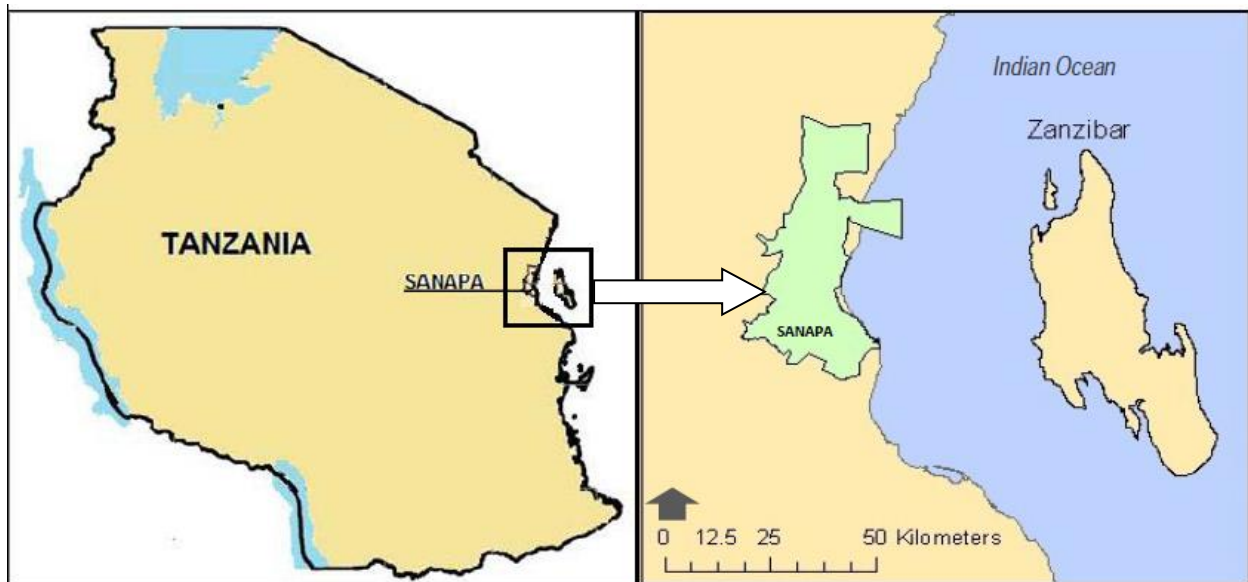


Examining conservation conflicts in Tanzania's National Parks: A case study of Saadani National Park



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EXECUTIVE SUMMARY

The topic of *conservation conflicts* became relevant in academic literature after protected areas (PAs) worldwide increased rapidly since the start of the 20th century (Adams, 2004). This was due to the growing appreciation of nature by conservationists and rulers and the need to conserve it (Chape *et al.*, 2008). PAs are considered cornerstones of biodiversity conservation and ecosystem services (Jenkins and Joppa, 2009; Bobo and Weladji, 2011). They are managed for a wide variety of purposes: conserving landscapes, species and ecosystems; generating revenue through wildlife and other nature-based tourism activities; providing valuable ecological services (watersheds, sequestering and storing carbon emissions etc.); maintaining of culture and traditional attributes; and education (Chape *et al.*, 2008).

Despite their vital role of conserving biodiversity, delivering ecosystem services, and education purposes, PAs managements in many countries of the Global South face a number of challenges, including conflicts with various social actors (local communities, human rights advocates, investors etc.), mainly due to concerns over the place of people in such areas (Balduş & Hahn, 2009; Neumann, 2002). While such concerns and their associated conservation conflicts are generally well documented in the literature, their analyses are rather rudimentary. As such, the dynamics of conservation conflicts hardly exists in the literature.

This research study examined conservation conflicts in Tanzania's National Parks, using the case study of Saadani National Park (SANAPA) located along the coast. The overall objective was to map the conservation conflicts between local social actors and SANAPA as a step toward proposing their sustainable solutions. Specifically, the objectives of the research were: to analyze the dynamics of conservation conflicts in and around SANAPA; to examine the pressures of development on biodiversity conservation in and around SANAPA; to examine the conflicts between pastoralism and biodiversity conservation in and around SANAPA; and to examine the relationship between SANAPA and surrounding local communities.

The study employed a case study approach inspired by ethnographic research to collect qualitative data using multiple methods, to explore the nature of conservation conflicts in SANAPA. The multiple techniques of data collection involved: a series of in-depth semi-structured interviews, focus group discussions, and informal discussions, with various conservation stakeholders at national level and at the grassroots – where PAs and biodiversity

conservation really occur. Field observations and document analysis were used as data gathering techniques as well.

Overall, the results show that the management of SANAPA is confronted with enormous conservation conflicts, including boundary conflicts, resource-use conflicts (reflected in demands for land and poaching), human-wildlife conflicts (reflected in damages inflicted by wildlife), and conflicts related to encroachment and blockage of wildlife corridors. The root causes of such conflicts revolve around a combination of factors arising from the park itself, local communities, investors as well as government agencies and institutions and are reinforced by the media.

The results indicate that there are pressures of development, mainly from transport infrastructure development in and around the park, the proposed sugarcane plantation adjacent to the park, as well as sea salt works in and around the park. The root causes of much of these pressures revolve around the government's struggle to balance between biodiversity conservation and social-economic development reflected in conflicting interests and lack of collaboration among government institutions, coupled with poverty as well as ignorance of local communities.

All four major approaches widely applied by protected area managers to foster positive relationships (benefit-sharing approach, mitigating human-wildlife conflicts, opening limited access to park resources, and managing PAs in collaboration with communities) were important in shaping relationships between SANAPA and adjacent communities. However, their extent of application varied considerably from one another, with the focus of the park being predominantly on benefit-sharing approach. Other approaches were also considered by the park management but, have been or are being only partly applied. Opening of limited access has not been considered at all.

Furthermore, the results indicate that the main conflict between conservation and pastoralism in the study area was the encroachment into SANAPA by livestock. The encroachment, however, was seasonal and was done by migrating pastoralists who are not originally from around the park. This pastoral-conservation conflict occurring in SANAPA is prompted by the way conservation and agriculture are prioritized in the country, a mobile form of livestock keeping, and is reinforced by issues of governance and corruption.

The outcomes of all these have often been conflicts and contentious relationships between SANAPA managers and various social actors - particularly local communities, investors and migrating pastoralists. This thesis, however, highlights important implications - for policy and decision-makers, conservation management officials, and other conservation stakeholders - that need to be addressed if both conservation and development goals are to be realized in the area. Factors (short of manpower, patrol funds, and working equipment) hindering efforts to address poaching in its entirety need to be sorted out in order to strengthen law enforcement and stop poaching activities in the country. Corruption is worrisome and impacts negatively on biodiversity conservation in the country. The government needs to act with urgency and seriousness to fight corruption.

Factors (widespread poverty, low level of education, and cultural practices) that hinder involvement of local communities and their participation in biodiversity conservation need to be addressed before effective collaboration becomes possible in managing SANAPA and other PAs. Conservation education and consciousness-raising campaigns are needed among the local communities to increase their readiness and capacity to conserve wildlife, forests, and other natural resources while ensuring that wildlife has safe places to live in, and to change their cultural traditions related to the use of bush-meat.

While the integration of conservation and development is generally accepted, alongside the fact that development is inevitably associated with some losses of biodiversity, the way it is in SANAPA, appears to be skewed. Infrastructure development in SANAPA needs to be controlled for the betterment of biodiversity conservation. The current eight transport networks (seven roads networks and one railway line) appear to be too much, and perhaps unnecessarily given the size of the park (1100 km²). Some of these should be closed down. The operation of the on-going sea-salt works needs to be reviewed as well.

Crop damage by wildlife is a very important issue to the livelihoods of local residents living adjacent to SANAPA. The current responsive measures of the park do not sufficiently address the problem. Park management, donors and conservation organizations with an interest in wildlife should support the local communities in acquiring sophisticated crop damage control equipment and materials (e.g. fencing wires, animal repellents, firecrackers, and chili peppers),

which are preventive and generally more effective than the traditional means currently used by farmers in the area.

