization representative) 1 Park staff **13 participants (b)** 1 Post-chief Mavodze 2 Locality chief Chibotane & Mavodze 4 Village leaders 4 CNRM members Massingir 2 Park staff	1 day workshop in 3 sessions: Visionary Exercise - 20% benefit sharing opportunities; Capacity Building & organisational learning: actions to improve under own control; Follow up the 20% plan: Detailed Action plan by village; Tools: Groups exercises, plenary presentations and discussions	Visualised their improved future and actions needed, Awareness raised on existing opportunities, limitations & own capabilities to act to overcome the limitations; Concerted ideas to collectively work towards a functional 20% plan; A detailed action plan with developed, discussed and agreed by all
5th Workshop: 14th July 2014 “Research Insights and Future of LNP” (at Park and District government level)			
Aim: Common understanding of ‘Parks with People’ approach at LNP Objectives: Collective reflection on the 2 years’ research results and emergent queries LNP future through visioning exercise Analyse and assess the enabling and disabling forces for visualised future	**10 Participants** 2 Government leadership 6 Park staff including the leadership 2 researchers	1 day workshop Tools: Questions to guide groups’ reflection exercise; Force Field Analysis in pairs; Visioning and Scenario developing; Systemic Transformation of LNP	LNP staff with LNP clear future vision Aware of the drivers and the barriers; Recognised internal and external actions for change; Recognised the need to build own financial sustainability;

4.3.3 Workshop Data and Reflective Processes

Data about what had taken place were systematically and permanently recorded. I kept diaries where all events and observations were described in detail, including my own reflections, interpretations and personal feelings (Grant *et al.*, 2008). In periods of absence from the field, I maintained contact with collaborative researchers (informants from the field in Macaringue, community leaders, and the LNP contact person) who kept me informed about developments in the field.

For each workshop, all discussions were recorded and written in a report that was shared with all actors. This included agreements on follow-up actions and the necessary meetings to develop an action plan if one was to be developed. The report served as the basis to inform the subsequent actions.

After each workshop, participants were asked to give feedback about the workshop by filling out an evaluation form or in some cases by expressing their overall satisfaction using a 'mood face meter' (happy, unhappy, same) for the three main categories (workshop facilitation, facilities and outcomes) in a flipchart placed outside the workshop venue. As the main researcher and facilitator of the process I focused the reflection on the objectives of the workshop, the process, appropriateness of tools and techniques applied in relation to the outputs and outcomes and participants' feedback. These were detailed post-workshop processes serving as learning reflections, aimed at reviewing the process from the point of view of the design, implementation, workshop facilities, as well as the facilitation process itself as a way to improve my own praxis (Bawden, 2012; Kemmis & McTaggart, 2005). A similar post-workshop reflective process was also carried out involving other relevant actors, for instance myself with co-facilitators if any, the facilitators with key actors, for example park staff and the community members. This reflective process with other actors had as its main focus the outcomes, the emergent themes and the follow-up steps, and was less focused on the workshop process.

4.4 Reflexivity and Ethical Positionality

My purpose with the research process was to understand the daily struggles of the buffer zone communities and their different strategies to cope with droughts and conservation adversities while seeking alternatives to minimise the struggle, ensure their rights and improve their livelihoods. However, to advocate such a position among the community members required several rounds of re-negotiation, trust building and slowly opening up the research space (see section 4.2.3). During the process, I consciously negotiated my positionality to reduce the gap between their interpretation of me as a foreigner (very different from them) and their local traditions, by always trying to keep a low profile and acting within the local habits (Sultana, 2007). For instance, I wore a *capulana* (a fabric that is wrapped around the waist), I performed different household and farming activities (to show that I could perform within their habits and customs) and chose to sit on the ground or on a stool (as the women did) even when I was offered a chair, especially if around other women. Such situations emerged on a daily basis within the field context and I reacted and readjusted accordingly.

Additionally, my positionality as a female researcher provided a different and probably a richer perspective to the research, as I was able to access spaces and information that might not have been possible for a male researcher. The southern region of Mozambique, including the research site, follows norms and customs within a patriarchal lineage system with male dominance. This means for example that a male researcher is not allowed to approach a woman without the permission of the men, and if that permission is granted, most probably the conversation would take place in the presence of the men. Whereas I, by having the opportunity to freely engage with women in their varied household and farming tasks, was allowed space to chat and further explore issues that would not have been disclosed in a normal interview. Such opportunities would be severely restricted for a male researcher. My interaction with the women helped to better understand the factors influencing the household dynamics and the articulation of the decision making processes. This relationship built with women also influenced the men in the community to develop empathy towards me (as a young researcher and a woman), which helped to soften their patriarchal pre-conceived perceptions and facilitated a more open and horizontal conversation with the men.

Despite my efforts to build rapport with different people (community leaders, local people – men and women) as the context demanded, being a protected area with conflicting interests meant that the community had its own ‘politics of the place’ (Sultana, 2007) that had to be taken into consideration. For instance, the flow of conflicting messages regarding people’s rights, the uncertainties concerning their being able to remain inside the park or be resettled outside, as well as about their access over natural resources, have influenced how local people have enacted their agency in different phases of this research. Patterns of trust and distrust have emerged in the course of the research and these positionalities and research ethics were constantly renegotiated.

In action research, it is acknowledged that the researcher is part of and influences the changing process (Reason & Bradbury, 2008). Thus, being reflexive about the process, methods and how those are enacted is also about reflecting on the researcher's own positionality in the dialectical relationship between the action (intervention) and the research (Bawden, 2012). For instance, the learning from the post-workshop reflective process has enabled adjustment and improvement of the design of each subsequent interaction cycle by better addressing language and illiteracy issues that have surfaced as important factors in the power relations. This is part of conscious self-critical reflection about the selection of appropriate methods and methodology to disrupt the power relations that will enable a fruitful engagement, learning and change, which has been stressed by Kemmis and McTaggart (2005).

In this respect I intentionally used a combination of different strategies to empower the community members through providing a profound understanding of the situation and awareness of the existing opportunities. This enhanced community confidence so that they were able to formulate their negotiation argument with the park based on facts rather than merely accusations. For the park staff, on the other hand, strategies were used to lower their power by showing their interdependence with the community (Leeuwis, 2004). While facilitating the interaction and the negotiation process between the community and the park, I consciously designed the process in such a way that my interventions were very limited, providing more space for the community to express their concerns and lead the negotiations. This is not to claim neutrality, as some positivist scholars would argue (e.g. Rifkin *et al.*, 1991), but to provide an opportunity for the community to build self-esteem and confidence towards an emancipatory position.

In the following chapter, a summary of the four articles that are part of this thesis is presented, preceding other findings that are described in Chapter 6.

5 Summary of the Papers

This chapter provides an overview of the papers that contribute to the thesis. Findings that are not included in the publications are presented in Chapter 6. The purpose of this chapter is to highlight the interconnectedness of the papers and their respective contribution to the thesis.

5.1 Paper I (submitted): Human-Wildlife Coexistence in Limpopo National Park: Coping Strategies in a Climate Change Context

Paper I addresses the research questions 1.a) and 1.d) by looking at the interaction between people's livelihoods and wildlife conservation in human-inhabited protected areas. The paper builds on the conservation-livelihood debate which criticises management approaches that are not consistent with the attempt to integrate the coupled goal due to focusing on the technical solutions and dismissing the social, cultural and economic contexts (McShane *et al.*, 2011; Adams & Hutton, 2007; Buck *et al.*, 2007; Agrawal & Redford, 2006). The paper addresses this criticism by analysing the characteristics of the wildlife conservation-people's livelihoods interactions, the factors impacting the households' livelihoods and the strategies employed by them to cope with the outcome of the conservation-livelihood interaction. Due to the semi-arid location of the Limpopo National Park and cyclical drought being a persistent feature, the paper takes the climate change stance to analyse the implications of conservation-livelihood interaction in the context of a semi-arid inhabited protected area. Results from this study show an association between drought and the incidence of elephants and consequent crop raiding. Households' strategies to cope with drought (several fields spatially distributed) were found not to be consistent with strategies to cope with elephant crop raiding (more concentrated fields). Despite households' ability to manage complex cropping systems through exploring the potential of the diverse landscapes by maximising the availability of moisture, the need to address both threats of drought and elephant crop raiding simultaneously meant their coping strategies were ineffective. This has reduced the households' capacity to overcome drought-related food shortage, contributing therefore to a prolongation of the periods of food insecurity. These findings in the context of human-inhabited protected areas with limited household livelihood options other than those that are farming based, and having climate change as a multiplier factor, highlight the need for a management approach that is primarily concerned with people's wellbeing. These results highlight the need to understand the socio-environmental and economic particularities of the context and the practical implications of these on people's livelihoods to inform management strategies and technical solutions that are context-sensitive. These findings also offer insights into the need for flexible and adaptive co-management approaches that address the climate change related uncertainties in a meaningful manner that resonates with people's needs.

The paper provides this thesis with an illustrative context of the dilemma and complexity involved in integrating conservation and people's livelihoods. It also provides practical grounds to explore an alternative methodological approach to improve the attempts at conservation-livelihood integration.

5.2 Paper II (in press): 'Parks with People' in Mozambique: Community dynamic responses to Human-Elephant Conflict at Limpopo National Park

The second paper draws from the temporal dimension of the research which enabled documentation of seasonal dynamics over several years. Thus, the article contrasts the distinct farming practices and strategies adopted by the households in alternating situations of droughts and floods. It also shows how the community's social structure enabled them to act differently in each of the situations and the park management's responses to these situations. Thus, this paper addresses research questions 1.a), b) and c). The spatial and temporal dynamics of the situation induced by climate adversity are argued in this paper to make the conservation-livelihoods conflict a 'moving target', as the situation shifts between droughts and floods. Such a situation demands a Mode 2 science approach – a collaborative research approach that emphasises joint-finding research with the communities to allow for a robust understanding of such dynamics and the complexity involved in the farming practices, and the versatility of households to shift strategies to address the human-elephant conflict in shifting climate conditions. This insight stresses not just the relevance of working collaboratively with the communities to develop appropriate management strategies, but also sheds light on the preconditions to motivate communities in such a collaborative exploration.

The paper also shows the gap between the management strategies adopted by the park and the community shifting conditions and their capacity to self-organise and readapt. While people show versatility to deal with and address the coupled drought and elephant crop raiding effects on their livelihoods, the LNP's responses have been reflective of a linear, static thinking, ignorant of the context and shifting conditions and designed without taking into account the socio-cultural and economic reality of the park and its residents.

As a contribution to the thesis, this paper further exposes the complexity involved in the human-nature interactions, which are not just complex but dynamic and contingent on factors such as climate. Therefore management approaches that seriously tackle both conservation and livelihood goals need to be flexible and continuously reassessed to constantly adjust – hence the adaptive-co management as a form of governance adopted in the present thesis towards the attempt to reconcile conservation and people's livelihoods.

5.3 Paper III (published book chapter): Bridging Divides through Spaces of Change - Action Research for Cultivating the Commons in Human-Inhabited Protected Areas in Nicaragua and Mozambique

This paper is a book chapter in one of two edited books on the theme of Action Research for democratisation and basic renewal of society, with the specific volume examining action research as a means to deal with 'wicked societal problems' connected to nature conservation. The book itself highlights the opportunities offered by action research to reclaim the commons through democratic and deliberative processes of community development. The paper examines the divide between conservation goals and livelihood claims of park inhabitants in two National Parks, one of which was LNP. Both are cases where people's livelihoods are challenged by higher levels of poverty, and limited sources of livelihood alternatives, and both are constrained by restrictive conservation rules, unmet promises and lack of trust.

A community perspective in contrast to the dominant institutional perspective in natural resource management is the point of departure for the comparison in this paper. Systemic action research was shown to be enabling the creation of social spaces for all relevant actors (the park management, resident communities, government officials and others) to come together, envision alternate futures to mainstream conservation practice, explore diverse understandings towards imagining the 'commons' in human-nature relationships and seek avenues for change and co-management. Thus ‘community agoras’ was introduced here to name the construct of a social space or communicative space, where democratic deliberation flourished around themes and issues of concern to the different actors in both cases. Despite the site-specific characteristics and related challenges in adopting the action research for the long term, the interactive, democratic and deliberative format of the intervention yielded opportunities in both locations for new spaces and forms of interaction and communication. This in turn led to the emergence of new organisational and coordination capacity from within the resident communities, and a greater awareness among them of the complexity of their living situation and limits to the resources available to them. While the potential for deliberative processes in cultivating the ‘commons’ has been established in both cases, the capacity for this somewhat fragile process to bridge the divide and transform the deeply entrenched structures and norms of conservation agencies was shown to be a challenge still.

This comparative study brings to the thesis a broader perspective and the deliberative and emancipatory potential of action research and the possibilities opened up through it to boost local people’s agency in their process of ‘commoning’. Equally, it also challenges the approach towards seeking ways forward for institutionalising the incremental changes for truly systemic governance. These findings contribute to the response to this thesis’ research questions 2.a), b) and c).

5.4 Paper IV (Manuscript): Creating a Communicative Space: Systemic Action Research towards Adaptive Co-management in a National Park in Mozambique

The final paper describes the three cycles within the experiential action researching process in engaging community members and the park management to collaboratively seek livelihood improvements for communities in the buffer zone of the LNP. It addresses research questions 2.b), c) and d). The paper builds on the concept of purposeful institutional design through adoption of systemic action research argued here as an approach that enables the agency of the researcher to influence the institutional crafting through the choice of appropriate methods to foster adaptive co-management.

It analyses the process of building actors’ capacity, creating spaces for meaningful communication and collective decision making for concerted action regarding the improvement of the 20% benefit sharing mechanism in LNP. By analysing the process and outcomes of the communicative space as enacted by the actors, the paper seeks to understand enabling moments of actions and factors that influenced those. It also assesses how these collective actions influenced the group agency and how the institutions were reshaped or changed to accommodate the changes being sought.

Findings in this paper highlight the contribution of the interactive process of social learning and capacity building to build actors' relationships and trust and enhanced their self-confidence. Through the level of empowerment reached, community members exercised their agency and gave meaning to the communicative space. This enabled the continuous exploration of opportunities for concerted actions, thereby working and readjusting the existing institutions to accommodate the conditions in which improvement was been pursued. In other words, the community members were able to change the rules of the game to accommodate the park's inactivity in pursuit of the 20% benefit sharing improvement.

While the process evidently helped to enhance the agency of community members and strengthened their capacity to craft and adapt institutions for collective and concerted actions, this was not enough to bridge and craft appropriate institutions at park level to establish adaptive co-management practices. The organisational structure of the park and its dependence on external actors (international donors agencies) appears to hinder such an opportunity.

This paper contributes to the thesis a practical and more concreate ground for discussing the appropriateness of the applied methodology and critical assessment of different aspects to be considered in order to improve the communicative space dynamics across scales. It stresses the need for a methodological process that cross-fertilise at different levels of governance enabling institutional change that leads to adaptive co-management.

6 Findings

This chapter consists of two distinct sections of findings and a third section where all the findings are synthesised. The first part provides an analysis of the main features of the interactions between the LNP buffer zone community's livelihoods and wildlife conservation in LNP. Section 6.1.1 complements the findings discussed in Papers I & II about the impact the establishment of the park had on the people's livelihoods and different strategies adopted by the community to reconcile their coexistence, therefore addressing research question 1.a). Findings examining research questions 1.b) and 1.c) are presented in Sections 6.1.2 and 6.1.3 respectively, while question 1.d) will clearly surface in Chapter 7. The action research findings are described in full following the chronological sequence of the order of events, while also being consistent with the order of the relevant research questions. Findings in Section 6.2 are somewhat intertwined with no clear boundaries between one research question and another. However, an indicative guide is provided. Most insights to address research question 2.a) can be found in Section 6.2.2 and in Paper III. For research questions 2.b) and 2.c), insightful findings are presented from Sections 6.2.3 to 6.2.5. The response to research question 2.d) is clearly addressed in Paper IV. Section 6.3 consists of a summary highlighting the important findings that form the basis of the discussion in Chapter 7.

6.1 Reconciling Livelihood And Wildlife Conservation: Struggling, Adapting, and Re-adapting

> …we are living in a messy world, how come elephants are given more priority than people? [Staying awake overnight] is worse than being in a war, because there one had a reason to sleep in the bush…but now they say we are at peace and we cannot peacefully sleep in our homes.
>
> A woman in Macaringue village, 15 April 2012

The above statement captures the perspective of the residents of the LNP buffer zone concerning crucial changes and harsh impacts as consequences of the establishment of the park. The statement reveals the challenges faced by the communities in the buffer zone in obtaining their livelihoods through farming while dealing with an increasing elephant crop raiding problem.

The sections to follow will elaborate on this and highlight the problematic issues experienced at the conservation and livelihoods interface by the communities in the LNP buffer zone.

6.1.1 Struggling for Livelihood alternatives at the Buffer Zone

Rain-fed agriculture is the main source of food supply of the households at the LNP buffer zone, and rainfall variability is therefore an important determinant of food security (see Paper I). While human settlements are distributed following patterns of water flow, along the main rivers, the setup of the park encompassed the same rivers, to take advantage of the same source of water for the wildlife. This setup expands the overlap between the wildlife conservation area and the buffer zone, thus increasing the space for the potential and existence of conflicts. The performance of livelihood activities within the buffer zone and its restriction policy are affected and shaped more by droughts than by the buffer zone restriction policy. In other words, the limits imposed by droughts and their consequences exceed the limits imposed by the restrictive policy. However, the restrictive policy in turn reduces the households' opportunity to fully explore other alternative forms of livelihood in response to the drought constraint and its related effects.

These findings have shown that drought is the key factor shaping the wildlife conservation and people's livelihoods interactions. Droughts inhibit households' capacity to perform the main livelihood activities (cropping and livestock husbandry), and also lead to an increased likelihood of elephant crop raiding events (Paper I).

Livelihood alternatives within the frame of the restrictive policy explored by the households are presented in Table 6 (also in Paper I). Food shortage is the main consequence of drought. All interviewed households experienced a period of food shortage every year. Among the households interviewed, 21.5% experienced 4 months of food shortage (operationalised as maize available in the granary, which was also reflected in the number of meals), while 78.5% experienced 5 or more months of food shortage. Strategies adopted to overcome the shortage of food are associated with the length of food shortage experienced. Alternative livelihood sources such as labour selling and remittances become more important when drought periods are longer, i.e. periods of food shortage exceeding 5 months, which is a critical limit (responses to food shortage go beyond the local capacity – which might imply food aid interventions). The ‘others’ category includes traditional brewing and small trade of basic goods such as salt, cooking oil, sugar, soap and other items.