Similarly, I suggest that the actors involved create a setting that allows a genuine dialogue. In such a setting the government with key actors in the pastoralism, conservation and agricultural sectors can work towards a common understanding on pastoralism related conflicts as well as sustainable solutions to such conflicts in the country. Otherwise, conflicts between pastoralism and other forms of livelihoods (not necessarily conservation) are likely to continue for unforeseeable future, and there is a danger that they may escalate even more.

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List of Acronyms

ASAL = Arid and Semi-Arid Land

CBNRM = Community-Based Natural Resource Management

CCS = Community Conservation Service

GCA = Game Controlled Area

GR = Game Reserve

IUCN = International Union for Conservation of Nature

NGO = Non-Government Organization

PINGO = Pastoralists Indigenous Non-Government Organization

PA = Protected area

RAZABA = Ranch of Zanzibar in Bagamoyo

SANAPA = Saadani National Park

SCIP = Support for Community Initiated Projects

STAMICO = State Mining Corporation

TANAPA = Tanzania National Parks

VEC = Village Executive Committee

VEO = Village Executive Officer

WD = Wildlife Division

WEO = Ward Executive Officer

WMA = Wildlife Management Area

CHAPTER ONE: THEORETICAL FRAMEWORK

1.1 Introduction

Biodiversity is an inherently international concern. As we shall see below, this concern is based on the fact that much of human well-being depends on biodiversity (Collins, 2013; Homewood *et al*, 2012). As a reflection of such concern, the interest in biodiversity issues has increased, and the diverse scientific research studying issues related to biodiversity are increasingly important to address different sides of the biodiversity question (Collins, 2013).

This chapter provides a theoretical introduction to the research thesis titled *Examining conservation conflicts in Tanzania's National Parks: a case study of Saadani National Park*. The chapter starts by defining the key terms and setting the sense. It then introduces a brief discussion of the background to the problem in a global context of biodiversity conservation, the major topic of this research, with a view to providing the big picture of biodiversity conservation at the large scale level. This is followed by an overview of the conservation conflicts defining the direction of this research before it engages in a more extensive discussion of the main concepts of the research: protected area-people relationships, conservation and development, and conservation and pastoralism. Using key theoretical perspectives derived from these concepts, the chapter then narrows the research focus down to the nature of the research problem while providing a rationale for the choice of topic. The chapter concludes by drawing attention to the objectives of the research this thesis focuses on along with the research questions it determines to examine, and finally a brief structure of this thesis.

1.2 Land dispossession and biodiversity conservation: Defining the terms and setting the scene

Dispossession is the action of taking away someone's property or land and the natural resources on and below it, whether through a state-sanctioned legal mechanism or illegally. It is sometimes accompanied by forced eviction or displacement whereby people are forced to move out from their locality or environment and occupational activities (Hunt & Balfe, 2015). Dispossession is often carried out by military forces (as a result of armed conflict) or by the State with the backing of the law (Hunt & Balfe, 2015). I will focus on the State-driven land or natural

resources dispossession since this is the analytical core of the topic I want to discuss in this thesis.

In virtually all countries there is a legal concept of ‘public purpose’ which enables governments to take privately, customary or communally held land for public interest or wider government initiatives such as nature reserve or biodiversity conservation, infrastructure development, mining, agricultural investment etc (Hall *et al*, 2011; LAR, 2013). Key drivers normally include development pressure, increasing demand for food, fuel (biofuel), fibre and other raw materials as human population escalates (Hall *et al*, 2011; Hunt & Balfe, 2015). Dispossession therefore may be ‘conservation or development induced’ and is crucial to facilitate the re-designation or transfer of land-use and ownership for public interest (Hall *et al*, 2011).

Governments in the Global South are actively promoting large-scale land acquisitions as a conservation or developmental strategy using national laws, policies and customs that determine how land is managed, used, controlled, and transferred (Hunt & Balfe, 2015; LAR, 2013). However, power analysis is central to understanding how dispossession actually takes place in time, place and specific contexts (Greco, 2012). Power relations (the capacity to influence others and be influenced by them) are also important to understand how context shapes responses or resistance to dispossession (Greco, 2012).

Although it is clear that governments are the lead actor in dispossession processes, the international community (e.g. conservation and financial organizations, investors from home countries and multi-national corporations) play a big role (Hall *et al*, 2011; LAR, 2013). These international actors have significant influence on national governments as they push to uphold international treaty laws, and to facilitate foreign investment projects on large-scale land acquisitions (Hunt & Balfe, 2015). They push for political will at national level to uphold decisions through policy and legislative changes. In the end, national governments and state agencies have power over local government and communities (Hunt & Balfe, 2015). Even when principles of free, prior and informed consent are fulfilled, still power relations affect how such decisions are made (Greco, 2012).

While dispossession is indeed a major cause of concerns across the world, responses or resistance of the people to dispossession vary depending on how dispossession takes place

(whether forcibly removed or willingly moved out), where, when, and the context of power relations (Hall *et al*, 2011). However, dispossessions accompanied with forced evictions often result in violent confrontations, especially when people realize that they have been marginalized, given little or no warning (Hunt & Balfe, 2015). On the other hand, dispossessions might be peaceful particularly when accompanied by ‘promises of hope’ to the people affected with loss of their land (Crane, 2006), such as the prospect of jobs or promises of improved economic and social infrastructure. However, uncertainty as to whether benefits (or indeed negative effects) will materialize often complicates responses of the people who live and depend on the land in question and the natural resources on and below it (Crane, 2006).

In addition, regardless of the degree of consultation with the people who live and depend on the land or their willingness to lose the land (lose access to land, water, forest, wildlife, and other resources on and below it), the true impact of dispossession whether positive or negative may be realized later (Hunt & Balfe, 2015). Over time, if conditions attached to the dispossessions (land deals or promises of hope) have not been fulfilled, opposition to those aligned with the deals (often investors or those managing the area) may occur (Hunt & Balfe, 2015). This may create tension over dispossession, ruin state-people relations or create tensions with neighbouring communities, marginalization, and resentment may escalate (Crane, 2006).

Dispossession of land has been studied across a range of disciplines. In biodiversity or nature conservation, dispossession is viewed as a process whereby governments take control over land (formally at the disposal of a particular group of people) and redefine its use for biodiversity conservation (Crane, 2006). This happens mostly during the creation or establishment of protected areas for nature of biodiversity conservation, the preservation of life-sustaining natural processes (LAR, 2013). Legitimacy and regulation are the main power or back up for the discourses promoting conservation (Hall *et al*, 2011). More specific, dispossessions legitimated by conservation have led to the establishment of protected areas. The expansion of protected areas has been driven by domestic and international influences and actors as well. This conservation – inspired dispossession impinging on land tenure and land-use set aside large chunk of land off limits to most types of human activities (Crane, 2006; LAR, 2013).

As mentioned, when dispossession occurs, communities, particularly people who live and depend on the land in question, are generally adversely affected by such changes in land-use

(Hunt & Balfe, 2015). While there is no automatic or uniform response to the negative effects of dispossession, competition over land issues or dispossessing people from their customary rights and livelihoods have been obvious (LAR, 2013). There has been tension between local communities, different groups of social actors and those managing the dispossessed land or protected areas (Hall *et al*, 2011; Hunt & Balfe, 2015).

In the Global South, protected areas are enormously important sources of dispossessions. However, protected areas in this region are often seen as beleaguered and are victims of encroachment by development interests that place multiple demands on such areas for agriculture, hydropower, road access, livestock grazing, and other activities associated with demographic and economic growth (Hall *et al*, 2011). In many parts of the world especially where dispossession has occurred, communities have appealed to their governments to intervene (on what compromises can be forged) as discourses promoting biodiversity conservation become ambient (Hall *et al*, 2011). Communities are increasingly becoming landless as the conservation rationale continues to hold control over land tenure and land-use while protected areas (national parks, wildlife sanctuaries and other territories zoned for biodiversity conservation) continues to increase in pace and scale (Hunt & Balfe, 2015). However, public outcry have been on the ‘unknown place’ of people in such protected areas as exclusions legitimated by conservation deny them their traditional access to resources in those areas. The future of protected areas has been unpredicted due to contentious relationships between the management of such areas and the people underpinned by dispossessory approaches to biodiversity conservation (Hall *et al*, 2011).

In the conservation literature, the debate over the ‘place’ of people in protected areas has especially focused on building and sustaining good relationships with local communities, particularly those living adjacent to protected areas while addressing their concerns over PAs (Madden, 2004; Marshall *et al*, 2007; Warner, 2000). There have been debates on creating positive relationships between protected areas and stakeholders; integrating development concerns into biodiversity conservation; and forging linkages between biodiversity conservation and other sectors of the economy as ways to integrate people’s concerns into biodiversity conservation (Singh, 2008; Madden, 2004; Brown, 2003; Warner, 2000). Contemporary approaches to natural resources management have their origins in these concepts that are

increasingly becoming important consideration to ensure sustainability of biodiversity conservation.

In this thesis, I use these theoretical concepts to explore some of the practical issues surrounding the management of protected areas. In particular, I use them to layout a background of my study and as a point of departure to bring insights and engage in the discussion of conservation conflicts. While theoretically the overall impact of biodiversity conservation is the attainment of both conservation and development (Martin *et al.*, 2011; Singh, 2008), there is a challenge of reconciling complex and often conflicting relationships between poverty, access to resources, and biodiversity conservation (Crane, 2006). A case study of Saadani National Park (SANAPA) in Tanzania is used to illustrate the manner in which these theories have been both useful and as a challenge in managing protected areas in the country and how they have evolved into conservation conflicts.

1.3 Biodiversity conservation and protected areas

The International Union for Conservation of Nature (IUCN) describes biodiversity as the variety of life on Earth. It is the wide variety of ecosystems and living organisms: animals, plants, their habitats and their genes. It is simply the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are part, including diversity within species, between species, and of ecosystems. An ecosystem is a community of plants and animals interacting with one another and with their physical environment (www.iucn.org/what/tpas/biodiversity/about). Biodiversity conservation simply means ensuring that natural landscapes, with their array of ecosystems (goods and services) are maintained, and that species, populations, genes, and the complex interactions between them (between species and between species and the environment) persist into the future (http://www.wwf.org.au/our_work/saving_the_natural_world/what_is_biodiversity/).

The health and well-being of human population depends upon the functioning of the ecosystems for their goods and services such as food, fuel, medicinal plants, construction materials, tourism and recreation, wild genes for domestic plants and animals, oxygen, fresh water, pollination, protection from storms and flood, stable climate, and nutrient cycling that maintain the conditions for life on Earth. However, despite our heavily dependence on biodiversity for

existence, its value is normally viewed mainly in economic terms of tourism and recreation, which are often reflected in nature and wildlife based tourism (Wilson, 2002; <http://www.iucn.org/what/tpas/biodiversity/about/?gclid=CInDj8-10q8CFc4LtAodwnFfHg>).

Globally, the wildlife sector is viewed as one of the key drivers of economies of many countries, especially those with abundance wildlife resources (Higginbottom, 2004). The sector is important as a source of wildlife tourism, which has proved continued and strong growth - with interest in wildlife growing considerably. Some countries (e.g. Galapagos Islands) rely almost exclusively on wildlife tourists and still earn significant revenues from the sector (Lennon, 2005). In fact, wildlife tourism has been an essential stimulus for encouraging governments to take the measures necessary for biodiversity conservation (Higginbottom, 2004).

The global market size of wildlife tourism is estimated at 12 million trips annually, and is growing at 10% per annum (Blake *et al*, 2010). Africa attracts half of all these trips, with South Africa, Kenya, Tanzania and Botswana being the top destinations (Higginbottom, 2004; Lennon, 2005). The wildlife sector contributes significantly to economic development and poverty alleviation in these countries. In Tanzania, for instance, the sector's importance has been realized through tourism activities such as game viewing, tourist hunting, resident hunting, ranching and farming - the major forms of wildlife utilization in the country (Shemwetta and Kideghesho, 2000). The sector's contribution to national output (GDP) has shown a steady increase from 7.5 percent in 1995 to 17.2 percent in 2007 (Tanzania Tourist Board, 2007; eTN, 2008).

The sector today is the number one foreign exchange earner for Tanzania, overtaking agriculture, formerly the country's leading export sector (eTN, 2008; Tanzania Tourist Board, 2008). Such figures show that export earnings from tourism have exceeded those of gold and have nearly tripled the amount the agriculture sector has contributed to Tanzania's economy (eTN, 2008; UNCTAD, 2007). Statistics, released in June 2010 by the government about the economic survey of the country, indicate that in 2009 the sector has employed 250,800 people as compared with 148,000 recorded ten years earlier (eTN, 2008; URT, 2010). In addition, earnings from tourism activities increased to US\$1159 million in 2009 from US\$ 950 million in 2006, equivalent to an increase of 18 percent, making the sector the leading foreign exchange earner (URT, 2010).

While I acknowledge the influence of neoliberal biodiversity conservation in respect of commodification of nature, making money or a profit from nature conservation, I do not intend to integrate this concept into my discussion. I have the feeling that the concept of neoliberal conservation is not really within the scope of my research. National parks in Tanzania (from which I derive my case study) were created by dispossessing the public of their land, but until today management responsibilities and control of these areas remain in the hands of the state. Neoliberal policies are guided mainly by four practices: privatization (management of protected areas by private for-profit companies); financialization (corporate sponsorship of conservation organisations); management and manipulation of crises (emphasis on ecotourism as a means of achieving economic growth, community prosperity and biodiversity conservation); and state redistribution or deregulation (the scaling back of states and their capacity to regulate, states be less intrusive in protected areas, especially in the Global South where states lack the resources and capacity to effectively protect biodiversity) (Büscher *et al.*, 2012; Igoe & Brockington, 2007; Levine, 2007). Neoliberal perspectives, often discussed under green capitalism, conservation capitalism or free market environmentalism (Castree & Henderson, 2014), emphasize on market-based conservation and hold that free-markets and the commodification of nature will benefit local communities and the environment (Igoe & Brockington, 2007). This world of commerce, however, is not my line of thinking in this section. I am more into why biodiversity is important to human being and why biodiversity conservation has received increasing attention globally.

Biodiversity conservation has become one of the important human endeavors on the planet given the need to maintain biodiversity and provision of ecosystem goods and services, which make up the foundation for human well-being (Chape *et al.*, 2008). Biodiversity conservation continues to be an important stream in the discussion as the international community strives to accelerate its efforts to achieve the Millennium Development Goals (<http://www.cbd.int/idb/>). As a key strategy for biodiversity conservation following the growing appreciation of nature, protected areas (PAs) have expanded rapidly worldwide and are considered a cornerstone of conservation efforts around the globe (Bobo and Weladji, 2011).

Protected area is an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means (Chape *et al.*, 2008). Apart from their specific

contribution to global biodiversity conservation, PAs have a number of wide-ranging value and benefits, including: scientific research; wilderness protection; preservation of species and genetic diversity; maintenance of environmental services; protection of specific natural and cultural features; tourism and recreation; education; sustainable use of resources from natural ecosystems; and maintenance of cultural and traditional attributes (UNEP World Conservation Monitoring Centre Report, 2008). These value and benefits are increasingly used to justify the establishment of PAs (Chape *et al.*, 2008).

Today, PAs cover 13% of the world's land area (Jenkins and Joppa, 2009), which exceeds the total area of permanent crops and arable land on the planet (Chape *et al.*, 2008). There are 114,000 PAs worldwide, with varying levels of conservation status and differing restrictions (Jenkins and Joppa, 2009) based on management objectives (UNEP World Conservation Monitoring Centre Report, 2008). They are managed for a wide variety of purposes: conserving landscapes, species and ecosystems; generate revenue through wildlife and nature-based tourism activities; provide valuable ecological services (watersheds, sequester and store carbon emissions); maintenance of culture and traditional attributes; and education (Chape *et al.*, 2008).

However, since legislative regimes may differ across countries, PAs designations are often defined within national legislation in line with objectives and legal protection of that particular area. Sometimes there could be only slight differences between countries for basically the same type of PA. For instance, there are managed nature reserves in the Bahamas, strict nature reserves in Bhutan, nature reserves in Ontario – Canada, national nature reserves in the Czech Republic, nature reserves and marine reserves in Indonesia, nature conservation areas in Japan, and strict natural reserves in Sri Lanka, which are all strictly protected and are only accessible for scientific research. In other cases, the same terms have quite different management objectives across countries. The typical example is the term national park – which is used for large PAs predominantly natural areas in Africa, Asia, Australia, Canada, and the USA, but also for transformed landscapes in Europe intensively managed and created through continuous modification by people or thousands of years (Chape *et al.*, 2008).