Table 6. *Alternative livelihood options explored by households at LNP (n=106)*

Response to Food Shortage (%)	**Period of Food Shortage**		
	4 months	**5 or more months**	**Total**
Cattle selling	11.3	29.3	40.6
Wetland crops	2.8	16.0	18.8
Labour selling	2.8	11.4	14.2
Remittances	0.9	7.6	8.5
Others	3.5	14.2	17.9
Total	**21.5**	**78.5**	**100.0**

Also in Paper I, this thesis

Most of the available livelihood alternatives being explored are farm-based, which reduces the opportunity to spread the risk. Labour selling, for instance, refers to labour exchange arrangements between farms. However this is particularly important during the ‘good years’ when the farm activities are intensive.

After hunting was strictly prohibited when the park was established, remittances from labour migrating family members has become the only remaining off-farm livelihood option. Labour migration to South African mines has long been a tradition in the region as well as in the villages in the buffer zone, and has been an important form of diversification of the otherwise agriculture-based livelihoods. Labour migration has been reported to be an important contributor to the Mozambican rural economy, especially as the major source cash for cattle accumulation (De Vletter, 2007). However, since the changes in South Africa’s migration policy in the 1990s, this opportunity became less accessible and its contribution to the local economy began to decline. Yet, youth migration to South Africa continued through informal means or ‘illegal crossing of borders’ and towards alternative jobs such as South African farms, construction, car repair workshops and others. This type of illegal migration involving adventure and risk became embedded in the culture of the youth of the LNP buffer zone communities and beyond. Thus, as observed in this research, 'jumping' the border to South Africa became an attribute of masculinity; an event to mark the transition from youth to a mature status whereby one showed readiness to start one's own family. Hence, this kind of migration is still being practised despite acknowledgement of the reduced contribution from such income to the households' livelihood diversification. The quote below captures this fact well while exploring the importance of South African remittances in overcoming food shortages in the drought periods:

> Now going to South Africa is no longer like when their fathers went to mines […] at that time it made a huge difference to have a family member working in South Africa. Nowadays, the situation has changed and indeed we spend most of the time fearing bad news when we have a son over there, [she carried on explaining…] now there are no good jobs, they mainly become street vendors or jobless and sometimes they enter into the criminal sphere, bringing more misfortune to the family, […] and sometimes we have to send money from here to get him back … [NL, Macaringue, 2 Dec 2015]

Cattle, on the other hand, remain the most important asset for households, working as capital as well as a source of draught power, while also playing the safety net role, filling the gaps in crisis situations of food shortage, illness or death. As illustrated in Table 6, the sale of cattle is the most important alternative to cope with food shortage. Cattle owners use a differentiated strategy to graze their herds to take advantage of the available options following seasonal patterns of pasture (see Table 7). Apart from the common practice of free grazing inside the forest and surroundings from November to June, another important supplementary source of feeding during the dry season has been the crop residues after maize harvesting. This option is however limited in events of drought and associated crop raiding.

Table 7. *Grazing strategies adopted by the households in different seasons*

	Grazing areas			
Grazing seasons	**Inside Forest**	**Around the village**	**In the field**	**Other villages**[2]
November-January		▨		
February-April	▨			
May-July	▨		▨	▨ only bad years and few cases
August-October			▨	

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[2] Some households move the cattle to relatives in other villages northwards, along Limpopo River, where competition in the grazing land is less than in this southern corner of LNP buffer zone.

Consequently, drought induces a double threat contributing to a reduction in livestock numbers. The first threat is drought-related losses in terms of death due to lack of grazing and intolerance to certain diseases. The second threat is the result of a coping strategy. Households owning cattle may feel pressured to sell them to overcome food shortages resulting from drought-induced crop failure and elephant crop raiding. The reduction of cattle herds has further implications for the households as it reduces the household's capacity to recover from future crises.

As illustrated above, the occurrence of droughts in combination with the limited livelihood alternatives imposed by being within the wildlife park borders add another level of complexity to the households' livelihoods and further restrict their survival opportunities. The livelihood alternatives available to them do not address all their needs, which increases the gap between the households' struggle to attain their livelihood needs and the opportunities to reconcile with conservation goals. On the other hand, Limpopo Basin climate variability characterised by cycles of droughts and floods (INGC, 2009; Brito & Julaia, 2006) has revealed important spatial and temporal dynamics for the management of Limpopo National Park (Paper II). The flooding events that occurred in 2012/2013 and 2013/2014 induced by heavy rain in the upstream countries sharing the Limpopo Basin came as a blessing for the communities in the southern part of the LNP buffer zone. The floods occurred after three years of cyclical droughts that had seriously affected the food security of these communities (Paper I). The floods created a new possibility for food production (maize). Communities took advantage of all moist locations after the water receded, and therefore most field locations were cropped with maize. The cropped area has expanded from one season to the next due to another flood event, turning the households' maize fields into one contiguous field. This has required another strategy to deal with elephant crop raiding (see Paper II). The contrasting droughts and flood have showed the versatility of the communities in dealing with their complex cropping system, the wildlife conflict and climate adversity in a flexible and adaptive way. They have demonstrated the capacity to self-organise to address emergent situations (Paper II). Paper II analyses this as a moving target that is impossible to predict. Only close collaboration with communities in a joint-finding research approach over several seasons enabled such dynamics to be made visible. This finding stresses the need for a flexible and adaptive management approach that resonates with site dynamics.

The next section moves the focus to human-elephant conflicts and the park's responses.

6.1.2 'Feeding their elephants while we are starving': Dealing with the Human-Elephant Conflict

> […] they [the park staff] don't come closer, we see their cars passing from very far … they know the harm their elephants do to our fields, they are not worried about us, indeed they are happy that we are feeding their animals … it is their fault that we are starving […]. (a community member, May 2009)

While the park and people were suffering from recurrent droughts, the wildlife population at LNP, particularly elephants, increased in number. This phenomenon was not only because of the normal population dynamics but also due to free movement resulting from the removal of the fence between LNP and KNP. The most recent elephant census, held in 2010, recorded 1,014 elephants in the southern part of the park alone, in comparison to about 500 elephants translocated from Kruger in 2001. The combined effect of the higher incidence of drought and increased pressure caused by wildlife incursions, particularly crop raiding by elephants, led to intensification of the tensions between the park and the inhabiting communities.

The tensions escalated as the park failed to respond to the community calls seeking to chase the elephants away. Park staff had committed to respond to Human-Elephant Conflict (HEC) occurrences by sending rangers to help the communities to protect crops from being raided by elephants. In practice, however, the park did not respond effectively or in a timely manner. The reason given was the lack of capacity in terms of human resources, transport and other related logistics. Such operations are indeed not possible without a well-developed plan and response mechanism due to the sheer size and nature of the park. The elephant crop raiding events can happen in several communities simultaneously as the result of elephant movements, thus the proposed measure to mitigate HEC would need at least an effective means of communication between communities and the park and a consequent capacity of different fronts to effectively respond to several calls simultaneously. Therefore, this promised mitigation measure was not realistic for the existent capacity of the park.

Further, because of the weak capacity of the park to respond to the HEC, park staff hardly approached the communities as they recognised the fury of the communities and the potential for revenge behaviour. This contributed to increasing the gap between the communities and the park.

Associated with the losses caused by elephant crop raiding and crop failure due to drought, claims about promised benefits attached to the establishment of the park began to be echoed more loudly. Community members expressed their complaints in terms of being marginalised, betrayed, under-prioritised, and blamed the park for their continued state of impoverishment. They had been promised that the park would enhance the local development, would improve their livelihoods through socio-economic benefits, such as employment, and diversify sources of income through tourism business, better infrastructure and so on. Ten years had passed and none of these promised benefits had materialised. Instead, as claimed by the community members, the pressure brought by wildlife has worsened their livelihoods and the quality of life. Indeed, their daily routine had changed, and leisure time was now spent on fetching firewood to be burned in the fields as a protection measure to avoid elephant raids. Moreover, during the cropping season, families stayed overnight in the field to chase away elephants, whereby the chance of being bitten by mosquitoes and consequently the risk of contracting malaria went up (Paper II).

At this point, concrete claims, namely, compensation for raided crops, reclaiming the right for hunting as an alternative to drought-related food scarcity and charcoal production for commercial purposes were demanded by the communities, but very little was done by the park in this regard. Instead, the park searched for technical solutions (for example, fencing).

The implementation of a park with fuzzy boundaries between people and wildlife started to be questioned. Between 2010 and 2011 there were ongoing negotiations with the donors about the possibility of fencing off part of LNP's buffer zone, in a section where HEC was perceived as prevalent. Meanwhile, in 2011 increased competition over grazing emerged among communities in the south-eastern corner, partially induced by drought, but also because of the overlap of the grazing areas of communities settled in the southeast corner between both the Elefantes and Limpopo Rivers. Consequently, the park decided to give away the strip of land that was part of the core area to allow more land to be included in the buffer zone (see Chapter 2, Figure 2 and Figure 3 for comparison). In an interview with the park manager, this was explained as part of the plans at hand to reduce human-wildlife conflict as well as to improve the park-community relationship, as recorded below:

> […] One important measure is the re-dimension of the park, allowing more area for the buffer zone, especially in the southeast corner of the park […] these measures go together with the plan of creating animal corridors and game hunting […] [and to bridge the gap between the park and the communities] we are trying to input a new production system, by organising farmers into an association and providing them with a small irrigation system through AFD and GIZ support. (Park manager, Massingir, 17 January 2012)

As expressed in the quote above, irrigation schemes were introduced as part of the 'new production system' without consideration of the farmers' choice. In the views of the community members, the irrigation scheme brought more problems than help. As described below, its modus operandi of a small plot shared by about 30 people, plus the financial cost of fuel and the need to watch for elephant or hippopotamus incursions did not attract the communities. With funds from the French Agency for Development (AFD) and outsourcing to the NGO LUPA, LNP started six small-scale irrigation projects in 6 communities unevenly distributed in the south, centre and north buffer zone villages in the period from October 2010 to September 2011. The stated aims of the projects were to reduce local poverty levels and diversify sources of income. Community members organised into associations with an average of 30 members received irrigation pumps, inputs (seeds, fertilisers and pesticides) and technical assistance by an extension agent employed by the park, and a technician from LUPA who was responsible for providing capacity building to both extension agents and the project beneficiaries. The final assessment by LUPA pointed out organisational and managerial deficiencies on the community side as factors constraining the consolidation of the project. In addition, low adherence of the community members to the project, abandonment of the associations' fields in an event of rainfall, and market constraints were other aspects advanced by the extension agents as factors inhibiting development of the project. In 2012, funds from AFD ran out, which eliminated the associations' technical and input support, thereby contributing to poor performance of the association and even the failure of the whole initiative. The two associations in the south (Massingir district) were also affected by an unexpected flood which destroyed the fields and/or damaged the water pumps, and according to the association leader, they had no capacity to recover from this on their own.

Although some farmers owned and used an irrigation pump in their fields irrespective of the project initiative, these irrigation projects did not seem to have the support of the communities. Some speculative reasons for this could be the project design and sense of ownership, the project implementation and the historical legacy of the cooperative/associative way of working, and the actual technical, financial and feasibility challenges of the project. This topic will be further developed in section 6.2.

During 2012 and 2013, the fencing project was active and 56 kilometres of the fence was built, from Massingir gate to Combomune, physically separating the core zone of the park and the south-eastern LNP buffer zone. The aim of this was to minimise the HWC as well as regulate the movement of people in the buffer zone as stressed by the park officials.

Despite the technical efforts by the park, including the constructions of a fence, the community-park relationship did not show significant improvements. Community members were no longer cautious about showing compliance with the park rules. For instance, around 2009, people would hardly speak about their possible trespassing activities in the buffer zone, and they were very attentive when explaining what was allowed and not allowed in the buffer zone. In contrast, in 2013 rumours about important people in the villages (for example leaders, or their sons) being involved in elephant and rhinoceros poaching were loud, and when I probed further, people were willing to freely talk about this, and some were even proud of telling their own stories of being involved in such risky and illegal activities. It was more interesting to note that there was a sense of common benefits that the village members seemed to express while speaking about wildlife poaching. An influential man in one of the prominent 'poaching' villages once said in an informal conversation while referring to the poachers' group that: '*at least they employ others and they are helping to develop the village, transport, water are no longer big problems* [...].

Indeed, the poaching problem had escalated to such an extent that it started to shake the whole idea behind GLTP. According to the park manager (July 2014), the South African government became sceptical about the continuation of the Transfrontier idea. The South African government wrote a letter to the Peace Parks Foundation (PPF) informing it about their decision to rebuild the fence between KNP and LNP, arguing that wildlife control had become ineffective and that there was an unacceptable level of wildlife loss. While the park was developing technical solutions instead of addressing the real complexity of the situation and the real needs of the LNP residents, conceivably in close collaboration with them, more complex issues concerning the compliance and legitimacy of LNP were emerging. A relatively larger number of community members were openly identifying themselves as being part of the poaching network by flaunting valuable assets like cars and motorbikes. Moreover, there was a steady increase in community members being caught and killed as poachers in Kruger, and their bodies sent back to their respective villages. These events might jeopardise the whole GLTP idea and call for a shift in the LNP approach towards the communities to a closer dialogue and a more collaborative approach to avoid further depreciation of community legitimacy.

In the following section I show how the use of the concept 'Parks with People' was perceived and implemented in different phases of LNP development, based on the expressed views captured through interviews with protected area professionals at the national level (ministries, university and consultants) as well as with those meant to implement the idea at the park level. Based on this, an analysis was made to track the promoted intentions and the shifts that were noted in the implementation of the concept through actual practices.

6.1.3 'Parks with People': From Fuzzy Boundaries to Fence Lines

The 'Park with People' concept seemed to divide opinions between the park proponents, people in the decision making positions, conservationists and those implementing the idea. In this section the range of views are brought together to examine the meaning of the concept from its inception as the park's intention to its implementation at LNP.

A review of key LNP management documents such as the LNP Management Plan and its Development Plan (Ministry of Tourism, 2003) showed the explicit intention of the park to accommodate the existence of human settlements and their permanency in the buffer zone. This was expressed through adopting a support or multiple use zone with fuzzy boundaries where people and wildlife could move freely in the park. It should be pointed out that allowing settlements and agriculture activities inside the park as defined in the LNP management plan did not have legal support prior to the recently approved Conservation Law (16/2014 of 20 June 2014). This may explain why none of the LNP formal documents presented a clear and explicit strategy about how the proposed coexistence would be enacted and managed. This triggered my curiosity to map how actors at different levels perceived or enacted the 'Park with People' concept.

In an interview in June 2009, a senior staff member of the National Directorate of Conservation Areas (DNAC) commented that the LNP project as it was conceived was not realistic, and that conservationists within the Ministry of Tourism were doubtful about the successful development of the park if people were to remain within park boundaries. When asked how the Ministry justified the chosen approach while perceiving it as not realistic, the respondent stated that:

> […] the development plan of LNP recommends not fencing the area, this view is supported by the technical advisor of KFW, a key donor, but not the more realistic view of the project staff […] this idealistic view [not fencing] prevails but does not take into account the realities in the field…the creation of the park was widely advertised but not the cost of having it […].

An experienced professional in Mozambican protected areas, currently working as a consultant, emphasised that the country does not have a clear approach to dealing with people in the parks, although most of the parks are inhabited. The problem, he added, was that Mozambique benefited from different streams of donors with diverse interests and views about conservation, and said anecdotally: '[Mozambique] *goes on a ride, in fact not just one ride but several'*. He meant that Mozambique suffers different pressures, taking different and sometimes opposing actions.

These views correspond with several turns observed at LNP such that it was moving more towards avoiding people rather than approaching them and accommodating their claims and livelihood needs. In an interview with the park manager in March 2012 when the fence was under construction, I asked about the shift and he responded:

> […] there is a need to separate spaces, conservation with communities is a dream, it is not possible [...] co-management is an academic matter, in practice it does not work. This is an idea spread by IUCN and WWF worldwide since the 1990s but until now there is not a single case to serve as an example. The few cases of success mentioned are not really reflecting success. In most cases it involves few people or a small association in a very different context, nothing that can be compared with the context of LNP or Mozambique"

Since from the quote above it was clear that the 'Park with People' concept was being dismissed as an impractical concept for management practices, I further probed whether the concept was more popular in the political sphere, but the park manager argued the opposite by expressing as below:

> No, it [building a fence] is also politically accepted. The only difference is that politicians do not have money to implement the measure. Building a fence is very expensive. Limpopo will be the first park being fenced, which will cost about 3 million Euros, only as far as Combomune. We would need about 10 million Euros to finalise fencing the whole park. So funding is a problem, but once the funds are mobilised the government has no problem in separating the communities from the park. Therefore as soon as we mobilised the funds, the government did not hesitate in approving the building of the fence. Just for you to understand how relevant the fencing project is, I received more than three visits from the President, just for checking the stage of construction.

Soon after the fence separating the southeast buffer zone from the core area of the park was erected in 2012, the district government discourse in relation to HWC also changed. The fence was the central element in most of the political speeches when addressing HWC issues. The fence was pointed out as an example of government attention and efforts to resolve the HWC.

Whether the fence served the purpose is too soon to say, as there are other factors to be considered, and opinions about HWC being reduced by the fence vary even among park officials. Park staff see the fence as minimising the movement of people in the core area of the park, rather than hindering elephant movement, because as they asserted, the fence was not strong or robust enough to stop an elephant. Park leadership, in turn, affirmed that the fence has reduced the conflict, although they also recognised that sections of the fence had already been taken down by some communities. This happened because the erected fence closed off some routes that communities living in the core area of the park (still in the process of resettlement) used for access to grazing lands.

In interviews members of the Macaringue community pointed out a decrease in elephant incursions, but they attributed this decrease to elephant poaching rather than the fence itself. They argued that elephants were smart animals and that it took a long time before they would return if they felt threatened.