Despite their vital role of conserving biodiversity, delivering ecosystem services, and education purposes, the management of PAs particularly in the Global South still faces a number of

challenges. These include the mounting problems of: conflicts with various social actors often reflected in tension with conservation management officials; human population increase - reflected in the increasing harvest of natural resources; development expansion – reflected in the expansion of extractive industries which create growing demand on natural resources; climate change - reflected in biodiversity loss and changes in ecosystem services; emerging wildlife diseases such as bird flu; and other human and environmental factors often reflected in pollution and land degradation (<http://www.wcs.org/conservation-challenges.aspx>; Hoban & Vernesi, 2012; Baldus & Hahn, 2009; Neumann, 2002; Warner, 2000).

Other challenges facing biodiversity conservation include the daunting task of working in areas of low income, education, and/or political and community stability, and where exploitation of resources and land is desired by local and international players. Furthermore, conservation actions or interventions (such as the establishment of PAs) are affected by, address and sometimes contribute to conflicts through clashing with local interests. This has created resentment and mistrust by various actors including local communities (Hoban & Vernesi, 2012; Hammill & Brown, 2006). These challenges together complicate the conservation of biodiversity since they put greater pressure on biodiversity that shrinks the resource base and create conservation conflicts with various social actors that eventually hinder the attainment of both conservation and human development (Warner, 2000; <http://www.wcs.org/conservation-challenges.aspx>).

1.4 Overview of conservation conflicts

Conflict occurs when two or more parties express hostile attitudes or achieve their interests through actions that damage other parties' interests. It can also occur when there is perception that parties' interests are not compatible (Hammill and Brown, 2006). There are various types of conflicts characterized depending on: causes – socio-cultural, economic, governance and security issues that generate grievances; actors – the individuals and groups contributing to or affected by conflict; geographical scope – the physical scale and spread of the conflict; and intensity – whether violent or non-violent conflicts. However, it is important to note that all conflicts occur within a specific cultural, political, and social context (Lewis, 1996). Depending on how conflict is diagnosed and managed, it can lead to a range of outcomes, from constructive development opportunities to violence and human suffering (Hammill & Brown, 2006).

The literature on natural resource conflict management discusses conflicts in the context of three distinct areas of international development: peace-building, poverty reduction, and biodiversity conservation (Warner, 2000). This research focuses on conflicts related to the latter i.e. conservation –related conflicts.

The topic of conservation conflicts became relevant in academic literature after a number of protected areas (PAs) worldwide expanded rapidly since the start of the 20th century (Adams, 2004). As mentioned in the introduction chapter, the proliferation was due to the growing appreciation of nature and the need to conserve it (Chape *et al.*, 2008). Today, the topic is central in the broader dimensions of the political economy of conservation since nature is materially understood as the outcome of political and social processes while conservation itself is also political (Adams and Hutton, 2007).

Conservation conflicts are politically produced since conservation practice is a profoundly political process. It entails the imposition of regulations over access to certain resources with specific people or institutions attempting to define who has access to those resources and on what terms. The outcome of negotiated access is largely political (Adams and Hutton, 2007). Conservation conflicts are also socially produced by a number of factors. They can be fuelled by cultural misunderstandings, socio-economic needs or lack of conservation education (Ogra, 2008). They may stem from people who have different needs or levels of needs, different perspectives on conservation, and the question of who should have access or control over resources. They may also stem from people who have different goals, attitudes, values, feelings, level of empowerment, and wealth. They can be rooted in struggles among people over empowerment and access to resources or needs for survival (Madden, 2004). They can also arise due to struggles for group recognition, identity, status and other less tangible sources (Balduš & Hahn, 2009; Leach *et al.*, 1999; Madden, 2004).

Where conservation agencies or organizations are active, conservation conflicts often take the form of disputes or tension between different stakeholders over goals or priorities of conservation or resource users (Marshall *et al.*, 2007). According to (Hammill and Brown, 2006), conservation conflicts fall into two broad categories. First, there are local-level conflicts, which are normally a direct result of conservation interventions. They are normally between

communities and conservation actors, as well as between and within communities. In general, these conflicts tend to be non-violent though perceived injustices could sometimes lead to tensions and disputes that when inadequately addressed may escalate and even turn violent. Second, there are regional-level conflicts, which are not necessarily the direct result of conservation interventions, but of deeper-rooted social, cultural and economic factors. These are normally a result of armed or violent conflicts through which refugees, internally displaced people, and demobilized troops often turn to the unsettled lands and protected area resources. Such social turmoil often intensifies protected area -people conflicts, especially by exacerbating human-inflicted damages on protected area resources, and even sparking new conflicts between surrounding communities as resource competition increases (Hammill and Brown, 2006; Lewis, 1996). This research, however, focuses on the first category, conservation conflicts at the local-level. The motivation to this focus is based on the evidence that there were already local-level conflicts going on in the case study area, Saadani National Park. This was revealed during the exploratory visits to the area.

Studies on local-level conservation conflicts often involve single case studies set within a wider context of political economy (for example, Madden, 2004; Ogra, 2008; Thapa, 2010), although cases can be framed at various levels, from the local to the national and beyond. Such conservation conflicts have largely been studied from two perspectives: damage inflicted upon by wildlife and access denial – often attributed to the question of who should have access to resources or control over them (see for example Kepe *et al*, 2001; Madden, 2004; Marshall *et al*, 2007; Ogra, 2008; Thapa, 2010; Warner, 2000). Consequently, many conflicts discussed in the conservation literature either revolve around one or both of these aspects. Such conflicts have been a constraint to sustainable natural resource management and conservation (Madden, 2004; Ogra, 2008; Thapa, 2010; Shemwetta and Kideghesho, 2000).

Conservation conflicts at the local-level often take various forms. They are often characterized by instances of crop raiding, livestock depredation, destruction of property by wildlife, disease transmission, or killing of wildlife by people who experience or perceive actual or potential threats to themselves, their family or their property including killing of people by wildlife (Distefano, 2005; FAO, 2008; Madden, 2004; Muruthi, 2005; WWF, 2008). Other conflicts are associated with the utilization of resources in protected areas, and these have been due to: the

continuing dominance of conservation goals over the livelihood needs of local communities; emphasis on reducing the dependency of local communities on resource conservation value, rather than increasing their stake in sustainable resource management (Warner, 2000). Such conflicts are often caused by the fact that conservation policies in many countries of the Global South usually require local communities to alter their way of life, including their resource use behaviours that are connected to traditional practices, cultural beliefs, and structuring of social relationships within a community (Baldus & Hahn, 2009). They are also caused by overdependence on natural resources for a living, thereby posing threats to biodiversity. In Himalayas for example, Shahnawaz (2002) observed overdependence of local communities on protected areas for agricultural land, pastures and forests. In Selou-Niassa Game Reserve in Tanzania, Baldus & Hahn (2009) noted a number of threats to biodiversity conservation attributed to overdependence of local communities to natural resources.

There have been struggles over resources and power, negotiating land use and land rights (which often undermine the land rights of local residents thereby creating tension on the area), and confusing land-tenure – a system of rights and institutions that govern access to and use of land and other resources (Maxwell & Wiebe, 1999). In Africa, for example, most conservation areas are subject to conflicting land-uses due to incompatible land-tenure relationships, misdirected and ineffective policies and legislation, and human encroachment (Mushove & Vogel, 2005). As a result, there have been border disputes between protected areas and adjacent villages while concerns over the place of people in PAs being the main source of conservation conflicts (Ramutsindela, 2007; Neumann, 2002).

1.5 Concerns over the place of people in protected areas

As mentioned, conservation conflicts particularly at the local-level normally result directly from conservation interventions or action such as the creation of a PA. They are normally between communities and conservation actors, as well as between and within communities, and concerns over the place of people in PAs have been the main source of conservation conflicts (Neumann, 2002). There have been growing concerns mainly regarding four major issues. First, the unilateral establishment of such PAs - often associated with forceful eviction of natives from their traditional lands (Walpole and Goodwin, 2001; Bobo and Weladji, 2011). Second, the denial of access to resources in such PAs (land, wildlife, forest products etc.) - upon which local

communities depend for subsistence needs, and criminalization of their practices when accessing such resources (Bobo and Weladji, 2011; Thapa, 2010). Third, wildlife damage such as crop damage or costs inflicted by crop raiders and dangerous wild animals, livestock or human attack by wildlife (Kepe *et al*, 2001; Madden, 2004; Marshall *et al*, 2007; Ogra, 2008; Thapa, 2010; Warner, 2000). Fourth, the unknown ‘place’ of people in those PAs (Bobo and Weladji, 2011; Thapa, 2010). These issues threaten the sustainability of PAs and biodiversity conservation in general and create contention in the relationships between PA managers and various social actors, particularly local communities who live adjacent to such areas (Madden, 2014; Hammill & Brown, 2006; Neumann, 2002).

As pointed out, the debate over such concerns has been on how to build and sustain good relationships with local communities particularly those living adjacent to protected areas while addressing their concerns over PAs. The consensus has been that while PAs are recognized as essential for maintaining biodiversity, their survival in the Global South will only depend on whether they address those human concerns (Madden, 2014; Hammill & Brown, 2006; Seely *et al*, 2003; Neumann, 2002; Shahnawaz, 2002). Throughout this thesis, I mention the Global South because countries in this region have a set of common challenges (widespread poverty, rapid population growth, hunger, and political instability) that complicate the management of PAs and biodiversity conservation in general (Naughton-Treves *et al*, 2005). Protected areas are, therefore, expected to directly contribute to community development, poverty reduction, improvement of quality of life, and social well-being, apart from their contribution to national economies (Homewood *et al*, 2010). The need to internalize development concerns into biodiversity conservation is therefore inevitable (Sayer, 2009; Brown, 2002a; WB, 1994).

Theoretical debates on how to address human concerns have led to a number of principles that are key to effective protected area management while ensuring biodiversity conservation have been suggested. They broadly include the consideration of the needs of poor people who live adjacent to PAs, integrating development concerns into biodiversity conservation, forging linkages between conservation and other sectors of the economy, and creating positive relationships with local communities (Ali, 2007; Lewis, 1996; Madden, 2004; Songorwa, 2004; Thapa, 2010). Such principles intend to incorporate the local communities into biodiversity conservation through their involvement and participation, share conservation benefits with the

local communities, and reconcile biodiversity conservation and rural economic development (Ali, 2007; Songorwa, 2004; Lewis, 1996). They are normally discussed in the literature under the wider concept of community-based conservation, park-people relationships, and conservation and development, from which they evolved over time.

To better understand the principles for managing protected areas for effective biodiversity conservation (the consideration of the needs of adjacent communities, linkages between conservation and other economic sectors, and positive relationships with local communities), and to show how they fit into this research, it is necessary to discuss them in their underlying concepts. In the following sections, therefore, I will discuss the concepts of PA-people relationships and biodiversity conservation and development, and then biodiversity conservation and pastoralism - as an example of the linkage between conservation and other economic sectors. These are related with the research questions this thesis wants to address, and would then provide a better understanding of the conservation conflicts examined by this research and the gap it tries to fill out.

1.6 PA-people relationships: frameworks and approaches

Numerous studies have been undertaken to understand PA-people relationships (see for example Allendorf, 2010; Allendorf *et al*, 2012; Brechin *et al*, 1991; Zube and Busch, 1990). Such studies have been useful in guiding policy interventions and best practices to achieve effective conservation of PA resources. These studies indicate that PA/people relationships have been contentious in some places. Three major reasons behind contentious relationships can often be discerned. The first is wildlife damage, including crop damage or costs inflicted by crop raiders and other animals, and livestock or humans being attacked by wild animals (Kepe *et al*, 2001; Madden, 2004; Marshall *et al*, 2007; Ogra, 2008; Thapa, 2010; Warner, 2000). The second main reason is the unilateral way that PAs tend to be established, which is often associated with forcefully evicting local communities from their traditional lands (Walpole and Goodwin, 2001; Bobo and Weladji, 2011). The third reason for conflict is how local inhabitants are denied access to resources in PAs (land, wildlife, forest products, etc.) and how that access becomes criminalized, especially when those communities depend on those resources for their subsistence needs. The local people perceive this denial of access as ignoring their dependence on natural

resources for their physical survival and for their spiritual practices, such as accessing sacred sites (Norgrove, 2003; Ali, 2007; Thapa, 2010).

Such issues ignore or threaten local communities' interests and livelihoods, and have raised public outcry over the place of people in relation to biodiversity conservation in such PAs (Kideghesho, 2007). The outcomes have often been conflicts, contentious relationships between PA managers and the PA's neighbours, and a reduction in the support on conservation offered by various social actors (including local communities), particularly people who have traditionally used PA resources (Lewis, 1996; Madden, 2004; Neumann, 2002; Thapa, 2010).

The PA/people relationship is critical to achieve conservation objectives (Stankey and Shindler, 2006) because the future of PAs depends much on the cooperation and support of local communities (Mcshane and Wells, 2006). As such, building and sustaining good relationships with local communities is increasingly becoming an important consideration for PA management (Walpole and Goodwin, 2001). The need to integrate local communities' needs and concerns in biodiversity conservation has become crucial (Bobo and Weladji, 2011), but it is complex and context-specific (Allendorf *et al*, 2012; Dearden *et al.*, 2005). Various models have been developed to achieve such integration.

Such models try to integrate local communities in the PA management in various ways with the view to foster positive PA/people relationships (see Brechin *et al*, 1991; Zube and Busch, 1990; and Table 1 below). These models provide a valuable description of PA/people relationships and are key aspects of inquiry toward understanding the relationship that people have with PAs (Allendorf, 2010). Four major approaches capture these models: (1) benefit-sharing; (2) mitigating human-wildlife conflicts; (3) opening limited access to park resources; and (4) managing PAs in collaboration with communities (Table 1).

Table 1: The relationship between sources of contentious relationship, models and approaches positive PA/people relationship

Main sources of contention in PA/people relationships	Models of PA/people relationships by Brechin <i>et al</i> (1991)	Models of PA/people relationships by Zube and Busch (1990)	Approaches towards positive PA/people relationships
Wildlife damage	Planning and decision-making for resource management and social change	Participation of local communities in PA management	Mitigating human-wildlife conflicts
Unilateral way of establishing PAs	Displacement of people Historical and institutional context	Services delivered by PA to local communities	Managing PAs in collaboration with communities
Denial of access in and to resources in PAs	Nature preservation and ecodevelopment	Maintenance of traditional land use within the PA	Opening limited access to park resources
The unknown 'place' of people in PAs	Use of PA resources by local communities	Participation of local communities in PA tourism activities	Benefit-sharing

Sources: Brechin *et al* (1991), Kepe *et al* (2001), Madden (2004), Marshall *et al* (2007), Ogra (2008), Thapa (2010), Warner (2000), and Zube and Busch (1990)

These four approaches are now widely applied by PA managers worldwide. The approaches have been used effectively to resolve and avoid conflicts with local communities, to win their support for conservation, and to foster positive relationships between people and PAs (Madden, 2004; Lewis, 1996; Thapa, 2010). All of these approaches revolve around two key issues: (1) providing benefits as incentives for people to conserve nature, and (2) mitigating the adverse impacts of PAs on local communities (Madden, 2004; Lewis, 1996; Roe *et al*, 2000). The type of benefits and mitigation varies depending on the context, but the underlying assumption is the same in all situations: positive relationships are created or sustained when local communities believe that PAs serve, rather than ignore, their interests (Madden, 2004; Sifuna, 2011; Lewis, 1996).

Most PA managers use a variation of the four approaches discussed above. The framework of PA-people relationships in Table 1 outlines the potential links between those approaches, models of PA-people relationships, and the cause of the contention between PAs and people. For example, 'wildlife damage' is one source of contention. This PA-people problem can be managed using the 'planning and decision-making for resource management and social change'

model, which suggests ‘participation of local communities in PA management’ in finding means of ‘mitigating human-wildlife conflicts’ relevant to specific PAs. However, the correlation of variables is not as linear as presented in Table 1 above. In practice, they often cross-cut each other and have multiple outcomes. For instance, sharing PA benefits with local communities could help to address the economic aspect of denial of access to resources in the PA.