Another important turn noted in the course of the implementation of the 'Parks with People' concept were the shifts induced by the funds, where donors are the key actors. In this regard the 'Parks with People' concept seemed to be overlooked in favour of circumstances that contributed to development of the expected tourism business. For instance, the proposal to rebuild the fence between KNP and LNP had implications for the GLTP project. This would mean that whole GLTP project of having free wildlife movement across borders would collapse, which may have influenced the approach taken by LNP donors towards people in the park. The following excerpts from an interview with the park manager, a month after being exonerated as the LNP's park manager illustrates the start of the new approach towards resettlement:

> […] during my mandate I did not force resettlement because it was revealed to be complex. My approach was to resettle those who were willing to do so, while for the other groups the strategy was to leave them until they felt the pressure of wildlife. But now, priorities have changed, there is an orientation [emphasis added] to resettle everybody in the core area…and I anticipate lots of problems with communities already… (BC, Maputo, January 31 2013)

Without critically analysing the speech about the resettlement approach itself here, I use this quote to demonstrate how priorities have changed and that an 'external force' determines those changes. The next quote, from an interview with the newly appointed park manager confirmed the actual materialisation of the orientation, enforced by the restriction of funds.

> […] we are having so many people from our side[3] killed by being involved in poaching. So, people that are still living in the core area of the park are putting pressure on the area close to the border with KNP further north east. That's why resettlement and reinforcement of protection are currently set as priorities […] the strategy and the key message from the donors [emphasis added] is to remove the human component [emphasis added] from the [core area of the] park, only that will help park development as well as communities' wellbeing […] investors [for tourism business] do not want to invest in the park while having people inside, therefore resettlement and reinforcement of protection are currently our priority'. (AAB, Massingir, 21 February 2014)

The rising intensity of the poaching problem and the fact that part of the poachers came from LNP side demanded additional efforts from LNP to save their own relationship with KNP, and both led the decision from the donors to redirect all the funds into anti-poaching and resettlement. The resulting funding restriction affected the implementation of the LNP activity plan for 2013/14. None of the activities being implemented with the communities in the buffer zone were supported, and irrigation schemes and respective associations collapsed. Park staff at the Department of Community Affairs, who worked in the field, were unable to perform their work, as they had no means (transport, fuel and other field provisions) to maintain activities there.

The different turning points (the fence, approach towards people and re-allocation of funds) outlined above are consistent with the three following interpretations. First, the initial unclear limits of the park associated with an undefined strategy to address the people-wildlife interface, including the undeclared mechanisms for delivering the promised benefits, all lead to the perception that the initial "package" offered was just utilised to the point of gaining acceptance all around, while the real agenda was in fact to be shaped over time. Second, that park agenda and its priorities were primarily driven by international donors and their interests and the Mozambican government's or authorities' roles do not stand out as being concerned about readjusting the negotiation to the local context and the reality of the LNP communities. Third, the practical challenges faced on the ground such as the human-wildlife conflict, drought-related food scarcity and poaching are being used as arguments to reshape the donor's strategy to fulfil their agenda of displacing people and attract tourism investors, instead of working in favour of rethinking the park 's strategy to accommodate people's needs.

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[3] As mentioned elsewhere different people (from LNP villages and outside, including LNP rangers) were caught and/or killed for poaching in KNP. Their bodies were sent back and the district government official made a cautionary speech during some of the burials as a persuasive measure against poaching.

These shifts as the result of the challenges faced by the LNP in practice seem to be pushing people, not just from being the focus of co-management possibilities, but also out of their homes. The action research work described in the next section was primarily aimed at reducing the gap between the LNP buffer zone residents and the park management. In other words, it was intended to increase the communication space between them, by involving both them and other relevant actors in a continuous series of interactions, and searching for means and opportunities towards far more concerted and collaborative actions than seen hitherto.

6.2 Action Research to Address Conservation and Livelihood Dilemmas

The action research approach was chosen in this situation as a means of engaging all relevant actors in a facilitated dialogue to address the competing interests, discussing their views and perceptions about natural resource use and management, and to agree on meaningful follow-up actions. Through the interaction, actors were enabled to share their experiences, reflect on and discuss the presented perspectives, thereby building a collective understanding to inform the process of searching for alternative forms of coexistence.

This process involved several cycles of reflection in different formats and was led by the emergent properties from each of the cycles. This section reports on the three major streams of inquiry that emerged in the course of the action research interventions. It starts by analysing the first interaction where various actors representing the park, community, district government, NGOs and researchers met for the first time to initiate the action research process. Subsequent cycles of interaction unfolded following the themes and issues that emerged during the process. These are presented in a chronological sequence. Nonetheless, this section of the chapter begins with an illustration of some of the preparatory work taken with the community prior to the common gathering. This was done as a means of lowering the tensions and preparing the ground for dialogue and possibly negotiation opportunities instead of the 'face-to-face trial' as mirrored by the community members. I wish to point out here that the remainder of the chapter follows an explicitly narrative style in conveying the findings as outcomes of the process undertaken, some of them directly and others as 'reflection on action' (McNiff *et al.*, 1996). It also leaves out some of the details contained in Paper IV.

6.2.1 Shifting from the ‘accusing’ to the negotiation mode

> [living inside the park] is becoming a serious problem, now it is not only about raiding crops, they [elephants] have started killing people, first a woman from a village on the other side of the river and now the tragedy is ours…(Village leader Macaringue, 14 June 2009)

The burial ceremony had to wait two days while negotiations were going on, urging the park to take the responsibility for the tragedy. Sending a staff member who could not make decisions without prior consultation with the park leadership was interpreted by the community members as a disrespectful response by the park. This action implied that the park assigned a lower value to park residents compared to the elephants, and was viewed as a reflection of huge disrespect on the part of the park, as well as suggesting that park leadership did not consider the residents as human.

Statements along these lines, expressing a feeling of being marginalised, un-prioritised and disrespected dominated the discourse by the community members regarding their relationship with the park. In addition, there was also a sentiment of having their livelihood opportunities worsened by the establishment of the park, and a sense of distrust because the promised benefits and opportunities to improve local welfare and livelihoods were not yet tangible. I perceived these feelings of anger and fury that accompanied the expressed dissatisfaction by the park residents as undermining their opportunities to freely reflect on different possibilities and alternatives to address the problem, and minimising the constraints and impact of the park. Instead, by endorsing the situation as the park’s problem or park’s fault, they believed and transferred their problem to the park, the ‘park has to solve it’, as usually expressed by them.

This was also evident, during interviews with key informants in 2012, when the following hypothetical questions were posed to them: What if you had the opportunity to hold a round table with the park leadership? What would you say to them about your situation? The quotes below were extracted from some of the responses.

> […] they would never have the courage to sit in the same table after threatening us as their animals, that’s why you only see their cars passing from far away, they cannot enter here. (MLH- a male village member, 19 April 2012)

> It is actually better that they don’t come closer, we are very angry with them […] they are keeping us here to feed their animals […] actually we have no choice, be here or on the other side of the river makes no difference, elephants do cross […] indeed not long ago a pregnant women was killed by an elephant

> in the neighbouring village across the river while coming from the field. So there is no life here, they [park staff] just drive around to sense our temper but not to bring solutions, therefore we chase them away from our village. (PA – a male village member, 19 April 2012)
>
> One does cry, truly crying, see a woman on my age to cry […] when after struggling to grow some maize in this dry condition and protect them against elephants for some time, then suddenly you find the maize field raided by elephants […] (NL, a female village member 19 April 2012)

The response to this hypothetical situation was elaborated in terms of blaming the park for their continuing impoverishment, by shaping their discourses with feelings of anger, disappointment, disrespect and distrust rather than focusing on their daily struggles and needs. In analysing these responses, a need to shift the approach to a more constructive way of perceiving and expressing their situation emerged as necessary if a dialogue process was to create a space to discuss the various perspectives of the problematic situation and lead to opportunity for improvement.

Thus, the subsequent work with a group that varied between 15 and 18 community residents of Macaringue village was designed in the form of focus group discussions in April and May 2012 towards shifting and reframing of the problematic situation by the residents. This reflective process was guided by the questions: What are the constraints you faced due to the fact of being surrounded by a National Park? How have you been addressing them yourself?

This exercise helped to map the main concerns of the park residents which were clustered here into three main topics: (a) elephant crop raiding and shortage of food, (b) park -community relationship and (c) lack of information or contradictory information about the rights, benefits and opportunities of living within a National Park. These topics guided the subsequent discussions where people from the main discussion group representing the settlements (*bairros*) became responsible for discussing each of the topics at the settlement level and bringing the discussed points to the main discussion group. This process helped in reconstructing the residents' narrative about their concerns and claims supported by factual evidence of their daily struggles and already adopted alternatives seen as a possible basis for initiating the dialogue and negotiations with the park.

MACARINGUE

Figure 9. The team of co-researchers in Macaringue. Photo: Teresa Weimer.

Indeed, this process also helped them to understand the role of research and how research could be used by them, expressed through the following quote, also referred to in the Methodology chapter:

> […] now we understand your role and all the work you have done with us, the usefulness of the conversations we have had, you always said that you come here to learn from us, but today we realised that we also learnt from you. (Village representative, May 2012)

In March 2013, the anticipated opportunity for them to be together with the park staff including the leadership to present and discuss their concerns finally became reality. In the form of a workshop, 5 representatives from Macaringue community travelled to Massingir to join the park staff, the District Government officials and other actors as described below.

6.2.2 Creating a Common Knowledge on the Problematic Situation

The interaction during the first workshop marked the initiation of a dialogue across actors' different perspectives, interests and concerns. Participants (see Table 5 for detailed list) from community, park, District government, NGOs (Lhuvuka and LUPA) who work within the park buffer zone, sat together for the first time ever to discuss the general implications of reconciling conservation and livelihood objectives.

Figure 10. Multiple actor Workshop, Massingir 21 March 2013. Photo: Rafael Munguambe.

The workshop started with a general introduction about the conservation-livelihood debate at global, regional and national levels, which provided the broader perspective to participants for initiating the discussion. While discussing, participants started to embrace and describe the dilemmas and challenges involved in reconciling livelihoods and conservation interests. This was expressed by one of the participants: '*This is about keeping the cake and at the same time needing to eat it, how can this be possible at all*'?

This question opened a discussion on topics such as: 'sustainable use of natural resources', the need for collective reflections and decision-making processes, and issues related to the legitimacy of the park establishment. This interaction revealed discrepancies in the perception of the park's objectives and benefits among different actors.

The government officials expressed the acknowledged challenges of reconciling conservation and people's livelihoods, and emphasised the additional challenge for LNP due to its propensity to drought. Nevertheless, the park was referred to as the Government's long-term project with the aim to benefit communities and improve the local economy through the income that would be generated from tourism.

In turn, the communities reacted by saying: 'we communities of Macaringue have not understood the benefits of having a park; we were told that the establishment of the park would bring improvement to our living conditions'. They also argued, 'in the last 10 years none of these benefits have been seen, instead our living conditions and livelihoods have eroded'. They mentioned the limited cropped area due to the lack of rain, which was now being invaded and raided by elephants and hippopotamuses, with no reaction from the park despite their many promises. They noted that the agricultural workload had increased, demanding more time to guard the field, including spending nights in the fields. In addition, another member stated how aware they were of restrictions to hunting, charcoal production and firewood collection, but the problem according to him was:

> We don’t see the benefit of following these rules, furthermore, when wildlife invade our field we don’t see any action on the park’s side, you should clearly say if our fields are there to feed your animals (Community representative at Workshop, Massingir 21 March 2013).

Park leadership responded by acknowledging the late response to the communities’ calls and linked the explanation to the large extent of the park and their reduced capacity to respond due to limited human resources as well as vehicles for transport. They also pointed out the small irrigation projects being implemented [despite all problems already reported] in seven communities in the buffer zone, which were to expand to 14 irrigation projects in the following year, as the park’s contribution to improving the community’s livelihood needs. This was emphasised by pointing out that community members present in the workshop had not acknowledged these projects. In addition, the 20% of the park’s annual revenue was mentioned as a tangible benefit that the communities were not making good use of.

One member of the park staff raised the point about how challenging it was to establish what sustainable use would mean for LNP. In other words, what could be considered acceptable as a ‘sustainable’ level of, for example, hunting or charcoal production without affecting conservation goals? He went on to clarify that the revised park Management Plan (MP) for the LNP, although not yet approved, set the norms and regulations for natural resource use in the buffer zone, and that it indicated how communities in the buffer zone would benefit in the medium and long term if collective efforts were made to protect wildlife. By giving concrete examples he mentioned the open possibilities that the reviewed MP would bring for the communities in terms of hunting quotas, if the wildlife population reached a certain (not yet specified) level. To them, however, the constraint seemed to be in the effective implementation of the MP resulting from a lack of collaboration and ownership of the MP on the part of the community.

Community members replied to this by explaining that they were never involved in the consultation, discussion or decision process in the elaboration of the MP and about the norms established in the MP. Therefore, they were not well informed about the content, nor would they acknowledge the MP, and demanded a more participative revision process.

Additionally, a community member emphasised the lack of communication and collaboration between them and park staff by pointing out examples of absence of park staff in different circumstances when they had demanded assistance. On the question of the 20% benefit, the community member informed that although they had heard of one or two communities who had benefited from this, they had no information about the procedures of who should benefit and how, and also they did not have information on how much money exists, adding that the park was never clear about this.

The District Government representative intervened and expressed the need for more effective communication structures to be adopted by the park, which should include the park staff, the District Government and communities in order to share common information about park objectives, restrictions and benefits, thereby providing a more intertwined collaboration. He emphasised that mechanisms to channel the 20% benefit to the communities should be activated and to ensure efficiency he stated that he was hoping for more meetings such as the present workshop as an improved practice and a practice that should be maintained. An NGO participant talked about the need to reverse the order and create mechanisms for the park to ‘descend’ to the community level by recognising that the communities do not have the necessary ‘calibre’ or capacity to ascend to the park level.

At this point, the workshop turned the focus on to concrete issues related to local livelihood dynamics and conservation interfaces at LNP, and participants worked in groups to discuss and identify issues they thought needed attention and priority. Table 8 [also in paper IV] below offers a summary of the thematic issues identified and subsequently ranked through a voting process (10 points indicate higher priority and 0 points lower priority).

Table 8. List of identified issues needing improvement and respective score

Core issues	Score
Improve agriculture production and diversification	5
Improve infrastructure (water, roads and electricity)	6
Improve park -people communication and relationship	7
Promote small-scale irrigation	1
Promote and integrate small business opportunities into the Management Plan	5
Capacity building and self-organisation at community and park levels	2
New strategies for Natural Resources exploitation	0
Strategies to fight illegal conservation acts	4
Rethink the 20% annual benefit sharing process of allocation and utilisation by the community	2

One aspect to be noted in the table above is the low priority given to small-scale irrigation, which at the time was almost the only activity undertaken by the park to benefit the communities, and one about which the park manager had just reminded all participants at the workshop. This corresponds with findings discussed in the previous section which showed a lack of excitement about the irrigation projects among community members. This also indicated something important about the risks associated with top-down initiatives such as the irrigation projects in this case.

The three aggregated issues selected from the ranking list to be followed up from the workshop were: (1) working out a communication strategy to ensure actors' access to correct and realistic information; and collaboration mechanism of the park management in order to engage with all different actors in the park's decisions and management processes; (2) searching options for small business opportunities and integrate them into the LNP Management Plan, including the exploration of 20% of the park revenue as ways of diversifying communities' livelihoods; (3) a mechanism to facilitate community participation in the revision of LNP Management Plan.

Different voices in the workshop called for more coherent action between the government as the organisation responsible for district development and the park in its role of helping diversify livelihoods. It was proposed that the two bodies could work together by combining efforts and promoting development projects that are relevant and big enough to create impact and meaningful change for local people. The following analogy was given in support of this claim:

> More small business opportunities for households' income generation must be prioritised instead of being preoccupied with superficial and cosmetic solutions […]. This can only be possible if greater investments are made. For example, instead of promoting 4 beehives, you should aim for 200'.

Following such comments and statements, the workshop moved towards a closure with a consensus about the need for collective actions. All actors present at the workshop had identified a role to play in the three prioritised themes that required improvements. The main outcomes to draw from this first interactive event were:

- Advanced signals to open new possibilities for rebuilding park-community relationship;
- Participants, especially community members, appeared to have gained a newer and greater awareness of the complexity of combining conservation and livelihood needs, which might contribute to a more

positive attitude towards the park. For instance, community members acknowledged the importance of establishing norms and regulations to regulate the use of natural resources for sustainable management and advanced some proposals during the discussion.

- Appreciation of the process by park staff, especially the opportunity to bring them and the community together (as stated by the park manager). They were enthusiastic about building on and following up the process '*while the fire was still on*' (words of park manager). At the same time, they highlighted their concern about the lack of skills and competence to engage in a participative/collaborative process by themselves.

My overall reflection was that the engagement and the enthusiasm shown by all actors to share their respective perspectives on the situation as well as to acknowledge and express the differences had opened opportunities for new routes to navigate the LNP conservation and people's livelihood complexity. It offered the potential for new organisational cultures, management strategies and individual competences to be built (Woodhill, 2010).

As a follow up to the present action research cycle, two lines of interventions were designed, and both were to tackle the park staff's capacity building in order to reinforce the actors' engagement in line with the three main themes prioritised earlier. These are presented next.

6.2.3 Engaging Park Staff in an Experiential Learning Process

To contribute to improving the capacity of the park staff in order to engage in more collaborative forms of working with communities and also as the follow-up action from the previous workshop, a training workshop was arranged with staff from the Department of Community Affairs. The process started by understanding the profile of the park staff from this department, which had primary responsibility for engaging with communities towards improving communication and the park-people relationship. Through interviews, the characteristics of the staff in terms of their background, literacy, training and experience were identified and are described below. During this process, I also attempted to ascertain their perceived potential, weaknesses and limitations in their professional work.

Mapping the Staff Profile and Understanding of the Limitations

The Department of Community Affairs at LNP holds the mandate for dealing with community welfare issues, although issues related to protection from wildlife has to be dealt with by the Wildlife Protection department. The

Community Affairs department has seven diverse personnel in terms of background, literacy, training and experience. Except for the head of department who had a Master's degree in community-based natural resource management, the remaining staff had between 5 and 12 years of general education or basic agricultural education. All those interviewed said that they had never had any training related to participatory techniques or acquired means to interact with communities other than with farmers' organisations focusing on farming.

The LNP leadership had acknowledged their deficiencies in communicating and interacting not only with communities but also with other actors at different levels. The leadership had therefore ordered a communication strategy plan from an international consultant which was delivered in 2012. However, the park's staff were not aware of such a communication strategy.