These models and approaches are useful reflections and they can also be a tool kit for PA managers for building more positive relationships with neighbouring communities (Allendorf, 2010; Brechin *et al*, 1991; Zube & Busch, 1990). However, no reports yet document whether they are actually being applied by PAs in Tanzania, and if so, to what extent.

1.7 Biodiversity conservation and development

The relationship between conservation and development has its way back from the industrial revolution and the environmental degradation associated with it. There was a growing international awareness over the shrinking natural resource base and environmental degradation threatening the value of biodiversity (Wells, 1992). Although, there are many reasons for the loss of biodiversity, the most serious of all is the destruction of the natural habitat often associated with development (Brown, 2002a). The growing appreciation of nature and the need to conserve it as a reaction to the industrial revolution and the environmental degradation it caused encouraged the establishment of protected areas to ensure conservation of species and their habitat (Eaton, 2005). A protected area is a territory demarcated by states to achieve specific conservation objectives (Lewis, 1996). However, the proliferation of legislation and conservation programmes, their varying objectives, and the need to adapt to local circumstances and institutions have resulted in a great diversity in the types of protected areas and their management. As such, protected areas may include national parks, reserves, wildlife sanctuaries, and other areas beneficial to nature and concerned with the preservation of life and landscape (Eaton, 2005). The growing appreciation of nature and the need to conserve it also brought about the concept of sustainable development - defined as development that met “the needs of the present generation without compromising the ability of future generations to meet their own needs” (WCED, 1987 p. 43). Sustainable development virtually provides a solution to the debate about economic development versus environmental protection, and links livelihoods to resource conservation (Eaton, 2005).

Development is necessary in order to meet basic human needs (Eaton, 2005). Thus, given the need for economic growth and poverty reduction, conservation and development issues are becoming more and more important. This is partly attributed to an increasing recognition that conservation and development need to be integrated (Singh, 2008). Four key points of view often lie behind this notion. First, there is a general realization that biodiversity conservation cannot be sustained at the cost of human hunger and economic stagnation, especially in the Global South (Seely *et al*, 2003; Shahnawaz, 2002). Global South refers to developing countries located primarily in the Southern Hemisphere (Africa, Latin America, Asia and the Middle East). These countries share a set of vulnerabilities and challenges to development: high population pressure, poverty, hunger, diseases, environmental deterioration, conflict and natural disasters (UNDP, 2007).

As such, there is the motivation that agricultural practices and poaching are the overriding threats to biodiversity conservation, particularly in the Global South. Agriculture is the major occupation in Africa and the activity in which the majority of the poor people in these countries are engaged in. Three out of four people in these countries derive sustenance directly, or indirectly, from agriculture. In agriculture-based countries – which include most Sub-Saharan Africa including Tanzania - agricultural development remains the primary driver for spurring national economic growth, overcoming poverty and enhancing food security (<http://www.cic-wildlife.org/index.php?id=478>). In addition, many areas of high biodiversity importance, especially around wetlands, are potential for agriculture. Moreover, the agricultural sector has backward and forward linkages with other sectors of the economy such as the industrial sector, the transport sector, the tourism sector and the trade sector in general (Hess, 2005). The development of the agricultural sector should therefore catalyze the development of these other sectors too. More importantly, development interventions reduce over-dependence on park resources (Martin *et al*, 2011). Thus, it would be impossible for both practical and ethical reasons for conservationists to ignore the needs of poor people who live in and around the natural areas that are being conserved (Sayer, 2009).

Second, sustainable management of biodiversity resources such as wildlife and forests is often constrained by growing conflicts between conservation interests and various social actors, particularly those who share the immediate boundaries with protected areas. Many of such

conflicts revolve around damage inflicted upon by wildlife and denial of access to resources (land, wildlife, forest products etc.) in protected areas (Norgrove, 2003; Ali, 2007; Thapa, 2010). The unilateral establishment of protected areas is blamed to be the root cause of such conflicts in many countries (Bobo and Weladji, 2011). In addition, it is increasingly clear that these protected areas have limited future prospects without the cooperation and support of local people, especially in the Global South (Mcshane and Wells, 2006). Thus, the need to integrate local communities' needs in biodiversity conservation has become crucial (Bobo and Weladji, 2011)

Third, there is a general belief among stakeholders that conservation and poverty alleviation should be addressed in tandem for conservation effectiveness while helping to alleviate a dominant concern (widespread poverty) in the Global South (Martin *et al*, 2011). Alleviating poverty is seen as critical to securing socio-economic and political stability (DESA, 2004). Communities living in and around protected areas are often among the poorest in their respective countries. By their nature, the areas are often inaccessible and undeveloped. Transport links are often poor, government education and health services are limited, electricity and piped water supply are frequently lacking, and communities are often isolated with few opportunities to participate in the market economy. Development is an incentive for conservation and a means to spread goodwill towards the park (Barrow and Murphree, 2001; Ferraro, 2001). Development is therefore essential if protected areas are not to be perceived as denying people access to their traditional subsistence resources. Conservation programmes in these protected areas are much more likely to be successful and win the support of local communities if they allow and promote the sustainable use of these resources, create new economic opportunities that will provide income and employment, and facilitate social development through provision of services (Eaton, 2005).

Fourth, there is general recognition that the need to conserve biodiversity is not only compatible with social-economic development, but is to a large extent dependent on it, and to conserve all biodiversity is often not a realistic objective (Sayer, 2009). In fact, healthy biodiversity ecosystems form an important foundation for economic and social development globally (http://www.usaid.gov/our_work/environment/biodiversity/index.html). Thus, a way must be found to achieve both conservation and development objectives.

While the need to internalize development concerns into biodiversity conservation has become a priority, PA managers are often faced with a number of issues. These include: identifying the means by which PAs may enhance the lives of communities living in and around them; creating and/or strengthening linkages between conservation and community livelihoods; identifying threats of development to PAs; strengthening capacity for management and law enforcement; and aiming conservation awareness programmes at all levels of society. Using this case study from Tanzania, we will see the pressure of development on biodiversity conservation in and around PAs in the country, in the struggle to attain both conservation and human development.

1.8 Pastoralism and biodiversity conservation

The tension between pastoralism and biodiversity conservation is often viewed from two perspectives. First, from the threats livestock causes or is likely to cause on biodiversity (see for example Reid *et al.*, 2008; Brown, 2002b; Homewood *et al.*, 2012). Such threats are generally through long-term environmental degradation, competition for resources, diseases interaction, and direct killing of wildlife by pastoralists or wildlife by livestock. The impacts of these threats on biodiversity include habitat change and species extinction or a decline in species population (Homewood *et al.*, 2012). Second, the tension is also viewed from the threats conservation causes or is likely to cause on pastoralism, normally: the damage inflicted upon by wildlife on livestock – such as direct killing of livestock by wildlife; and the restrictions imposed by conservation on pastoralism – often denial of access to resources (pasture and water for livestock) or control over them (see for example SCBD, 2010; Kepe *et al.*, 2001; Madden, 2004; Marshall *et al.*, 2007; Ogra, 2008; Thapa, 2010; Warner, 2000). In many African nations, however, the impacts of conservation on pastoralism have generally been overlooked - partly due to the general view that pastoralism is an archaic practice without a future (HPG, 2009).

Conservationists identify pastoralism as one of the key threats to biodiversity conservation. Many governments have consequently come up with policies and laws that discourage livestock from entering into protected areas (PAs), and have maintained law enforcement system to ensure these areas are protected from interactions with livestock, among other threats (see the wildlife policies and laws for Tanzania, Kenya, and Botswana for example). In Tanzania, the government recently (on 04th October 2013) carried out a special campaign codenamed ‘Operesheni Tokomeza Ujangili’ which in English could broadly mean an operation to wipe out poaching.

The anti-poaching operation, which involved members of the army, police, wardens and other security organs, was a countrywide search for poachers and a fight against encroachment into the country's protected areas. It was conducted after realizing that illegal activities (especially elephant poaching, cattle grazing, agriculture and cutting down of natural trees) were escalating in such restricted areas despite efforts to arrest the situation. However, the operation was suspended after only 29 days of implementation following public claims of abuse by implementers and serious violation of human rights (torturing culprits resulting into physical impairment, rape, the controversial deaths of 6 wardens and 13 suspects, stealing suspects' money, and malicious damage to their property - arson and the shooting of 60 cattle) (URT, 2013). As a consequence, four cabinet ministers lost their political lives.