In addition, interviewed staff could not articulate their roles and responsibilities in regards to the objectives of the LNP. In other words, most of the interviewed staff had a very limited understanding of their job descriptions and their everyday articulation to meet park goals. For instance, staff in the community affairs department only explicitly recognised their role as 'communicators' in connection with the Environmental Education Programme. Indeed, that is the only communication programme as such in the department. Even though the staff responsible for the environmental education programme had some difficulties in explaining/interpreting some of the concepts and messages, they claimed that appropriate capacity building was yet to come.

Similar examples were repeatedly mentioned, where staff was assigned activities without the required competences to perform them, or without comprehending the expected deliverables. One reason for this could be the ad hoc planning connected to the LNP's dependence on donors. The park activities are largely (more than 90%[4]) financed by donors. The park's annual activity plan was revised and updated 3 to 4 times a year, if funds had been allocated to the plan, or was kept on standby if activities from such a department were not falling within the donors' priority. That was the case of LNP's budget and activity plan of the Department of Community Affairs in 2013, 2014, and 2015, when donors redirected all funds to anti-poaching and resettlement projects. Under such circumstances, it is obviously difficult to maintain a consistent and coherent plan that resonates with the LNP's vision and objectives and to continuously invest in developing park staff's capacity to respond with adequate knowledge, skills and creativity.

'Communication for Conservation' - Experiential Workshop

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[4] The head of the Department of Community Affairs, personal communication

Based on the described background, a space for interaction and learning was expanded to the park staff level in the form of a four-day experiential training workshop entitled ‘communication for conservation’, structured as follows. Two days were dedicated for ‘classroom’ interaction, where the content was introduced according to gaps identified throughout the process, and another two days for the experience in the field. The interaction started with a world café session and participants were encouraged to discuss their experience in the park, and their perceptions about LNP communication internally, at district, community and external levels.

Figure 11. Professional development Workshop for park staff in Massingir (left) & in Macaringue (right). Photos: Nícia Givá & N. Sriskandarajah

The debate was summarised in the form of three main outcomes: (1) deficit in information flow between departments and park staff, (2) lack of regular structure and means to share information, knowledge and experience among park staff; (3) need to improve internal communication to allow space for other levels of communication improvements. Ways to tackle these concerns proposed by them included regular meetings, more collaborative work between the heads of division and departments, and nominating an information system manager.

Then we shifted the focus from the communication between LNP and different actors at various levels, to the role of each staff member as a communicator and changing agent. We invited the participants to reflect on their experiences throughout and list three experiences where they had succeeded as a communicator, including the factors that had influenced the success. The same exercise was done with not so good experiences. By doing so, they discussed intensely the complexity involved in communicating balanced messages related to the dual objectives of natural resource conservation and exploitation for sustaining people’s livelihood needs. Park staff shared examples where they faced the controversy of carrying out prohibitive messages while acknowledging the struggle of the communities to attain their livelihoods. They also pointed out the challenges involved in motivating farmers' participation and engagement in the management of the irrigation schemes. This discussion was used to emphasise the difference between persuasive communication (William, 1996) of the kind adopted within the LNP (for example, Environmental Education Programme, irrigation projects), and a more interactive communication (Steyaert et al., 2007). The latter was suggested and elaborated as an alternative to be explored since it took into consideration local needs, experiences and knowledge co-production through social interaction. The skills needed for such interactions were then discussed by linking and planning to be enacted in the field in the following two days of the workshop with community members.

The two-day field workshop set in Macaringue village started with transect walks and informal conversation between park staff and community members. In groups of four, park staff went in several directions and spent the morning in the village to gain a socio-economic, cultural and biophysical understanding of the village. The information collected was processed and presented by the park staff. Each group then selected an issue that triggered their interest and planned a dialogue process to be carried out with members of the community the following day. The dialogue process was intended not just as a training exercise for the park staff, but served to build on the park-community engagement process. Thirteen community members, split into four groups, took part in the dialogue with park staff.

The outcomes of the dialogue exercise were (1) acknowledgement of the important need for communicating interactively with community actors as they faced a community with distorted, incorrect and insufficient information related to the park management issues; (2) realisation that in the course of the interaction, part of the distorted information was clarified for both sides, and therefore mutual learning occurred during the dialogue process; (3) the satisfaction expressed by the community members because of the opportunity to collectively resolve certain issues made the park's staff recognise that 'it was not necessary for 'big' actions to happen in order to make a difference' (as stated by one of the park staff).

These outcomes demonstrated and stressed the value of an interactive approach, which was the principal objective of this practical hands-on experience for the park staff. Through this, park staff also recognised their limitations and demanded ongoing capacity building as a basic condition to be able to adopt a collaborative approach. Nevertheless, they committed themselves to work in a more collaborative manner in the next interventions, aiming at improving the impact of the 20% of the park's annual revenue designated as a community benefit sharing mechanism. This was one of the issues ranked as a principal concern by community members and perceived by the park staff as a tangible issue to address the limited livelihood diversification sources.

The next action research cycle described below dealt with how the “20% benefit sharing” collaborative experience unfolded into evolving phases of research, action and review processes.

6.2.4 Benefit Sharing: A Pathway for Collaborative Experience

The 20% of the park’s annual revenue allocated to communities as a benefit sharing mechanism was a recurrent theme at every meeting and workshop. The key actors at the park and the district government referred to the 20% as a tangible benefit to the communities, which was already allocated to them by the park. According to the park, the impact supposed to be missing from the 20% money was the responsibility of the district government and the communities. The district government in turn mentioned their role of only being a witness to the ‘handing over’ of the 20% mega-cheque from the park to the communities in a formal ceremony. They also said that they thought of possibly taking the ‘guardian’ role to ensure the appropriate use of the money, but so far they acknowledged the former as their main role. The communities on the other hand held only a partial amount of information about the existence of the 20%, lacking information about criteria, regulations and procedures of how to access these monetary sources.

From the above perspectives, the actors shared the view that the 20% benefit sharing allocation and utilisation was not yet functioning as desired and not providing the expected impact to the communities. They all agreed that the current practices needed improvements in order to provide a tangible impact by improving the livelihood of buffer zone communities.

This agreement, became an appropriate ‘object of communication’ on which all actors’ interests seemed to converge and which, therefore, had the potential to mobilise and engage all actors toward a common objective of understanding and improving the mechanism for allocation, use and management of the 20% funds. Thus, another stream of inquiry emerged to be the basis for yet another cycle of research and intervention, designed to enable a learning space where all relevant actors collectively worked on this issue.

This cycle consisted of investigating the underlying issues that explain the malfunctioning of the 20% mechanism of allocation, use and management, and collectively searching for viable ways to improve the situation. Following the same chronological order in presenting the findings from the evolving sub-cycles as done in the previous sections, I present next a brief legal framework to contextualise the 20% practices, based on reviewing of policy documents. The subsequent section describes the actors’ understanding and interpretation of the law, which I contrapose with the current practices described in interviews, reports and other reviewed documents. The sections thereafter describe the actions undertaken toward improving the current practices.

The 20% Legal Framework and its Pitfalls

The 20% benefit sharing was established by the decree 12/2002 of 6 June that complements the Forest and Wildlife Law 10/99 of 7 July. This law was primarily put in place to serve forest concessions but currently encompasses all kinds of natural resource exploitation. The decree indicates consignation of the 20% of the collected fees to benefit local communities. As stated in the law, the aim of the 20% benefit sharing was to serve as an incentive to the local communities to participate in the conservation process; to compensate communities impacted by the restrictions policy; and as a mutual commitment and responsibility between the park, government and communities towards conservation and development of the communities living adjacent to parks and reserves.

In 2005, through the ministerial decree 93/2005 of 4 May, the allocation and utilisation mechanisms were defined. The same decree also stated that the licensing entity should be responsible for organising the communities and promoting committees for natural resource management (CNRM). The CNRM should have legal status and a bank account. Three legal representatives of the communities were to be the account subscribers of that bank account and in charge of managing what is then called ‘community funds’.

In 2009, another ministerial decree 15/2009 of 14 April enforced the same mechanism of benefit sharing for parks and reserves, and the decree 66/2010 of 31 March 2010 further clarified the allocation mechanism in the case of parks and reserves. This act establishes that from the total amount (100%) of collected fees, 20% shall be retained for the State budget and the remaining 80% returned to the respective conservation area for its operational costs. It is then from this 80% that the 20% for community benefits is extracted.

There are voices within the natural resource management arena who argue that what returns to the community does not therefore represent 20% of the collected fees (but actually amounts to 16%). While an ongoing debate to assert such a claim is beginning to surface under the recently approved Conservation Law 16/2014 of 20 June 2014, the aim of the present study is to understand and improve the mechanism of accessing and utilisation of the received benefit by the community, be it 20% or any other percentage, and hereafter designated as 20% benefit sharing.

As illustrated above, the legislation framework is fragmented and is being built up as the need arises, as is often the case with legal enactments with no real room for an integrated and concerted set of amendments. For instance, the decree 66/2010 does not clarify who in the case of conservation areas should be responsible for organising and promoting the CNRM. The principle established in decree 93/2005 is consistent with forest resource exploitation, where the investor pays the licensing fees to the government entity, which in this case is the agriculture directorate within the jurisdiction site. For the parks and reserves, this principle cannot be translated literally, as the fee paying mechanism functions differently. Parks' fees are collected by the parks mainly in the form of tourists' entry fees and sent annually to the fiscal directorate of the Ministry of Tourism. Thus, it is not clear which of the two, the park or the provincial directorate of Tourism, is responsible for organising and promoting the CNRM. Another practical issue is related to the allocation 'formula' in the case, for instance, of the conservation area covering 3 districts each with a different extent and number of communities (for example, the LNP). The question also arises here of whether or not all communities were entitled to the 20% benefit sharing or only those who were in compliance with conservation principles. The current reality is that different conservation areas in Mozambique apply the 20% policy differently.

20% Policy as applied at LNP and gaps identified

The allocation of the 20% benefit sharing to the communities by the LNP began to be implemented in 2006. The park contracted services from the local NGO Lhuvuka to form the CNRM. According to Lhuvuka, this process took place between 2003 and 2006, through several meetings with community members to advocate the initiative, select the members to constitute the committee, register the CNRM and formulate the legal norms (statutes). The NGO also supported the committees through the bureaucratic process of opening a bank account. Since the park covers three districts, this process was done in each of the three districts. As a result, each district had identified 10 members who formed the district CNRM and a selection of 10 members among the 30 representing the 3 districts were elected to form the park CNRM. Data and analysis reported in this study are specifically from the CNRM and the 20% benefit sharing mechanism of the Massingir district.

Several proposals about how the 20% benefit sharing should be redistributed in the three district CNRMs were widely debated. Some proposed a distribution 'formula' based on the percentage of the area covered by the park in each district. Others proposed a distribution based on the number of communities covered by the park in each district (this seems more consistent with what is described in article 5, decree 93/2005). However, none of the proposals was accepted and it was decided that the 20% funds would be evenly distributed among the three districts, irrespective of the area covered by the park in each district. Thus, one third of the 20% of park fees has been allocated annually to each of the CNRMs in Massingir, Mabalane and Chicualacuala districts since 2006. It is then the task and responsibility of the CNRM to convert the funds into community benefits, prioritising income generating projects, or activities that contribute to the welfare of the community. There are general norms established for identifying, selecting and implementing such projects, but an important one is that communities must be involved in the process.

Table 9. *Overview of the 20% benefit sharing allocated to the communities 2006-2012*

Year	20% of Park's annual revenue (MT)	20% Massingir District (MT)	Estimate in US dollars*
2006	710,367.87	236,789.29	6,765.41
2007	744,540.20	248,180.07	7,090.86
2008	620,411.96	206,803.97	5,908.68
2009	988,100.00	329,366.67	9,410.48
2010	980,000.00	326,666.67	9,333.33
2011	1,030,727.00	343,575.67	9,816.45
2012	1,064,512.00	354,837.33	10,138.21

* Exchange rate 1USD = 35MT. Source: adapted from LNP 2013

Despite the legal statutes of the CNRM, indicating the collegial bodies and respective tasks, obligations and norms of functioning, the Massingir CNRM members hardly used it. In fact, they had limited knowledge about the content of the statutes and they had no full understanding of their role and responsibilities. The CNRM had been reduced to three active members; the bank account subscribers. From interviews with CNRM members it was revealed that these funds were first used in 2009 from the orientation of Lhuvuka NGO to pay for a feasibility study for a community lodge project. None of the interviewed members including the president knew the exact figure used for such purpose, the project had not yet materialised, and the report of the feasibility study was unknown. Another use was in the two attempted water projects, one in Chibotane village (in 2012) which was not successful and another in Munhamane village (in 2013) which works albeit with certain deficiencies. The two water projects were decided on and implemented at the district CNRM, without the involvement of the community. As one of the interviewed CNRM members said:

> It is difficult to involve the community, there is no appropriate structure to do so, CNRMs at village level are latent, people in the village do not acknowledge the committee neither do they know about its members' role.

An additional element mentioned by the interviewed CNRM members as creating inertia among community members is the fact that most of the community people had preferences for individual rather than common projects.

On the other hand, village leaders claimed that they lacked information about how villages could benefit from 20%, and what criteria were used to select those that had already benefited. They also expressed confusion regarding the bank cheque handover ceremony and the actual beneficiary communities.

To situate the last point, I should introduce another localised amendment made to the Act by the Gaza provincial directorate of Tourism in 2011, in response to anomalies identified during the visit made by them to LNP in relation to the allocation, use and impact of the 20% benefit sharing. The amendment document was homologated by the Gaza governor, dated 5 August 2011, and contained among others the points below:

- The 20% benefit funds should be formally delivered to the CNRM in a public ceremony led by the provincial governor and district administrator in each of the respective districts;
- The activity plan for using the 20% funds should be defined and approved by the communities with the involvement of the district advisory council;
- The activities should prioritise income-generating projects or activities to promote employment. These projects need to be submitted and approved by the park in order to ensure consistency with conservation objectives;
- A schedule for accountability must be defined.

From the four main points extracted from the document aimed at improving the functionality of the 20% allocation, use and impact, only the first point was implemented. Having a public ceremony taking place in a village, led by the district administrator, and culminating with the formal handover of the big cheque to the leader of district CNRM, created confusion in the communities. The villages where the ceremony took place assumed that they were the selected beneficiaries. This was also the understanding of the leaders of other villages, who then claimed they did not understand the selection criteria. Consequently, communities that had assumed that they had benefited became frustrated when they saw that the funds were not used in their community. This situation created a huge distortion of information and conflicts between communities and their respective leadership. Similar thoughts were shared by the chiefs of localities in the interviews. They added that the norms and principles applied for allocating the 20% to the communities differed among the three districts. This, according to them, also brought one further source of confusion to the communities and ‘perhaps a sort of distrust about the whole 20% benefit sharing mechanism’ as one of the chiefs reflected.

When questioned about the enforcement of the other three points mentioned above, the government officials interviewed were unclear in their responses. At the district administration level, an informant re-directed the responsibility to the District Services of Economic Activities (SDAE), whereas the district advisory councils are collegial bodies within the district administration. SDAE is a district institution that agglomerates and responds to issues related to Agriculture, Tourism, Forest and Wildlife management, Commerce and other services. The SDAE district director confirmed having had very limited involvement in the 20% matters. He added that if there was a role to be played by SDAE he was not aware of it, but he could ensure that making the 20% work appropriately and provide the desirable impact to the communities was a concern of the district government. He also mentioned that he was aware that at some point a local NGO was involved in supporting the communities regarding the 20% matters and he was critical about it, noting: ‘large interventions by NGOs in the implementation reduces the capacity of the communities and establishes a relationship of dependence’. This response is denoted as a kind of ‘politically safe’ answer, but the bottom line is that the government has not created any practical measure to enforce the implementation of the approved amendments toward improving the distribution and use of the 20%.

Non-CNRM members shared the following views and concerns regarding the ineffective allocation process and use of the 20% benefit sharing:

- Lack of information regarding how much money exists, how the money can be used and what the access mechanisms are.
- Not all villages were represented at the district CNRM, therefore there is a need to revitalise the village and consequently the district CNRM.
- The need to clarify the role of the CNRM and also to elect new members who are ‘really’ representative of the communities, as some informants had expressed not being able to recall how and when the CNRM members were selected. They tended to speculate that they were selected by the village leaders.
- Information about how the community members should be involved and what roles can be played by them needs to be clarified.
- Clarification is also needed about what kind of projects the fund should be used for.

Park staff, on the other hand, held a different perception about the role they should play in relation to the 20% benefit sharing. In a round table with 6 participants from the Department of Community Affairs, two views about the LNP role were discussed. One group defended ending their role after delivering the cheque as it currently does. Another small group put forward the idea that they could take additional actions to ensure the actual use of the funds by the community. None of the participants knew the existing legislation on the 20%, so these ideas and discussion were based on their own perception and experience. However, the first group argued that taking further responsibility beyond delivering the cheque should be the role of the district government and not of the park. An interesting discussion went on about who would benefit most if the impact of the 20% were actually felt at community level and how such an impact would contribute to building the legitimacy of the park. After being presented with the different pieces of legislation concerning the 20% benefit sharing described above, their views converged on three main points:

- Tasks and responsibilities attributed to the CNRM are too 'sophisticated' for the capacity of the majority of the community members and specifically the CNRM members taking into account their low or non-existent literacy levels;
- There is a need to support the community and the CNRM members to enable them to better use and manage the 20%, so that it can bring the desirable impact;
- Different actors (communities, park, NGOs and government) need to play a role to enhance the 20% benefit sharing allocation, use and management mechanism.

With the above diverse and complex picture of the current 20% benefit sharing situation, we moved to the next cycle towards creating a common ground through shared information and understanding towards collectively engaging in searching for ways to improve the situation.

A Common Ground for Collective Action

A one-day workshop with multiple actors (refer to Table 5 for detailed list of participants) was organised with the primary objective of sharing the information among different actors and restating the information and guidance provided by the legal framework and other formal documents. In addition, the workshop was meant to be the space to collectively identify and reflect about knowledge gaps, and formalise the intended collective and concerted action towards improving the situation.

At this point, participating actors had expanded beyond Macaringue village and we involved representatives of all 20% eligible villages from Massingir district, (see Table 5).

I had negotiated with the district CNRM members to make a summary presentation about the 20% funds received between 2006 and 2012, activities performed, money spent and the remaining balance. This was agreed by promising that I would moderate the workshop in a way that would not be perceived as an accountability process, but rather as an opportunity to start anew. Therefore, after the formal opening ceremony by the District administrative representative and the LNP deputy manager, the workshop began by reinforcing this point prior to the presentation by the CNRM members. Following the presentation by CNRM members, I made a brief presentation about the legal framework focusing on the reasoning behind the 20%, how it should be allocated, used and managed according to law and other formal documents, as well as the role and responsibilities of the CNRM and a summary of its statutes.

The two presentations worked well to open the ground for discussion, since the first presentation served to expose the existing 20% opportunity in a tangible way by presenting the actual numbers, and the second presentation stated the conditions and boundaries of how to make appropriate use of the 20%. This linked well with the next task given to the participants where they reflected in groups based on their experience, and the information provided, on what was needed to improve the 20% benefit sharing in order to make it satisfactory for all.

The responses were shared and discussed in a plenary. Figure 13 presents the processed responses categorised into 4 clustered themes: CNRM organisation, 20% allocation and access, community concerns and more general concerns.

While discussing the problematic issues in the plenary, important actors in the process became evident. This was enabled through an ‘emergent discussion’ about the attempted projects that had not worked. By collectively reflecting on ‘the failures’ shared by the CNRM members, there was a realisation that if more actors had been involved in the process things might have worked differently. For instance, there was a technical error during the installation of the water system in Chibotane, which could have been avoided with the involvement of the District department of infrastructure, according to one of the technicians. Other examples were related to deficient accountability which drew attention to the importance of community involvement, and the necessary capacity building as a task to be assigned to NGOs.

This led into the next session which discussed who seemed to be the relevant actors and what roles each actor could have in the process of allocation, implementation, and management of the 20% funds. Communities, CNRMs, LNP, District Government, Technical departments and NGOs composed the list of actors. The roles proposed and discussed were further analysed and aligned with what was already established in the legal framework. For aspects that were not covered in the law, what prevailed was the consensus from the workshop. For instance, the role attributed to LNP was to promote the CNRM and ensure their effective work. As well as this, there were the cases of roles attributed to NGOs and the district department of agriculture and infrastructure services that were not explicit in the existent legal framework, but were discussed based on the general experience and consensus of the roles or attributions of such institutions. The outcome of this exercise was processed and is summarised in Figure 14.

In the subsequent sessions of the workshop, participants worked towards developing an action plan, starting by electing from the list of issues, through a voting process, the issues that constituted priority in their perspective. The elected priorities were: (1) election of new CNRM members; (2) revitalisation of the CNRM through capacity building; (3) working out a mechanism to articulate the communication and coordination between the CNRM and other identified actors.

From the three set priorities, another group work session was facilitated to discuss the criteria that should guide the election of new CNRM members, the capacities that needed to be enhanced (capacity building topics), and the actions and/or activities to be taken to improve communication and coordination.

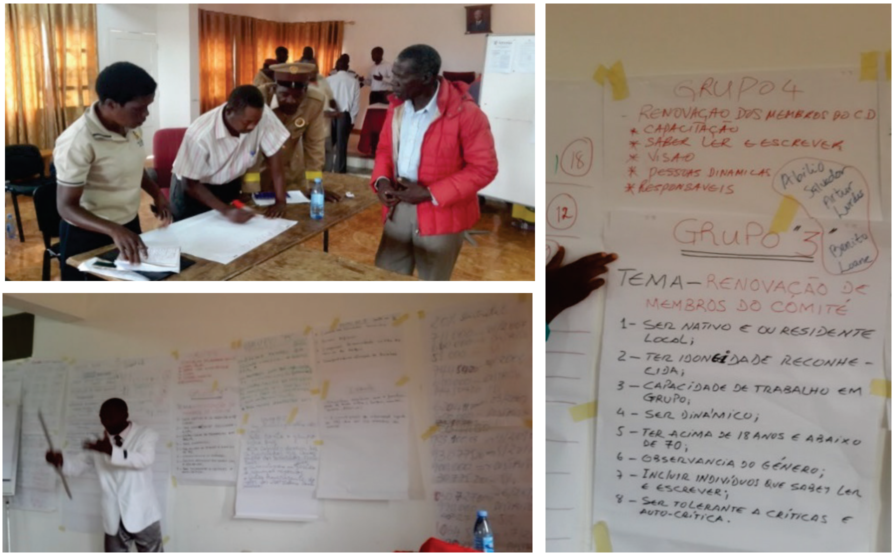
GRUPO 4
- RENOVAÇAO DOS MEMBROS DO C.D
* CAPACITAÇÃO
* SABER LER E ESCREVER
* VISAO
* PESSOAS DINAMICAS
* RESPONSAVEIS
Abilio Salvador Artur Lurdes
18
12
GRUPO "3"
Benito Loane
TEMA – RENOVAÇÃO DE MEMBROS DO COMITÉ
1- SER NATIVO E OU RESIDENTE LOCAL;
2 – TER IDONEIDADE RECONHECIDA;
3 – CAPACIDADE DE TRABALHO EM GRUPO;
4 – SER DINÁMICO;
5 – TER ACIMA DE 18 ANOS E ABAIXO DE 70;
6 – OBSERVANCIA DO GÉNERO;
7 – INCLUIR INDIVÍDUOS QUE SABE LER E ESCREVER;
8 – SER TOLERANTE A CRÍTICAS E AUTO-CRÍTICA.

Figure 12. Multiple actor workshop on 20% benefit sharing. Top left: group work, left: group presentation, right: group work outputs. Photos: Nícia Givá

Based on the discussions outlined above, a follow-up plan was proposed and committed by the present actors. The community leaders with support from the chief of the locality would lead the process of electing new members to form the village CNRM based on the defined criteria. The park and the district government became responsible for constituting the new district CNRM and supporting the entire bureaucratic process of registering and making the bank account transition. At village level, to facilitate the induction of the new CNRM as a process of legitimising the new CNRM, it also became the responsibility of the LNP and relevant partners to provide capacity building to the newly-formed village and district CNRMs about the duties expected from them, to translate the CNRM statutes into the local language *Shangaan*, and to facilitate their assimilation by CNRMs.

The workshop ended with all present, including the CNRM members, showing appreciation of the process and the outcomes, highlighting the presentation by the CNRM and the fruitful interaction they had had, as can be read in the quote below from one of the participants:

> For the first time we discuss the matter seriously, we thank the committee for the presentation, whether we agree or not to what has been presented is another matter, but the most important thing is that it shows your commitment to correct the mistakes.

Another participant stood up to add:

> I agree, now we know that the 20% money exists indeed and if we don't work together, our money will be spent by others without our knowledge and agreement.

As explained at the beginning of this Section, it had taken quite some effort to convince the district CNRM to make a presentation at the workshop. The idea was not even supported by the park staff for fear that it would transform the whole workshop into an accountability discussion. In addition, the district CNRM members were also reluctant to do so for two reasons. First, they had no accounting or even a recording system, therefore they would not have a clear balance sheet. If they had to do the presentation it would be based on their memories and available invoices, and this of course reduced their accountability. Second, their performance and transparency as CNRM members had already been questioned, which also reduced their willingness to present. After a few meetings where we reflected together on the advantages of such presentations as an indication of their recognition of a process that needed improvements and as an indication of their willingness to change the current practices, they finally accepted the challenge. Thus, the above statements were a good reward for them but also helped strengthen the process and motivation for a continuous engagement.

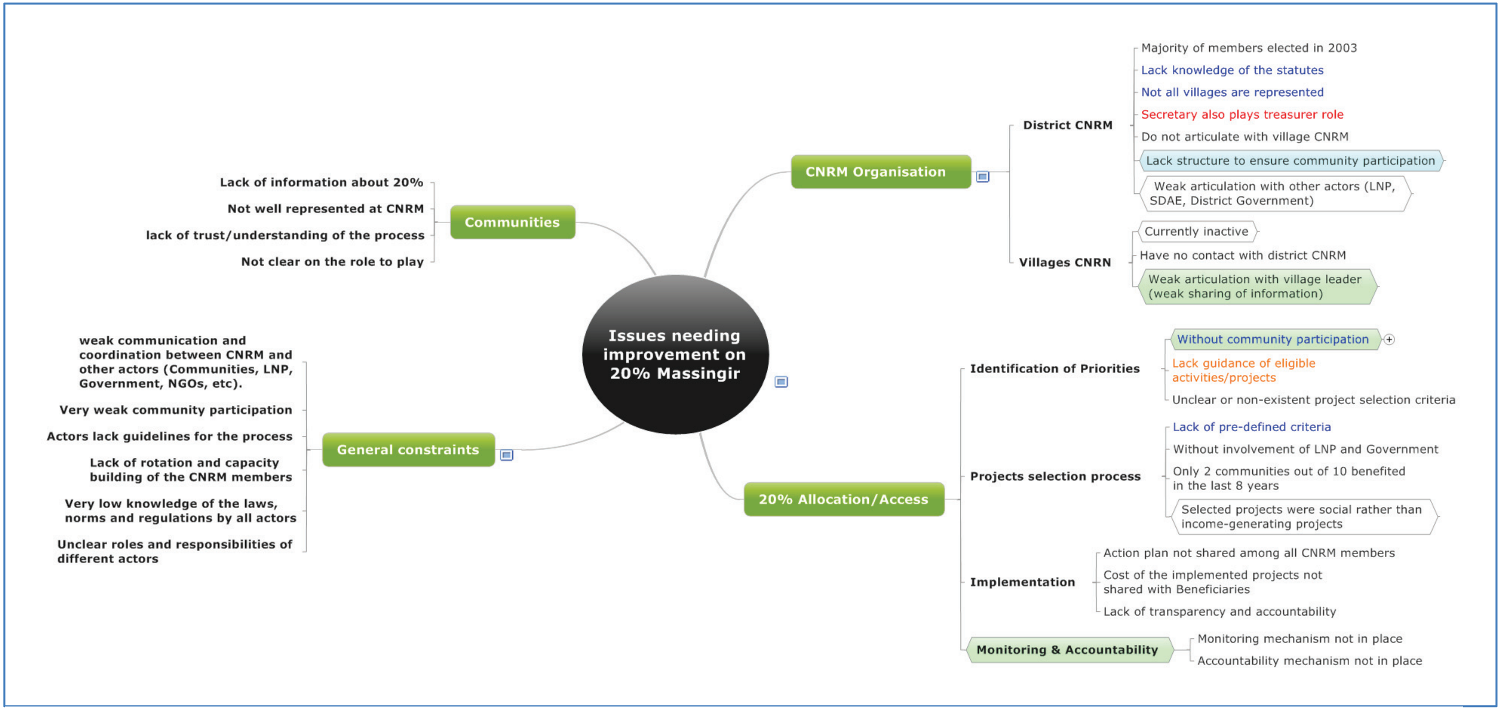
Issues needing improvement on 20% Massingir
CNRM Organisation
District CNRM
Majority of members elected in 2003
Lack knowledge of the statutes
Not all villages are represented
Secretary also plays treasurer role
Do not articulate with village CNRM
Lack structure to ensure community participation
Weak articulation with other actors (LNP, SDAE, District Government)
Villages CNRN
Currently inactive
Have no contact with district CNRM
Weak articulation with village leader (weak sharing of information)
Communities
Lack of information about 20%
Not well represented at CNRM
lack of trust/understanding of the process
Not clear on the role to play
General constraints
weak communication and coordination between CNRM and other actors (Communities, LNP, Government, NGOs, etc).
Very weak community participation
Actors lack guidelines for the process
Lack of rotation and capacity building of the CNRM members
Very low knowledge of the laws, norms and regulations by all actors
Unclear roles and responsibilities of different actors
20% Allocation/Access
Identification of Priorities
Without community participation
Lack guidance of eligible activities/projects
Unclear or non-existent project selection criteria
Projects selection process
Lack of pre-defined criteria
Without involvement of LNP and Government
Only 2 communities out of 10 benefited in the last 8 years
Selected projects were social rather than income-generating projects
Implementation
Action plan not shared among all CNRM members
Cost of the implemented projects not shared with Beneficiaries
Lack of transparency and accountability
Monitoring & Accountability
Monitoring mechanism not in place
Accountability mechanism not in place

Figure 13. Issues identified by participants as needing improvement in relation to 20% benefit sharing. Massingir workshop, 5 December 2013

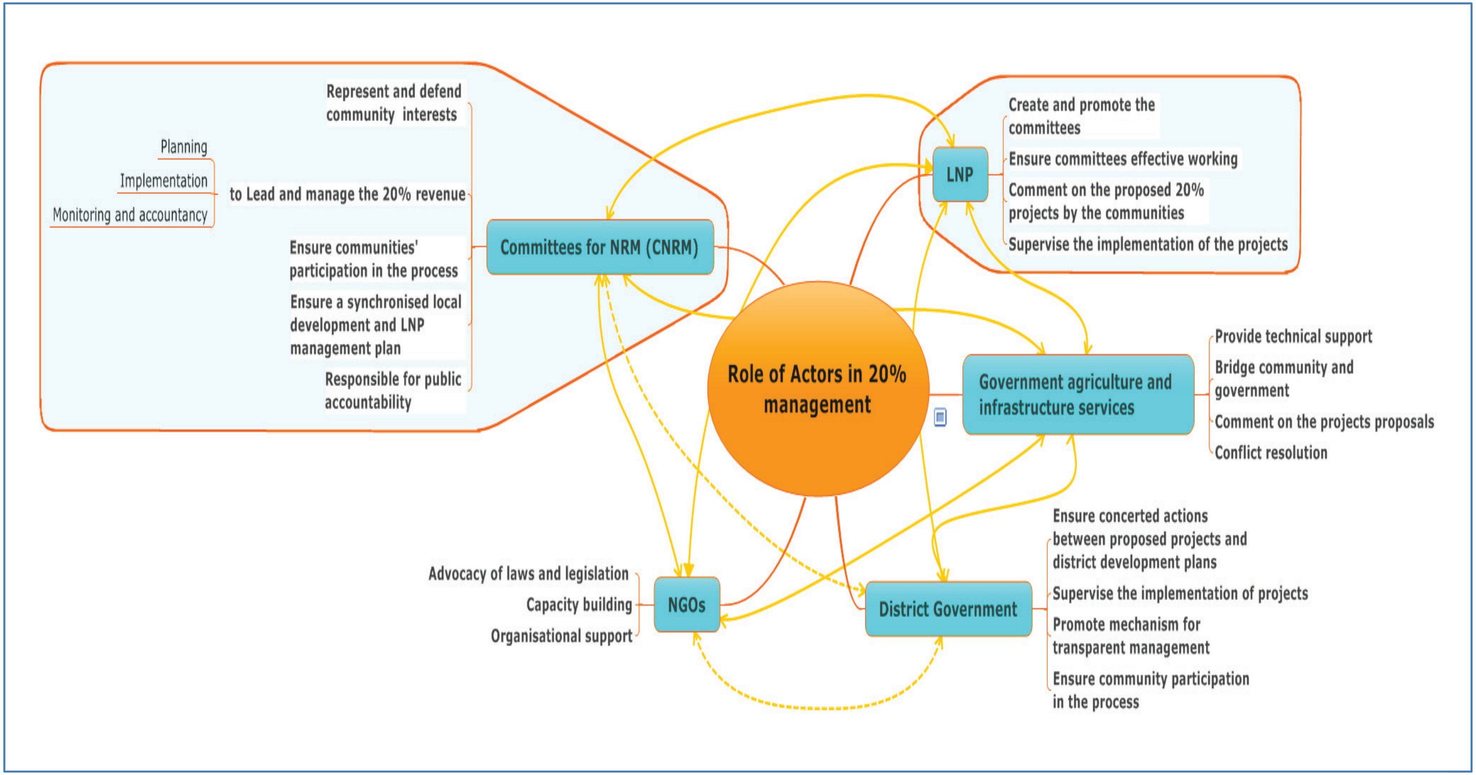
Represent and defend community interests
Planning
Implementation
Monitoring and accountancy
to Lead and manage the 20% revenue
Ensure communities' participation in the process
Ensure a synchronised local development and LNP management plan
Responsible for public accountability
Committees for NRM (CNRM)
LNP
Create and promote the committees
Ensure committees effective working
Comment on the proposed 20% projects by the communities
Supervise the implementation of the projects
Role of Actors in 20% management
Government agriculture and infrastructure services
Provide technical support
Bridge community and government
Comment on the projects proposals
Conflict resolution
Ensure concerted actions between proposed projects and district development plans
Supervise the implementation of projects
Promote mechanism for transparent management
Ensure community participation in the process
District Government
Advocacy of laws and legislation
Capacity building
Organisational support
NGOs

Figure 14. Description of roles and responsibilities of relevant actors in management of 20% benefit sharing. Massingir Workshop, 5 December 2013

The workshop outcomes can be summarised as: (1) relevant information concerning law, regulations and procedural mechanisms on the 20% benefit sharing received by all relevant actors; (2) issues and constraints regarding the 20% benefit shared among relevant actors and ways to improve them discussed; (3) the need for involvement of all relevant actors in the process acknowledged, roles discussed and concrete actions proposed; (4) Concrete follow-up action agreed and working groups created to undertake the three elected priorities.

An action plan was developed after the workshop, with the three working groups facilitated by me and the responsible staff from the LNP Department of Community Affairs. A draft of the developed action plan was presented to the LNP leadership. They appreciated the results and were open to adopting the action plan as part of their 2014 activity plan for the Department of Community Affairs, but they were concerned about budget limitations, as expressed by one of the leadership:

> I'm very pleased to hear this, I was puzzled why the 20% was perceived as problematic and always the community would claim lack of information and so on […] it is great that they now agreed to do something about it [...] but the bad news is: we don´t have money. The park has no money to work this year till the middle of next year. There is no money to pay salaries and the government has taken 7million MT from park revenues and we are struggling to recover the money. (AA Massingir, 20 February 2014)

However, they encouraged me to work with the staff in the Department of Community Affairs to further develop the plan to incorporate it into the 2014 activity and budget plan and hope for luck in funding. After developing the plan which was now part of the department activity plan, I step back and let the park leading the process.

Enacting the Collective Action Plan: Openings & Limitations

Four months later, in July 2014, a round to assess the implementation of the agreed action plan by different actors took place.