Case studies on conflicts between pastoralism and other forms of livelihoods (not necessarily conservation) in Africa often conclude that diminishing pastoral lands is the main cause of these conflicts as pastoralism and other land-uses overlap in their use of land and come into conflicts (Barrow *et al.*, 2007; Benjaminsen *et al.*, 2009; HPG, 2009; PINGO, 2013). These authors argue that the diminishing pastoral land is mainly due to land-use changes- attributed to agricultural expansion, population growth, and changes in policies and practices. Other studies identify climate change that leads to drought and consequently increased resource scarcity as a driver sparking off these conflicts (Gregory *et al.*, 2008; SCBD, 2010). Poor land management is also a factor to blame for these conflicts (Benjaminsen *et al.*, 2009). Specifically for the pastoral-conservation conflicts, there are those who argue that pastoralists do not prioritize biodiversity conservation in the same way as conservation management officials, thereby leading to recurrence of such conflicts (Homewood *et al.*, 2012).

1.8.1 General description of pastoralism

Pastoralism can be described as the use of extensive grazing on rangelands for livestock production (SCBD, 2010). Over time, three unique forms of pastoral production have evolved: sedentary pastoralism - keeping livestock near farms and villages year-round; transhumance – the seasonal movement of animals and people from valley bottoms to mountain pastures; and nomadism pastoralism – characterized by livestock being moved in constant search for forage (Weber and Horst, 2011). Nomadism differs from transhumance in that no permanent settlement

is established and likewise, no pre-defined series of movements are used (Weber and Horst, 2011).

Pastoralism is mainly practiced in the arid and semi-arid lands (ASALs) (Reid et al., 2008). The ASALs are generally drylands conventionally defined as water-stressed regions (SCBD, 2010). Because of low and variable rainfall and high temperatures, ASALs cannot support sustained and reliable agriculture and many other livelihood options (HPG, 2009). However, pastoralism is considered the most viable in this type of environment, and has remained the dominant livelihood option in the drylands (Barrow *et al.*, 2007). In fact, ASALs are known to others as pastoralist land (PINGO, 2013). Many pastoralists are found in Africa, particularly North and East Africa where ASALs form up to 60% of the land area (Reid et al., 2008). This region has the largest population of livestock (cattle, sheep, goat and camels) in Africa, with Ethiopia, Sudan, and Tanzania being the leading producers (Reid et al., 2008).

1.8.2 Common practices and challenges facing pastoralism

Within drylands, water is the limiting factor and precipitation is highly variable both spatially and temporally (Hill, 2006). In seasons of increased precipitation, forage availability improves dramatically whereas in years of drought, forage and water become scarce (Gregory *et al.*, 2008). Pastoralist communities have developed a number of traditional coping mechanisms to reduce the risks imposed by unpredictable environment. Common practices include: reliance of locally adapted livestock breeds that are able to resist disease outbreaks, drought and other pressures; income diversification, investment in water points and extra feed; mobility, migration and raiding PAs or crop fields (Barrow *et al.*, 2007; HPG, 2009; SCBD, 2010).

Sometimes during drought period pastoralists move their herds into protected areas in search of pasture and water, thereby creating tension between conservation management officials and pastoralists. This is partly linked to the fact that in some countries such as Tanzania pastoralists share landscapes with wildlife (Nelson, 2012; PINGO, 2013).

In addition, they do the continuous tracking of resources (Niamir-Fuller, 1999). In this case, some members of the pastoral communities, for instance scouts for the case of many East African pastoral communities, do the selection of grazing sites and report on the condition of distance pastures, estimating how long the fodder and water would sustain a particular number of

livestock. Accessing key resource areas (Ngugi and Conant, 2008) in search of water and fodder is another strategy, and is vital to the survival of pastoralists' herds especially during drought periods. Other strategies include feeding on tree leaves and use of pods during dry seasons, burning of old pastures, and feeding on crop residues (SCBD, 2010). And to ensure that they spread the risk of livestock loss from droughts, diseases and theft, they employ herd management strategies such as herd splitting, herd diversification and herd maximization (HPG, 2009).

Many pastoralists in Africa, about 95% for the case of Tanzania (Ngowi *et al*, 2008), practice a mobile and extensive livestock-keeping system. They move according to where and when pasture becomes available (Weber and Horst, 2011). Their traditional management strategies are responsive to variability and uncertainty, are based on pastoralists' knowledge of the ecosystems, species and climate (Barrow *et al*, 2007), and are underpinned by herd mobility (HPG, 2009).

Traditional pastoralist risk management strategies, however, are being undermined by socio-economic changes such as growing human populations, urban expansion, agricultural expansion, political instability, economic stagnation, settlement policies, and land tenure disputes (Barrow *et al*, 2007; HPG, 2009; SCBD, 2010).

Increasing demand for 'pastoral land' has been a challenge to pastoralism and a source for pastoral related conflicts. Population pressure and higher demands for food have increased conversion of grazing-lands to other land-uses. For example, crop farming is increasingly moving into drier areas mainly used as grazing-lands as space in wetter agricultural areas runs out (PINGO, 2013). There is also increasing interest in pastoral areas for biofuel production (HPG, 2009). There is also the issue of unfavourable policies. Severe restrictions on the traditional mobile pastoral production system resulting from inappropriate policies results in an increased number of pastoralists unable to cope with and recover from drought and other shocks (HPG, 2009).

1.8.3 Approaches to mitigate pastoral related conflicts

The literature suggests a number of approaches to deal with pastoral related conflicts in general, including pastoral-conservation conflicts. These include an emphasis to establish and support risk management measures (such as drought early warning systems, livestock insurance, markets, savings and credit groups) to help pastoralists during extreme conditions of climate shocks –

droughts, floods and pest and disease outbreaks – and civil unrest. This is especially given the lack of alternative livelihood options in drylands. Risk management in a pastoral setting could take advantage of traditional risk management practices (SCBD, 2010).

Land-use plans are considered a suitable approach to pastoral-conservation conflicts. This involves allocating specific portions of land to conflicting livelihood activities (mainly pastoralism, conservation and agriculture) and enacting by-law to make people abide by the land-use plans (Nelson, 2012). However, equitable division of land (in terms of quantity and quality) should be observed to avoid conflicts, and the plans should also favour convenient access to water and grazing land (HPG, 2009).

Integrated resource mapping is also a useful approach for the pastoral related conflicts. This would allow communities with similar land and livelihoods resources (such as pastoral societies) to map their land-use without regarding village boundaries (PINGO, 2013). The idea behind this argument is to restore traditional land management patterns.

Another approach is policy consideration. There are concerns that the current policies in many countries do not pay much attention to pastoralism. As such, land tenure systems do not give pastoralists rights of ownership of land and water resources for which pastoralism depends. There are recommendations that policies should enable pastoralists to secure land and water rights, and have provision to facilitate herd mobility (HPG, 2009). However, the bottom-line of this argument lies in the need to maintain pastoral livelihood patterns, particularly herd mobility and large herd sizes, over seasons (PINGO, 2013). In this thesis, among other issues, I want to bring together perspectives of various social actors to understand the nature of the pastoral-conservation conflicts in the context of Tanzania.

1.9 Conceptual framework

So far, the literature overview has shown that building and sustaining good relationships with local communities particularly those living adjacent to PAs, integrating development concerns into biodiversity conservation, and forging linkages between conservation and other sectors of the economy (such as pastoralism) are increasingly becoming important consideration to ensure sustainability of biodiversity conservation. In turn, these address and avoid conservation

conflicts facing many PAs. These ideas are organized together in a conceptual framework that will be developed in this section.

To understand the complex realities underpinning conservation conflicts, this research focuses on the concept of biodiversity conservation and protected areas, and their relationship with various social actors, and how this relationship has evolved into conservation conflicts. The concept of conservation and development, and linkages between conservation and other sectors of the economy have also determined the direction of this research. The political and economic aspects of a particular conflict and how the two combine to affect patterns of power were understood through the political economy approach (Collinson, 2003). The conceptual framework developed to understand the conservation conflicts is summarized in Figure 1 below.