At community level, the village leaders had organised several meetings with their respective communities to (1) update the community about the 20% matters and to inform about the need to revitalise the local committees for NRM; (2) discuss the overall tasks and responsibilities expected to be performed by the new CNRM; (3) disseminate the requisites for the new CNRM members. The actual nomination and election of CNRM members was dependent on a round of dissemination or 'capacity building' about the CNRM legal statutes to be led by the LNP Department of Community Affairs as planned and agreed as a workshop outcome. However, due to budget constraints, park staff did not manage to undertake the activities. As mentioned above, the Department was already working with a limited budget in 2013, hopes existed for the 2014 budget, but the reality turned out different. The LNP was facing a funding crisis due to two connected facts as explained by the park manager. LNP was established as a project, and therefore it was sustained by donors. A transition process from project approach to the government management type then took place, and this implied that the donors were withdrawing their support and passing responsibility to the government. On the other hand, explained the manager, donors are disappointed with the government's commitment to good governance, as the park has been unable to recover the 80% of its annual fees entitled by law that are retained at provincial level contrary to the law. Efforts to recover the 80% have been made at all levels without success, as explained by the park manager. Therefore, the park has failed to mobilise more funds from the donors. In addition, the rise in rhinoceros poaching in KNP with alarming figures of over 1,200 animals killed in 2014 (Massé & Lunstrum, 2016) and poachers supposedly coming from Mozambique via LNP has prompted the donors' decision to redirect all existing funds to anti-poaching and resettlement programmes. This has contributed to the low performance of the park, especially for activities that are not within the current priorities of the LNP. Since 2013, the community affairs department has been almost obsolete, with no budget for fuel and other administrative costs.

This inactivity from LNP's side affected the enactment of the action plan. The community appeared frustrated and once again not able to trust the LNP, as a community member in Macaringue expressed:

> From our side we did all what we were supposed to do, we became so engaged that we even called the guy at LNP to find out about the following plan, but he said he would contact us and that never happened. (MLh, Macaringue 9 July 2014)

A reconnection was then planned in the form of community capacity building described as the fourth workshop (a) and (b) in *Table 5*, Chapter 4. It aimed to involve the local leadership from the 10 villages that encompass the Southeast buffer zone (village leaders, post and locality chiefs), selected teachers, CNRM members, and park staff in strengthening their capacity to reactivate the 20% action plan. The same workshop was organised in two strategic locations to facilitate the mobility of the attendees and respective logistics. The section below describes this process.

Enhancing Local Community Capacity

The main objective of the workshop was to reactivate the activities around the 20% action plan by addressing the limitations captured during the review phase, and possibly transfer more responsibility to the communities to act by enhancing their knowledge and capacity. It also became an occasion to collectively reflect on the opportunities that the 20% could bring to the communities. This was the open path for this workshop where all participants were invited to engage in a visioning exercise to imagine their improved future at LNP. Subsequently, they reflected in groups on the necessary actions by focusing only on those actions that would depend on them or that would influence the improved situation. During group presentations, ideas were discussed, articulated and adjusted based on shared understandings.

Despite the struggle to fulfil their livelihoods, by dealing with complex cropping systems as illustrated in papers I & II, these communities' members managed to move from their primary need of overcoming food shortage to visioning future aspirations. They have imagined their future in housing with electricity and running water, living separate from wildlife with a regularly maintained electrical fence; improved infrastructure such as roads, a health centre and schools. They also included in their wish list capacity building to capture and engage in tourism business opportunities. This illustrates that not only are they versatile in adapting but also in their aspiration, which can go from the immediate need to struggle for everyday survival to imagining an evolved prosperous situation. Further reflection on the kind of potential that could be developed at local level using the 20% funds led to the following ideas: fishing (for some communities), artisanal (baskets, horns, jams) requiring market pre-arrangements, brick making, and charcoal. They also mentioned the existence of people with accumulated experience as builders and welders from their previous work in South Africa, who could be given a chance to develop as entrepreneurs. Agriculture was debatable, and preconditions such as the local capacity to repair the water pump, improved market and agro-processing facilities were put forward.

An interesting shift was noted when they started to distinguish the 'social projects' such as water systems, schools and health centre improvements, from income-generating projects, and attributed the social ones as the primary responsibility of the government, contrary to previous understanding and practices. The debate around agriculture and the way they rationalised it not as a priority stood in contrast to the park's pre-conceived idea of supporting community development through small-scale irrigation.

An enlightening statement was made by one of the participants as a concluding remark for that working session:

> If we create an active CNRM it can help develop our villages, so we need people who have profound knowledge of the village but are also active and communicative. (Mavodze, 10 July 2014)

With such inspiration, participants added requisites that the new CNRM members should fulfil, thus improving the criteria list from the previous workshop.

Figure 15. Discussing the 20% benefit sharing in Macaringue. Photo: Nícia Givá.

With an improved list of criteria, members from the same village assembled to develop a detailed plan by listing all imagined steps towards activating the CNRM in their own village. Each group shared its plan in a plenary session, whereby all learnt from each other's ideas and plans and adjustments were made accordingly.

The chiefs of locality [5] and chiefs of administrative posts [6] took responsibility for coordinating and articulating the revitalisation of the district CNRM with the district administration. Two important aspects were re-emphasised during this workshop. The first was that the district CNRM should include representatives from all villages in the buffer zone including resettled villages or those yet to be resettled. The second aspect was that the village leader must be a CNRM member ex-officio in their respective village, but not necessarily the leading person of the CNRM. This would safeguard aspects of coordination, communication and information flow between the CNRM and the community.

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[5] A hierarchical position after village leader, usually responsible for three or four villages depending on the size of the village and/or population density.

[6] They are responsible for two or three locality chiefs based on the same above criteria

Figure *16*. Discussing the 20% benefit sharing in Mavodze. Photo: Nícia Givá and Tomás Meque.

Progress reached on the 20% issue: 2015 Assessment

In November/December 2015 a further round was undertaken, primarily to assess the progress made on the 20% action plan introduced in July 2014. This evaluation took the form of interviews and focus group discussion, while also serving to formally close the research cycle by discussing and reviewing with the relevant actors the perceived outcomes of the overall research process. Somewhat contrary to expectation, the progress recorded in relation to the 20% benefit sharing action plan was indeed significant.

Based on the information from interviews with CNRM members, 8 of the 12 villages had managed to activate their respective CNRMs. The district committee was in the process of being restructured. The district CNRM had held a meeting with members of village level CNRMs to discuss ideas and a mechanism to make use of the available 20% funds. It was decided in that meeting that contrary to the older approach of proposing big projects where the money was allocated to one village each year, they would propose project ideas that enabled sharing of the money among all entitled villages. It was decided to initiate a cattle rotation project, whereby each village received 10 thousands meticais to buy 10 calves to benefit 10 selected village members who would then become responsible for transferring the first born calf to another identified village member.

Meanwhile, I was informed that the NGO Lhuvuka was carrying out some activities with villages in the buffer zone, including some activities concerning the 20% benefit sharing. In an interview with the NGO project leader, it was explained to me that the NGO obtained funds from Pro-Mundo to work with resettled communities and the communities in the buffer zone for the 2015-2017 period. While bringing their project package consisting of building community capacity to diversify livelihood options with activities such as dressmaking, handicraft, pottery, and training in basic business management skills, the communities presented their 20% action plan and asked whether the

NGO would support them to implement the plan. The NGO leader said *'I was surprised that the communities were now telling us what they wanted, and within the presented plan they were clear what support they wanted from us'*. He added that since the NGO has participated in the process, they were able to understand what was demanded and that they were happy to incorporate the 20% benefit sharing as part of their project activities. The NGO has so far been involved in CNRM training sessions about the statutes, leadership and conflict resolution. They were facilitating the process to restructure the new district CNRM as well as supporting the communities in some conflict resolution.

Of the few instances of conflict resolution that were mediated by the NGO, the one relating to the process of recovering funds missing from the 20% bank account is worthy of elaboration here. It transpired that two district CNRM members had used the 20% funds for their own benefit. A group of 4 village leaders decided to take up the matter by contacting the district administrator and asking for help to recover the money. The case ended up in court and the two CNRM members promised to pay back the money. A formal document was produced indicating when and how the money would be returned.

The proactive attitude taken by the community members to negotiate their needs with the NGO, to self-organise and take the initiative regarding the use of the 20% funds, and to activate their agency to claim and recover the 20% funds, should all be noted as expressions of an empowering process. The iterative learning gained through sharing of experiences, information and knowledge, and the capacity building achieved in the due process appeared to have contributed to a change in perceptions and a greater sense of ownership of the 20% benefit sharing.

Along with the recorded progress, some critical aspects regarding the process used to allocate the cattle projects were also noted, which if not taken into consideration could jeopardise the initiative. One of these, for instance, concerned the organisational and procedural mechanism to safeguard transparency and accountability, whereby the criteria for selection of the beneficiaries was not clear; monitoring in order to ensure the revolving process had not yet been established; and the involvement of community members beyond the village CNRM in decision making concerning the use of the 20% was not ensured.

Despite these observations, the recorded progress demonstrated an ongoing process of transformation among community members in their mind sets, attitudes and capacity to take actions. These should be supported and strengthened if the goal is to allow for the emergence of a responsible community who can not only claim but also enact their rights.

6.2.5 Reassessing ‘Parks with People’ Through Collective Exploration

After two years of research and engagement with different actors, the stated ‘Park with People’ ideology and management approaches seemed more rhetoric than practice in reality. The need to discussing the following questions emerged to be of crucial importance for concluding this phase of the study. What it the development strategy in practice in LNP? How is the park with people concept essentially perceived and enacted? How does the LNP visualise its future and its prospects concerning people living inside the park and what are perceived as enabling and constraining forces?

Following the same approach, a workshop was organised (5th workshop in *Table 5*) and these questions were collectively addressed and reflected on. Due to the type of discussion prospected, the reflection became restricted to the park and district government actors, and was not extended to community members.

Six park staff including the leadership team, the District administrator and District permanent secretary were present at the workshop. In mixed groups of two or three, participants discussed or worked on each of the issues through guided questions and a provided process tool. Each group then shared their outputs in the plenary followed by collective discussion.

‘Park with People’ at LNP: Perceptions, Development Strategy and Enacted Approach

The discussion about the LNP development strategy clarified that the strategy should be based on two-year plan and derived from the 5-year park Management Plan, although LNP has not yet been working within that framework. The current Management Plan was already 10 years old.

At the workshop, it was argued that the park was acting strategically within three pillars, namely *resettlement*, *infrastructure development* and *conservation*, which according to them, helped in seeking financial stability. The park leadership said that most efforts had been put into the resettlement process, to ensure that communities settled in the core area of the park (along the Shinguedze river) were resettled with the desired speed. Resettlement, as emphasised by them, was the key process to guarantee the development and sustainability of LNP, as noted from the statement below:

> Only a park free of people will lead to the reduction of Human-Wildlife Conflict and the poaching problem, thereby managing to attract investments for tourism development. (Workshop 14 July 2014)

It was also claimed that allowing tourism concessions would contribute to infrastructure development in terms of expanding the roads network, communication, border control, and so on. Conservation is of course the core of the business, and therefore, actions towards increasing the wildlife population, reducing conflict or incursion of the poachers through reinforcing protection by training new rangers, acquiring advanced protection equipment and vehicles are the key activities. Staff capacity to perform conservation management such as fire management and persecution of poaching were mentioned as needing improvement.

Regarding the park perception about the ‘Park with People’ ideology, both working groups presented concurrent views and both park leadership and park staff stated their views to be ‘mainly political, not idealist and without appreciation of reality’. This was explained in the following terms: the ‘Park with People’ approach was adopted during the formation of the LNP expecting better integration of the communities through the CNRMs, this being the reason the park has created a Department of Community Affairs. However, they added that the poverty levels associated with lack of employment, and increased pressure of wildlife on the local livelihoods, as well as wildlife beginning to be seen as a wealth opportunity through poaching by some communities, have all reinforced the idea of having the park free of people.

Another related reason pointed out as inducing the shift away from ‘Park with People’ idea was the delay in the resettlement process which caused the community to lose trust in the process. The continued presence of people inside the park was pointed out by the park staff as having contributed to the proliferation of the poaching problem. This has therefore, redirected the efforts towards accelerating the resettlement process and as they stated: ‘A park free of people is now our goal and resettlement the number one priority’. Thus, resettlement is now framed and presented as ‘mandatory’ towards a LNP development process as opposed to the previous framing as a voluntary process.

Assumptions are that resettling people to a safe area in the buffer zone or outside the park will reduce the HWC and will boost the LNP’s development through enhancing business and sustainability opportunities.

Two things can be drawn from the above reflection and statement: the first that the park was not working or acting within a comprehensive development plan, but rather within an opportunistic and strategic plan. The second was in relation to the ‘Park with People’ ideology which emerged to be mere rhetoric, as the practice showed that a park free from people was the ultimate goal.

Taking into account the distinctive position of the two groups of LNP residents, those living in the buffer zone who are not meant to be resettled and the other group in the LNP core zone who have been involved in the resettlement process since 2003, one would argue that the LNP approach to people does not account for either of the groups. For instance, to accommodate the need to accelerate the process of having a park ‘free of people’, changes in the voluntary resettlement process were made to circumvent the ‘delayed process’ implied by the World Bank resettlement guidelines by transferring the resettlement responsibility to a government body, the National Institute for Disaster Management (INGC). The hope was that ‘voluntary resettlement’ or *induced volition* as termed by Milgroom and Spierenburg (2008) would be more forceful and quick, so that the park would soon start getting the profits from tourism investments. This strategy does not seem to have worked as expected, and the resettlement process is still facing challenges and moving at its own slow pace. On the other hand, residents in the buffer zone, once considered inside the park due to LNP’s particular features, and the need to share water sources, are scarcely included in the park’s development strategy, other than in terms of the 20% benefit sharing.

This narrow strategy in contrast to a more comprehensive or holistic strategy might fail to capture and address the complexity of a park such as the LNP. An arguable question would be to what extent enforcing protection as an sole approach would be effective in controlling the poaching problem. For example, if communities face the same or increasing levels of poverty and climate-related constraints, and the park does not earn the necessary legitimacy, can the protection strategy work?

LNP leadership stated that LNP’s role regarding communities in the buffer zone should be restricted to monitoring or supervising enforcement of the conservation principles and regulations, while the administrative and development role should be taken by the district government. They also mentioned an ongoing discussion about what kind of arrangements can be placed to link buffer zone communities with hunting concession, as well as how these communities would be granted access to their sacred sites and historical resources.

These matters revealed divided opinions between the park leadership and the park staff. The leadership defended that these villages can now be considered outside the park though they would still have to adhere to the buffer zone policy regulation. On the other hand, park staff argued for the opposite approach, claiming that it was difficult to impose conservation rules if people were perceived as being outside the park. They supported their position with evidence from the fencing experience, whereby communities on the other side of the fence assumed themselves to be outside the park and rangers scarcely managed to do their patrol work. They faced resistance from the communities, and even had their lives threatened.

Alternatives were discussed. One that was common to all was the establishment of permanent patrol posts in strategic locations in the buffer zone. In such a way communities would become accustomed to the idea of living within a conservation area, despite physical barriers such as the fence.

The evolved shifts around the advocated ‘Park with People’ approach during LNP’s establishment had not yet been acknowledged in any formal documents, while such shifts would result in significant changes to how the community issues would be addressed and prioritised in the LNP. Furthermore, as discussed in the background chapter, the ‘Park with People’ concept was neither well developed nor concrete concerning ways to operationalise it on the ground, and therefore this left room for poor implementation and action. Whether this was purposeful acting on the part of the park or was meant to be a trial in itself remains to be explored. Nevertheless, the LNP management seems to have rapidly shifted to an easy or more convenient approach. The quick move from an integrated conservation and livelihoods approach to the apparently new one of a remote strict conservation or conservation-separated-from-people approach, triggered suspicions about the true intention of the management.

Findings in this section make evident the challenges in determining the means and ends in attempts to reconcile conservation and livelihood objectives, but they also shed light on the potential of using ‘development means in service of strict conservation’ as suggested by Salafsky (2011), especially in a context where poverty is a constraining factor and livelihoods are threatened by the conservation goals, such as the present case.

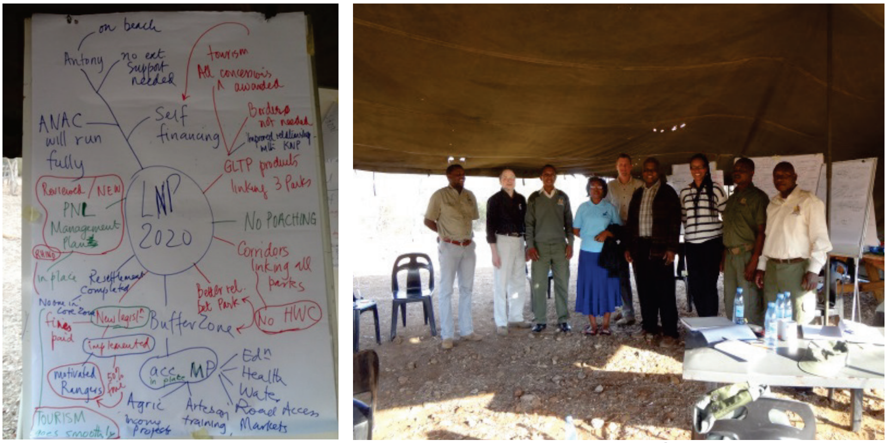
on beach
Antony
no ext. support needed
tourism
All concessions awarded
ANAC will run fully
Self financing
Borders not needed
Improved relationship with KNP
GLTP products linking 3 Parks
Reviewed / NEW PNL Management Plan
LNP 2020
No POACHING
RHINO
Corridors linking all parks
in place
Resettlement Completed
Better rel. bet. Park
No one in Core Zone
fines paid
New legislⁿ
Buffer Zone
No HWC
implemented
Edⁿ
Health
motivated Rangers
50% fine
acc. MP in place
Water
Agric Income Project
Artesan training
Road Access
Markets
TOURISM goes smoothly

Figure 17. LNP and District Government Officials, 5th Workshop at Águia Pesqueira, 14 July 2014. Photo: Sérgio Miguel.

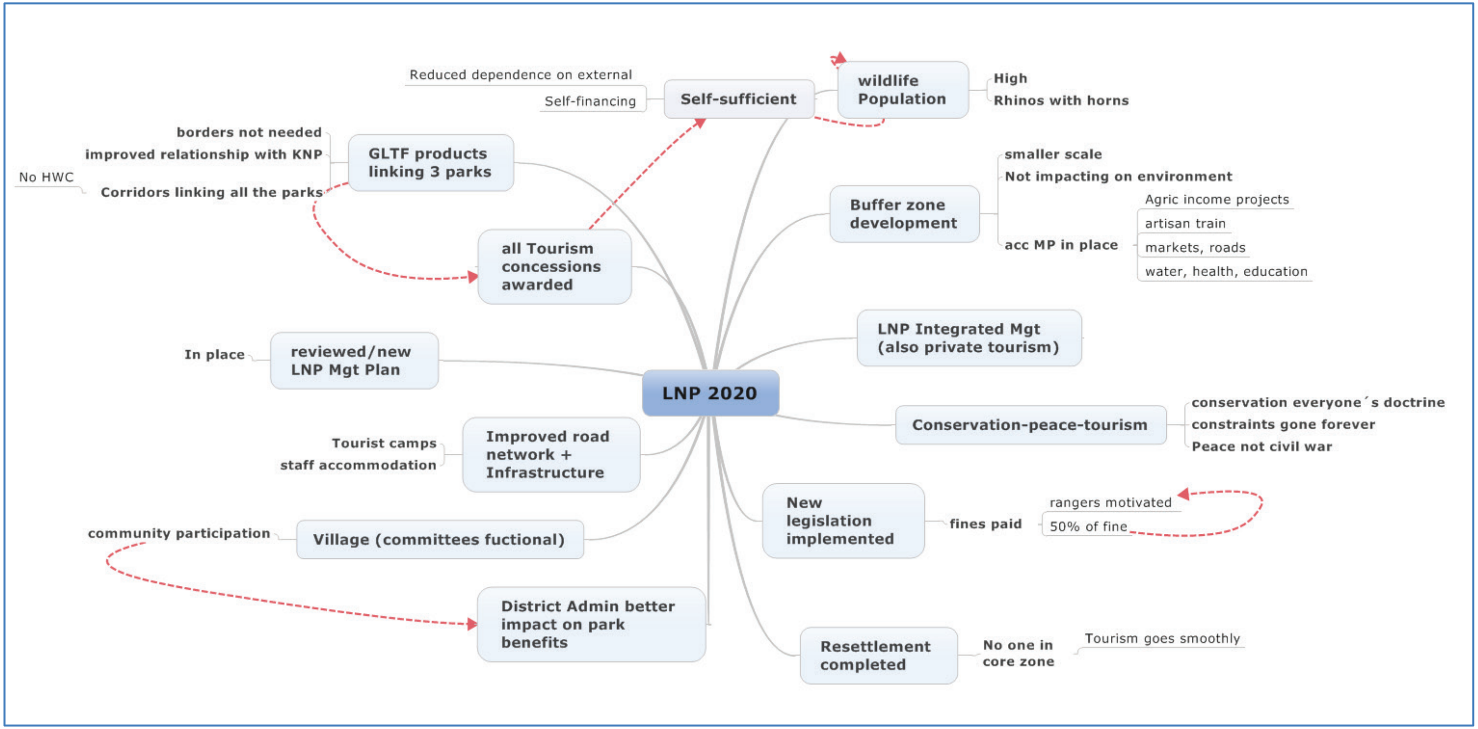
LNP 2020
Self-sufficient
Reduced dependence on external
Self-financing
wildlife Population
High
Rhinos with horns
Buffer zone development
smaller scale
Not impacting on environment
acc MP in place
Agric income projects
artisan train
markets, roads
water, health, education
LNP Integrated Mgt (also private tourism)
Conservation-peace-tourism
conservation everyone´s doctrine
constraints gone forever
Peace not civil war
New legislation implemented
fines paid
rangers motivated
50% of fine
Resettlement completed
No one in core zone
Tourism goes smoothly
GLTF products linking 3 parks
borders not needed
improved relationship with KNP
Corridors linking all the parks
No HWC
all Tourism concessions awarded
reviewed/new LNP Mgt Plan
In place
Improved road network + Infrastructure
Tourist camps
staff accommodation
Village (committees fuctional)
community participation
District Admin better impact on park benefits

Figure 18: Prospects of LNP 2020 mapped by park staff, Workshop at Águia Pesqueira, 14 July 2014

6.3 Synthesis of the Findings

To conclude this chapter, I highlight the main findings that will guide the Discussion chapter as listed below:

First, the interconnected influence of droughts and floods, and wildlife's incursion on people's livelihood strategies and the consequent need to deal with complex, dynamic and seasonally dependent coping strategies, highlights the importance of taking into account not only the biophysical but the contextual, socio-cultural and economic specificities of the site, as well as its respective long-term dynamics. Findings from this study suggest that strategies to reconcile conservation and livelihood needs in an area vulnerable to climate extremes need to be continuously reassessed and reshaped.

Second, while people demonstrated versatility to deal with and address the coupled drought and elephant crop raiding effects on their livelihoods, the LNP itself was shown not to have an appropriate management strategy to accommodate its objective of integrating people's livelihood needs and concerns. The park's interventions have been reflective of a linear, static thinking, ignorant of the context and shifting conditions and designed without taking into account the climate vulnerability and food insecurity reality of the park and its residents. The communities have demonstrated a capacity to self-organise, readjust and adapt, and have developed agency in the co-evolutionary dynamic with wildlife.

Third, the action research approach, adopted through several cycles of interactions with relevant actors, provided space and opportunity for sharing of experiences, information and knowledge. This sharing and interaction has bridged some of the knowledge gaps and built a new understanding of the complex and dilemmatic reality of reconciling conservation and people's livelihood needs among the LNP actors. This methodological approach has also created space, and opened opportunities for a dialogue process between the park and park its residents, contributing to lessening the tension in their relationship, thereby opening up possibilities for collaboration.

Fourth, the methodological approach has also contributed to building the capacity of the communities and the park staff. Due to the process, park staff improved their awareness and appreciation of interactive and collaborative processes as opposed to their earlier more linear and top-down approaches. The community on the other hand improved their knowledge concerning their rights, obligations and responsibilities. The process enabled the building of the community understanding and agency sufficiently for them to take a lead regarding their rights, with special focus on the 20% benefit sharing.

Fifth, despite the underlined improvements, the prospects for pursuing a co-management approach are further constrained by the influence of the international context and powerful actors in the LNP operational structure. The park's dependence on donor funds diminishes their power to lead and set the conservation management agenda of LNP. Park priorities are being shifted to accommodate donors' interests rather than taking into account the local specificities and dynamics, thus affecting the legitimacy of the park in the view of its residents.

Sixth, the 'Parks with People' approach has been shown to be regressing towards a 'fines and fences' approach in the LNP. There might be several factors explaining this shift, one of which could be the role of donors associated with the government's weak capacity to finance protected areas. An additional factor could be the lack of appropriate implementation strategy, affected by inadequate legal framework or due to pure lack of capacity to carry through the necessary management changes. Another explanation could also be the case that in fact 'Parks with People' was just a rhetoric concept adopted to gain acceptance for the establishment of the park in the first place due to its circumstances of having to incorporate many needs.

7 Discussion: Revisiting conservation and livelihoods in light of the LNP experience

This chapter branches into three sections. The first section discusses the findings on people's livelihoods and wildlife interaction and their implications for the conceptual and implementation process in the context of a semi-arid inhabited protected area with climate change as the global threat. It highlights the need for a paradigm shift on the conceptualisation of human-inhabited protected areas, particularly those in the drought-prone areas entrenched in high levels of poverty. I maintain that the three categories used to conceptualise the conservation-livelihood integration (no linkage, direct and indirect linkage) are too simplistic, and are therefore interpreted to accommodate the conservation organisation agenda rather than accounting for the complexity and dynamics emerging from such interaction.

The second section analyses the systemic action research as the approach adopted in this study to foster collaborative forms of governance that are dynamic and context-sensitive. It discusses the governance properties enabled through this process using the key concepts suggested by Armitage *et al.* (2012). While co-learning enhanced collaboration among actors which led to improvement of actors' accountability and legitimacy, the process faced a challenge on issues related to fit and scale. I therefore argue for alternative strategies to tackle the organisational structures that are entrenched with donors' power in order to cross-fertilise institutions in the horizontal and vertical levels. The third and last section aims at critically analysing the factors that hinder opportunities for co-management. The highlighted argument here converges on the inappropriateness of the neoliberal approach to effectively integrate people's livelihood needs in the context of a human-inhabited protected area. I contend that the incentive-based conservation approach does not address the complexity of poor rural livelihoods, and misdirects the accountability which in turn affects the co-management possibilities.

7.1 Food security – A Precondition for getting Conservation Right

Since the 1980s, when conservation and development or poverty alleviation were reconceptualised as intrinsically linked (Roe, 2008; Adams et al., 2004), research has evolved to characterise and analyse that link. The relationship between the two goals has been presented in a positive light while being acknowledged as complex (Roe et al., 2013). In practice, tackling both objectives has proved to be challenging, with the evidence of success being rather limited (Leisher et al., 2012; Agrawal & Redford, 2006). Failures have been attributed to the misconception of projects which attempted to integrate both conservation and livelihood goals, often framed in ecological and financial terms (for example, incentive-based), while dismissing the socio-economic and political context (Adams & Hutton, 2007). An alternative explanation has been that projects have failed to proceed with the strategy to target both goals due to lack of clarity concerning which of the two constituted a means and ends (Andrade & Rhodes, 2012; Salafsky, 2011; Adams et al., 2004). Findings from this study offer evidence to discuss both arguments and shed light on issues that should be put forward to analyse the two.

Limpopo National Park has in principle acknowledged the rights of the people living in the area and framed its establishment as a ‘Park with People’. This, according to the ‘people-oriented strategy’, implied that the park had to address both wildlife conservation and people’s livelihood improvement with the same degree of commitment (Brechin et al., 2002). However, the present study shows that the implementation approach adopted by LNP privileged a ‘hard’ rather than a ‘soft’ conservation planning approach (Adams & Hutton, 2007). In other words, boundaries and zoning of the park were established taking into consideration the ecological functions appropriate for wildlife conservation and free migration routes, while neglecting the display of the settlements, the household conditions, the needs of the local people and their existing dependence on the resources. For any semi-arid context, such as the LNP, water is an important and scarce resource for people’s livelihoods, as it would be for wildlife conservation. If the aim of the park was to seriously address the livelihood needs of the local communities, the critical questions would have been about the extent to which people’s livelihoods depended on the available water sources, the implications of bringing in more wildlife, and indeed how to manage the water needs to ensure minimal competition between the two. However, such questions did not seem to have been part of the discussion or the zoning process.

Findings from this study show that the agricultural livelihoods and food security of the buffer zone’s residents are heavily contingent on the climatic conditions. People’s ability to cope with climate adverse conditions (Conway *et al.*, 2015; Kusangaya *et al.*, 2014), for example drought, and overcome the associated food insecurity has been affected by the need to address wildlife incursion. Strategies to cope with both drought-related crop failure and wildlife incursion are inconsistent. Moreover, wildlife incursion towards settlements and agricultural fields increased along with the droughts and the wildlife’s need to move towards the rivers. This finding has earlier been substantiated in a study by Cook et al. (2015) who analysed movements of 13 collared elephants over eight years. Although drought is the persistent feature in the Limpopo region, climate conditions do shift to heavy rain and occasional floods. The communities have the capacity to shift their strategies to readjust and adapt to the newer condition of floods, even though the elephant mitigation measures are demanding additional efforts from the communities. In contrast, the park response has been stuck in the linear and top-down strategies, unable to account for people’s flexibility and needs. This top-down strategy is not consistent with the ‘Parks with People’ approach which in turn echoes the criticism by Brown (2002) that the linkage criteria used to determine the conservation-livelihoods link are not effective in determining the appropriate management strategy. She asserted that conservation organisations interpret and implement the criteria differently based on their own agendas.

The park’s lack of sensitivity to the local conditions and its impacts further marginalise the conditions of the buffer zone communities and increase the length of their food insecurity periods. This is an explicit example of people’s wellbeing having been deprioritised and undermined by the establishment of a protected area. This might be the consequence of the approach which focused primarily on wildlife conservation and hoped to compensate the local people for the resulting restrictions placed on them through the expected financial benefits from tourism and game farming (Adams and Hutton, 2007). This neoliberal strategy has been criticised as inappropriate in some instances because such strategies tend to overlook the social and cultural importance of certain local practices which are not replaceable (Hawken & Granoff, 2010; Brown, 2003). One of the criticisms is that the cost of restrictions imposed by conservation often exceeded the received benefits, leading to degeneration of local compliance and legitimacy of the protected area (Tumusiime & Vedeld, 2012; Tumusiime *et al.*, 2011). In the case of LNP, the debilitated condition of people’s livelihoods trapped by the dry conditions of the place left the buffer zone residents –prior to the park establishment – vulnerable to food insecurity and with very limited sources of livelihood options. The vulnerability of the park’s residents required an immediate and short-term solution rather than leaving them waiting for possible long-term financial benefits while seeing their limited livelihood opportunities being further deteriorated by the conflict with wildlife (crop destruction, livestock predation and risk of diseases). These concerns stress the already claimed paradigm shift in conceptualising ‘Parks with People’ by putting people’s livelihoods forward (Miller *et al.*, 2011; Roe & Elliott, 2004). As rightly framed by Hawken and Granoff (2010), achieving integrated conservation and livelihoods goals requires the willingness to engage with the complexity of the humans and nature, and the acceptance of the inherent paradoxes of perceiving protected areas as both natural and humans places and that humans can be both productive and destructive.

These factual insights from this study would not have been captured without a close, long-term engagement with the buffer zone’s residents. I argue that this should be the practice adopted by protected area management practitioners in order to develop appropriate, meaningful and ethical management strategies. For instance, the seasonal variation of elephant crop raiding patterns and people’s strategies in dealing with the shifts and their predisposition to cooperate in a ‘good’ cropping season (Paper II) should be seen as an insight to inform management practice, which was only possible to capture over several seasons and in a strict collaboration with the local community.

This approach, is also equally important for formulating the incentive-based conservation strategy, whereby the engagement with the local communities would help to fairly assess the incurred cost by the locals to avoid the risk of mis-conceptualising the link between people’s livelihood needs and conservation incentives. Other examples of the misfit of the proposed conservation benefits and livelihood needs have been reported in other places and different contexts such as Nepal (Nepal & Spiteri, 2011; Paudel, 2002), Madagascar (Gardner *et al.*, 2013), and Nicaragua (Znajda, 2014). The incentive-based approach is further criticised for benefiting the elites while proliferating social injustice and economic inequality among poor people (Paudel, 2002; Brandon & Wells, 1992). This is partially due to the complexity of its practical implementation. Questions about how much is fair compensation, whom it should be given to and based on which criteria are difficult to manage, and can appear challenging to efforts of institutionalising in parks such as LNP that encompass a larger number of communities, with different impacts on wildlife incursion.

Either the misconception about reconciling the two objectives or an inappropriate strategy to tackle both objectives can result in people’s displacement. The effects of the human-wildlife conflicts documented here, such as the reduction or abandonment of cropped areas and restricted livelihood options (for example hunting and charcoal production) due to the establishment of the park, have in the literature been called socio-economic displacement (e.g. Witter, 2013; Cernea, 2006). Such displacement is changing the dynamics of the buffer zone households' strategies to cope with the drought-related food insecurity. Some households temporarily move from farming activities into other income-generating activities (for example charcoal production) outside the park boundaries. Other households utilise social linkages with relatives in South Africa and they migrate for the entire period of drought. These dynamics have influenced the behaviour of the young men and women who have abandoned farming and seek off-farm livelihood opportunities outside the buffer zone. They migrate mainly to nearby cities, or even to South Africa despite their recognition that opportunities there have declined in recent times. I argue that this socio-economic displacement and the forced shift in people's livelihood strategies may further lead to a physical displacement. Such out-migration can become a norm forced by persistent and consecutive drought-related crop failures and livestock losses in combination with constraints imposed by the park and wildlife incursions. Furthermore, climate change risks multiply these effects (Conway et al., 2015). Similar situations have also been reported for instance in Botswana, Kenya and Uganda (Gupta, 2014; Mackenzie & Ahabyona, 2012; Naughton-Treves & Treves, 2005) where people had to seek alternative livelihoods, or physically move to other geographic locations.

Establishing a wildlife park within a human-inhabited area highly prone to drought, without addressing the implications on people's livelihood strategies, stands in direct opposition to the call by Roe and Elliott (2004) that we need a rethink of alternatives to protected areas instead of having them at any cost. The inability of the park management to prioritise the livelihoods and food security of the local communities means that some of the poorest people in the world have to pay the highest prices for international wildlife conservation efforts, resulting in what amounts to global injustice. At the same time, the strategy of the park also risks hampering the conservation goals themselves. The wildlife-induced displacement results in attitudes of resistance and illegal acts (Tumusiime *et al.*, 2011; Naughton-Treves & Treves, 2005), such as poaching. This is emerging as an increasing reality at LNP, and has in the last six years transformed the LNP and the KNP intersect into an authentic battle field. As their response to the escalated level of rhinoceros poaching, KNP shifted from conservation rangers to a paramilitary anti-poaching force trained with military skills and equipment, with instructions to follow a shoot-on-sight policy (Lunstrum, 2015; Messer, 2010), an approach that has also been extended to LNP. Despite the military apparatus and a scare tactic through announcing the number of presumed poachers killed in KNP, the relatively rapid and higher value income from the wildlife black market is attracting many people inside and outside LNP, including public servants and LNP rangers. The vulnerable condition faced by the unemployed young men at LNP means they are easily attracted to entering this crime network, perceived as not just a livelihood opportunity but also an opportunity to change their poor life to a more prosperous one. This attitude is further driven by the tempting revenue from the current rhinoceros and elephant black market prices (Anderson & Jooste, 2014). Potentially affected by the past military history between the two sites (LNP and KNP) (see Lunstrum, 2015), the young men appear eager to challenge the anti-poaching military force rather than being frightened by the consequences. This might indicate that the violent strategy being adopted against poaching, apart from being unethical, it also appears incoherent with situations with limited livelihood options, higher levels of poverty and unemployment. If the situation remains uncontrolled and such perception prevails among local residents, illegal benefits will spread out, reproducing economic inequality, and social disruption that will undermine the communities' social and cultural values (Adams & Hutton, 2007). Such a situation would contribute to further diminishing local people's compliance and legitimacy towards the park. This is a clear sign of a mismatch between the social context at hand and LNP's lack of a strategy to seriously tackle conservation-livelihoods as a coupled goal. Hence, this becomes a slippery pathway leading to a serious risk of losing wildlife diversity and a consequent risk of the collapse of the Transfrontier initiative. This in turn highlights the need to find dialogic and more collaborative approaches, alternative to the current top-down, linear and static management, an approach to deal with the livelihood-wildlife conflict in general and a more ethical and non-violent approach to address poaching in particular. Therefore co-management guided by systemic action research became the chosen approach in this study.

7.2 Action Research for Adaptive co-Management

The contextual insights gained from the first phase of this research offered an empirical basis for initiating an action research intervention as an innovative approach to address wildlife conservation and people's livelihoods as competing claims. In practice, the process aimed at creating a space to enable improved communication, build a common understanding of the issues; and joint exploration of management alternatives that accommodate both people's livelihood and conservation goals through exploring possibilities for co-management.

One of the major prerequisites to initiate a communicative space is trust and relationship building, not just between the involved actors, but also between them and the action researcher (Coghlan & Shani, 2014; Bodorkós & Pataki, 2009). The ethnographic study carried out in the first part of this research was well-suited to fulfil this first step of relationship and trust building. Another important aspect to pay attention to is the power relations among those who are to be involved in the dialogue (van Bommel *et al.*, 2009). Park officials and community members were the principal actors in the process of initiating the communicative space. Initially, the park held the powerful position, acting as a government entity and imposing rules and norms. The communities, although administratively acknowledged by the government, were the weaker entity and were supposed to comply with the norms and rules imposed by the authorities. By closely engaging with the community members in the research process and collectively discussing and interpreting the research findings, and together triggering further inquiry, the community acquired a profound and holistic understanding of the conservation and livelihood interplay. This co-generation of knowledge contributed to raising the community's confidence to express their concerns and formulate arguments to claim their rights (Coghlan & Shani, 2014), and thereby, I argue, reinforcing their power – the power of knowledge. As emphasised by Mannigel (2008), social skills and self-confidence are important individual factors contributing to the enhancement of participation levels.

At the same time, a similar process was carried out with park officials, but with the objective of motivating them towards more collaborative approaches, which materialised through an experiential workshop involving both park staff and community members. This process led to the establishment of a communicative space where the 20% benefit sharing became the key issue that engaged them in working collaboratively. They reflected collectively and learnt about how the 20% benefit sharing should function, recognising the gap between the ideals proposed in the legal framework and their own weaknesses. They learnt about the fragilities on the current allocation mechanism, and by relating the two, they came up with proposals for a concerted action plan to seek improvement. The focus of the social learning process on the practical and emergent issues selected by the participants, based on the concrete and experienced issues (practical knowing) (Coghlan & Shani, 2014; Reason & Bradbury, 2008), led to a feasible, concerted, accessible and committed plan for all actors. The progress and continuous interactions on the issues that concerned the actors contributed to their active and motivated participation, which in turn enhanced and expanded the communication space. It was enhanced because involved actors improved and built a common knowledge and understanding about the 20% benefit sharing issues, procedures, norms and rules. They enhanced their skills in listening to each other, sharing experiences, strengthening their trust and exploring ways of reaching a compromise. It was expanded in the sense that the number of actors involved was increasing as the discussion progressed and new actors emerged as relevant. The emergent and gradual expansion of the network through involvement of other actors prompted the issues of accountability and legitimacy. For instance, the inclusion of the members of the Committees for Natural Resource Management (CNRM), who were responsible for the 20% benefit sharing but were blamed for lack of performance, helped to expose the deficiencies of the current CNRM structure and the consequent accountability problem which shed light on the changes needed. The active engagement of CNRM in the improvement of the 20% benefit sharing mechanism is emphasised here as an explicit example of the importance of the strong relationship and trust between the actors and the action researcher (which is built over time). It was such trust that enabled disclosure of important figures concerning the 20% funds which were crucial for the credibility of the process.

The process evolved and led to the identification of additional relevant actors, who collectively identified areas of improvement and defined roles and responsibilities for each of the actors. This in turn fostered the agreed improvement for an effective and efficient functionality of the new envisaged 20% benefit sharing mechanism. Likewise, in the process of collectively discussing and identifying roles and responsibilities, the involved actors were able to reshape, readjust and ascribe roles and responsibilities that were not safeguarded in the 20% legal framework but were found to be crucial for its improvement. This shows the potential and relevance of the co-learning process in accounting for adaptiveness and flexibility.

The following highlights can be drawn from the systemic action research and social learning. First, the systemic perspective adopted within the action research broadened the problem horizon beyond Human-Wildlife Conflict (HWC) and opened opportunities to explore other issues and alternatives beyond mitigating the HWC. As Flood (2010) would put it, the systems perspective helped the communities to see and explore the different ways in which they were intertwined in the conservation and livelihood dilemma. Such meaningful understanding of the situation or context-based interpretation (Flood, 2010; Checkland & Poulter, 2006) helped the community members to become aware of their rights and limitations to reframe their claims to fit their needs and open up alternatives such as the 20% benefit sharing.

Second, the social learning and the network established through the research, interactions and co-production of knowledge and capacity building within the communicative space helped not only to strengthen actors' relationship and empower them, but also to establish trust between actors at different levels (for example communities and District Administration). In other words it worked the power relations among multiple actors and challenged individual identity (Steyaert *et al.*, 2007), thereby strengthening the actors' ties and consolidating the importance of the created space.

Third, the entire process had improved the community ownership of the 20% benefit sharing and through the learning and knowledge gained, they exercised their agency in reclaiming their rights. Noteworthy in this context was the reported intervention of community leaders through the District Administrator to recover the 20% funds misused by an older CNRM member. Another important fact was the commitment they held towards the 20% action plan, most notably in their negotiating of its implementation with the NGO as a reaction to LNP's inactivity. The inertia from the park's side affected the flow of the process and the enthusiasm of the participants, but it also served to reaffirm the flexibility of the action research process to deal with emergent properties and seek alternative strategies to address the situation (Dick, 2012; Reason & Bradbury, 2008; Checkland & Poulter, 2006). Such a situation triggered reflections and discussions which helped to further strengthen the process and the outcomes by elevating the actors' agency and legitimacy.

While tangible outcomes from the collaborative form of governance started to emerge among community members and leadership, and the district government, the situation with regard to LNP was not all that rosy. The process did indeed improve the relationship between park staff and the communities, and it enhanced their communication. But such a relationship was not sufficient to be translated into tangible concerted actions for the long term. Some structural issues related most notably to the role of international donors in shaping the governance of LNP have affected the performance of some of the planned collaborative actions. These are the issues discussed in the following section.

7.3 Limits of Action Research in Donor-driven Governance

The 20% process came to a halt soon after I handed it over to the Park management. This interruption was caused by the increase in rhinoceros poaching in Kruger National Park, which prompted the LNP's donors to redirect their funds exclusively to the anti-poaching and resettlement programmes.

With the redirection of all the funds to the anti-poaching and resettlement programmes, the buffer zone lost priority. The Department of Community Affairs within LNP literally stopped functioning and none of the activities planned for the years 2014 and 2015 were undertaken. Indeed it was not only the buffer zone losing priority, but people living inside the park, who had by now been relegated from the rhetorically privileged position of being individuals holding social, historical and culturally acknowledged rights to the simple position of objects – being referred to as the 'human component'. Under a regime of poaching as the newly prioritised issue, the presumption was that having people inside the park contributed to the increased level of poaching as well as preventing effective patrolling of the area. Hence the donors' urgency to remove the 'human component' from the area was considered to hold potential for the wildlife tourism business. Indeed, this shift of the discourse towards people in the park resonates with the capitalist mode of thinking of converting everything into single commodities disconnected from their context in order that they become tradeable (Büscher *et al.*, 2012). A key conclusion emerging from this analysis concurs with the claim that 'Park with People' was just a 'discursive mask' to legitimise the neoliberal idea (Büscher *et al.*, 2012), while the intention was more rhetoric than real. This further emphasises the critique being put forward of the neoliberal approach as inappropriate to simultaneously tackle both conservation objectives and local people's wellbeing (Büscher, 2010; Spierenburg & Wels, 2010; Redford & Adams, 2009; Wolmer, 2003). It can be surmised that a park free from people was a long-term and hidden strategy enacted by the park, thus explaining the lack of a strategy to embrace wildlife-livelihood reconciliation as a genuine attempt. Instead, the park's authority allowed the associated pressure of drought-wildlife and consequent food insecurity to slowly help clear the park of communities. Massé (2016) argues that this strategy worked in reporting evidence of wildlife-induced displacement in the core area of LNP, the area meant to be reconverted into wilderness for tourism purposes. This argument might sound unpersuasive for the case of the buffer zone, where settlements are legally allowed to remain. However, one has to remember that settlements in this special buffer zone that is an integral part of the park may disturb the prospect of free wildlife movement within GLTP and in a larger Great Limpopo Transfrontier Conservation Area (GLTCA) (Ministry of Tourism, 2003) and work against the international conservation politics related to the whole concept of transfrontier conservation.

A lack of commitment and responsibility to the local people also could explain the slow pace of input to the establishment of the legal framework that would formally accommodate and recognise people's rights in protected areas. In other words, 'Park with People' was advocated and 'implemented' without the setting up of any formal institutions to support and regulate its implementation. For instance, the laws in use (e.g. Land Act 10/97 and Forest and Wildlife Act 10/99) prior to the new Conservation Act (16/2014) enacted in June 2014, were flawed and somewhat inconsistent with regards to the roles and responsibilities of different actors, and did not provide tools for management of human-inhabited protected areas. The need for the new Conservation Act gained impetus when the wildlife tourism business and the GLTP project were threatened by the rhinoceros poaching problem in KNP. The increased pressure from international agencies led to the approval of the new law, thirteen years after the establishment of LNP. The Law not only regulates people-conservation issues, but also institutionalises poaching as a crime, which was the major interest of the donor agencies. The absence of formal institutions to guide the operationalisation of the 'Park with People' approach had allowed room for presumably purposefully deficient implementation and had prevented the proper attribution of actors' roles and responsibilities. Evidence of this is, for instance, the LNP's adoption of a top-down management approach following the management style of KNP, with which it shares borders but not the context.

Two major conclusions can be drawn: 1) clearly wildlife conservation is the primary concern in LNP while the peoples' social-economic conditions are being disregarded, and 2) the donors hold the power to set priorities and to drive the national conservation agenda while supplanting the state's role. Such situations have been criticised as diverting the state's responsibilities (Harris, 2009; Heynen *et al.*, 2007). This echoes a commentary by one of my key interviewees implying that Mozambique does not own its own conservation agenda because it relies on diverse donors' funds which sometimes have contradicting actions. This also resonates with the contemporary scholars of the Mozambican political economy who critically caution the pathway the country is taking after embracing the neoliberal principles by particularly favouring elites and impoverishing the poor (Saul, 2011; Hanlon, 2010; Hanlon, 2009).

The limited authority of the state vis-à-vis the donors in this case hinders the possibilities of better accounting for people's livelihoods and ultimately their wellbeing. This is an institutional misfit characterised by dominance of one kind of management practice (Young, 2003) – the market-oriented conservation management strategies, where practitioners are stuck between questioning the neoliberal prescriptions or remaining unethical by neglecting the poor and vulnerable livelihoods of local people (Büscher *et al.*, 2012). The narrow focus of the donors has obstructed the possibilities of LNP to craft new institutions to explore alternative governance approaches consistent with the aim of reconciling conservation and livelihoods. This required functional institutions at both horizontal (across communities) and vertical (Park and donors) levels (Mitchell, 2003; Berkes, 2002; Young, 2002) to cross-fertilise actors' knowledge and allow for concerted actions, sharing of power and decision making, so that co-management opportunities could transpire as real possibilities (Armitage *et al.*, 2012; Plummer & Fennell, 2009; Blackmore, 2007; Berkes, 2002). This brings to mind a conceptual alternative offered by Büscher *et al.* (2012) which would help a shift in the prevailing paradigm by asking 'what kind of nature do we want?" instead of 'what is the price of nature?'.

The next chapter sums up the conclusive remarks and provides some implications for the key actors in the management of protected areas.

8 Conclusion

This study has examined the conservation-livelihood relationship in a human-inhabited conservation area and discerned the challenges and opportunities for reconciling the two. Findings are based on the empirical case of the Limpopo National Park, which was conceptualised and implemented within the ‘Parks with People’ paradigm, integrating wildlife conservation and people’s livelihoods.

Despite the stated aims of integration, this study showed that the LNP lacked an adequate strategy for tackling both wildlife conservation and people’s livelihood goals. The absence of tangible objectives and therefore clear management guidelines to address people-wildlife interactions affected the way in which the park management dealt with emergent challenges of food insecurity, incompatibility between communities’ strategies to deal with shifting climate conditions and wildlife incursions.

The most recent and relatively rapid change of the approach by the park management, by shifting from reconciling people and wildlife to demarcation of space through fencing, followed by forced resettlement and then reallocation of the responsibility for people’s livelihoods in the buffer zone to the government, shows the inconsistency in the management approach. This is probably induced by the lack of a supportive legal framework to cover such situations, or can be seen as a series of purposive artifices imposed by the international donors in order to suit their priorities and interests. In other words, this could be seen as a process of “naturalizing relationships between state, market and citizens” as Harris (2009) might have put it.

Indeed, the shift from a ‘Park with People’ approach towards one with a tendency to privilege a park free of people raises doubts about the initial firmness of the belief and commitment to implement the twin objectives of biodiversity conservation and local people development. It relegates conservation at play in LNP to being no exception to the ‘neoliberalizing of nature' generally claimed in nature conservation practice in recent times, and in Southern African Transfrontier cases in particular, as noted by several scholars (Büscher, 2013; Büscher *et al.*, 2012; Holmes, 2012; Spierenburg & Wels, 2010; Draper *et al.*, 2004). If this is true, it also sustains the view that the 'Park with People' position was simply rhetoric on paper while a park separate from people with a marketable wilderness was in fact the most consistent intention.

The systemic action research orientation adopted in this study has demonstrated the potential that exists for crafting appropriate institutions that can enable long-term engagement between actors at different levels whereby the contextual dynamics are captured and management practices informed, improved, and continuously reassessed and readapted. However, the LNP's governance model dominated by donors hindered the possibilities to further explore the potential developed by the actors to evolve towards more adaptive and collaborative ways of governance within this PhD project timeframe. A further risk of adopting the neoliberal, incentive-based conservation approach highlighted through this study relates to the significant chance of overlooking the actual cost and struggling incurred by the communities when a protected area is established purely based on the unrealistic presumption that the tourism-based income will compensate for all those costs. Nevertheless, the process had enabled disclosure of the LNP's organisational structure, where the dominance of international donor agencies and the park's financial dependence within the neoliberal approach leave little room for crafting institutions and organisational responses for conservation and livelihoods to prosper as coupled objectives.

In terms of the methodological approach, this implied that the process opened another window of opportunity that is yet to be explored. The need has been established for engaging with another layer of the powerful actors (donors, conservation policy and decision makers) with the potential to collectively learn about the gap between the neoliberal conservation agenda and the inhabited context of the protected areas. This process consists of purposeful crafting of institutions through actions informed by the research (theory) (Ison *et al.*, 2015) to guide a deliberative process of transforming institutions or removing constraints and create new enabling conditions. This is a requirement for alternative spaces and opportunities to debate the complexity of the conservation-livelihood nexus in general, and in human-inhabited protected areas in particular, while also involving actors at different levels and scales of governance with particular focus on the international conservation agencies and donors in order to challenge the normalised and hegemonic neoliberal prescription. Only such a shift in the approach, mind-set and praxis of the conservation policy among decision makers as well as practitioners can constitute hope for conservation and livelihoods to prosper as a coupled goal.

In this regard, the present study offers a number of implications for policy makers, park managers, and donors active in Limpopo National Park, and globally. First, the interactive and action-oriented approach must prevail within and across levels, so that the particularities and complexities of the context are captured in continuous and adaptive ways. Second, with climate change as a planetary threat impacting both biodiversity conservation and people's livelihoods, addressing peoples' livelihood needs ought to be given much greater priority, especially in the semi-arid context, taking into account climate change effects as a poverty multiplier factor. Third, strategies to address wildlife poaching in contexts of extreme poverty and high levels of unemployment must shift from violent to more social and collaborative approaches, thereby ensuring local compliance and legitimacy and seeking responsibility through knowledge as an end goal. In situations where the alternative to poaching is starvation, intimidation through a military approach seems likely to be ineffective, and most importantly unethical. Moreover, poaching in these situations can be argued as being a crime of dissent (von Essen, 2016). Fourth, findings from this study also shed light on the risk of simply relying on the neoliberal conservation approach (market-oriented conservation) in human-inhabited protected areas, whereby the costs incurred by the locals exceed the estimated compensation. This is of particular importance for densely populated protected areas with higher levels of poverty such as most Peace Parks in Southern Africa. Such areas are characterised by restrictions on natural resource use, wildlife incursions and their associated losses, increased household workload to protect crops and livestock from wildlife raids, vulnerability to diseases such as malaria due to overnight exposure to mosquitoes, all of which contribute to further impoverishing the local people. These costs certainly override the provided benefits. In a similar vein, and related to the higher number of settlements in these protected areas, the benefit sharing mechanism faces the challenge of establishing an effective organisational and institutional structure in order to deliver the benefits in a transparent and fair format to all entitled households. Therefore, there is a need to rethink human-inhabited protected governance towards more collaborative forms of governing, whereby the complexity of conservation-livelihood interaction and respective socio-economic impacts are continuously captured to inform management strategies. This in turn should influence the donor mind-set and the conservation agenda to redirect funds to initiatives that are meaningful to local people and resonate with the context, thus contributing to strengthening people’s compliance and enhancing their legitimacy, wellbeing and willingness to foster coexistence opportunities.

I end this thesis by re-emphasising that the claimed paradigm shift is all about being systemic with our thoughts, our knowing and our actions. I will echo the claims made by Flood (1999 p.194) that ‘systemic thinking in organisation and management in essence is about being ethically alert, critically reflective, appreciating issues and dilemmas that we face, [and] exploring possible choices for action’.

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