This conceptual framework suggests that concerns over the place of people in PAs often create problematic relationships between the management of PAs and various social actors. In turn, this result into a dynamics of conservation conflicts that threatened the sustainability of PAs and limit the cooperation and support of conservation stakeholders. In addressing such issues, the framework suggests a number of conservation interventions, including: creating positive relationships between PAs and stakeholders; integrating development concerns into biodiversity conservation; and forging linkages between biodiversity conservation and other sectors of the economy. However, the success of these interventions would depend on the policy environment, practices of PA managers and cooperation and support of stakeholders, among other factors. Such factors are essential to make this framework happens (Figure 1).

The framework further suggests that such interventions would address concerns over the place of people in PAs, problematic PA-people relationships, and conservation conflicts. In turn, this would attract the cooperation and support of conservation stakeholders, unlimited future prospects of PAs, and eventually ensure sustainable biodiversity conservation and socio-economic development. It is, however, important to note that the attainment of both conservation and development goals could have an impact on conservation issues as well (Figure 1). The main ideas of this conceptual framework were key motivation for carrying out this kind of research and informed the key research questions of this study.

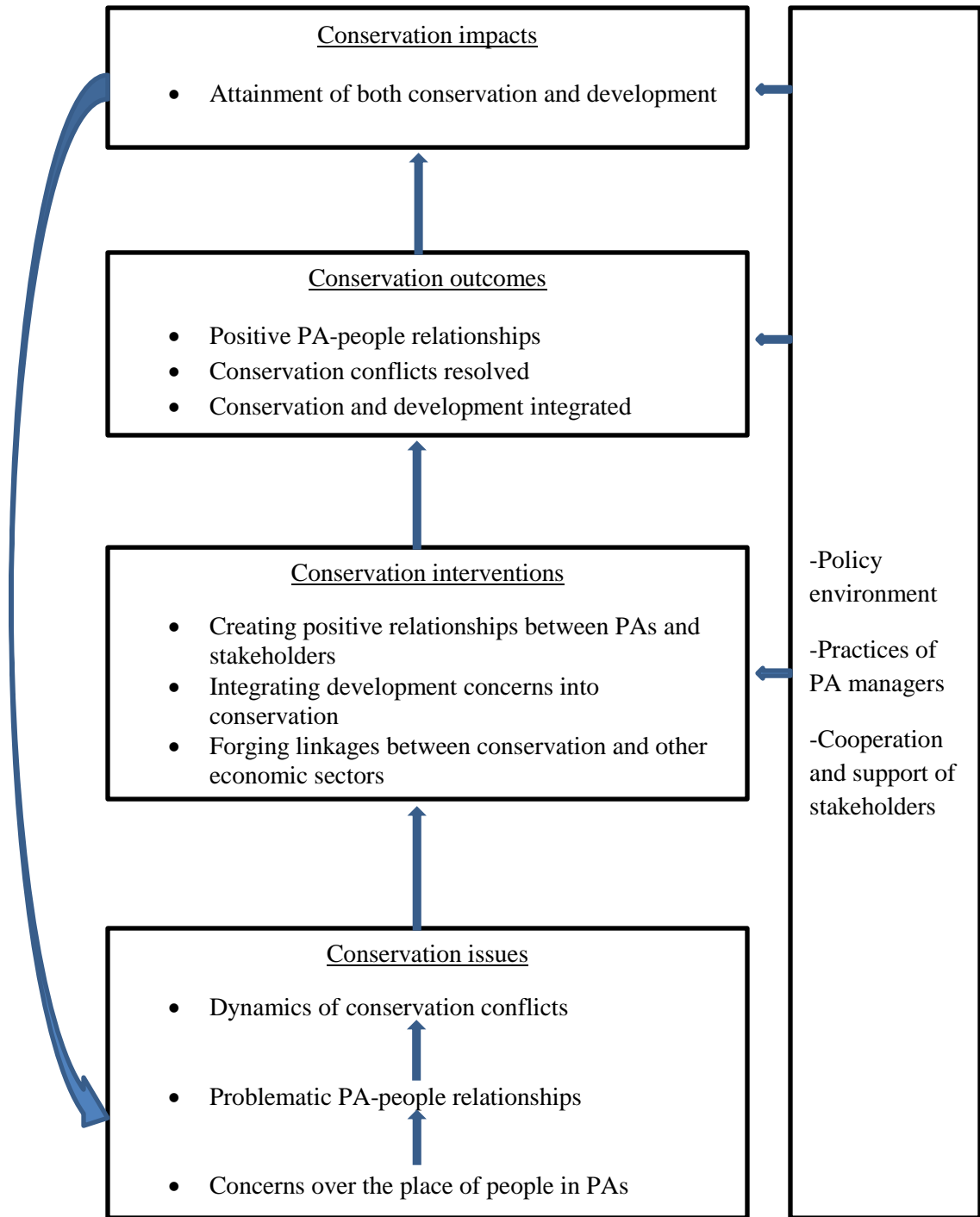


Figure 1: Conceptual framework for examining conservation conflicts
Source: Literature review

It follows, therefore, that if conservation conflicts are to be adequately addressed, their context must be clearly understood, particularly in terms of their nature, extent, causes and actions towards sustainable solutions. This is because what might be seen as a solution in one place may

resist in another place. Conversely, what works fine in one place, might not work effectively in another place (FAO, 2008; Distefano, 2005; Muruthi, 2005; WWF, 2008). In addition, the dynamics and drivers of conservation conflicts can be very different depending on where they occur (Madden, 2004). As such, each situation requires a specifically tailored response that recognizes and adjusts for the cultural, legal, and social context of that protected area and for the particular dynamics of the conflict (Lewis, 1999). In other words, since conservation conflicts occur within a particular cultural, political, and social context, they must be analyzed and addressed within the same context.

While conservation conflicts are generally well documented in the literature, their analyses are rather rudimentary. As a result, the dynamics of conservation conflicts hardly exists in the literature. One of the reasons for this is that many scholars tend to focus more on human-wildlife conflicts (see for example, Distefano, 2005; FAO, 2008; Madden, 2004; Muruthi, 2005; Ogra, 2008; Shemwetta and Kideghesho, 2000; Thapa, 2010; Warner, 2000), which is just one type of conservation conflicts. As such, the dynamics of conservation conflicts hardly exists in the literature, particularly conflicts between conservation and other sectors or forms of livelihoods. For instance, while issues about conflicts between pastoralism and agriculture in Tanzania are well documented, those between pastoralism and biodiversity conservation hardly exist in the literature. This research, therefore, sought to contribute to filling out this gap by examining the dynamics of conservation conflicts in Tanzania's national parks, using the case study of Saadani National Park (SANAPA). The idea was to map the conservation conflicts between SANAPA and various local social actors as a step towards sustainable solutions for such conflicts. Sustainable solutions focuses on uncovering paths to sustainability by improving current practices on problems, and applying existing knowledge of problems in terms of their causes and mechanisms as a basis for subsequent actions towards enhances sustainability (Sarewitz *et al*, 2012).

1.10 Theoretical perspectives on conservation conflicts

A review of the literature about conservation conflicts revealed a number of theoretical arguments relevant to this research. In order to avoid conservation conflicts that might arise, the literature emphasizes the need for consultation or dialogue with local communities regarding the reasons for and benefits of, a particular PA prior to its establishment (Lewis, 1996; Niezgodna &

Czernek, 2008; Sanoff, 2000; Walpole & Goodwin, 2001). The underlying argument is that the unilateral way that PAs tend to be established, often associated with forcefully eviction of local communities from their traditional lands, has been the source of many conservation conflicts (Walpole and Goodwin, 2001; Bobo and Weladji, 2011). The involvement of local communities prior to the establishment of the PA in question not only avoids conflicts, but also wins local communities' participation and support of conservation activities (Niezgoda & Czernek, 2008; Sanoff, 2000). In this context, the literature assumes that local communities are likely to be happy with a particular PA if they are involved during its establishment. However, my argument is that local communities can be fully involved in the establishing of the PA or they can be the initiator of the idea of establishing that particular PA, but still be unhappy with that particular PA after its establishment.

Regarding the concept of managing PAs in collaboration with local communities, the literature recognizes the inclusion of local communities in the management of PAs as crucial for the sustainability of these areas (Walpole & Goodwin, 2001). This is important to cultivate a sense of ownership and responsibility, foster positive PA – people relationships and win local communities' support to conservation needed to achieve effective and sustainable conservation (Bobo and Weladji, 2011; Mcshane and Wells, 2006). It is increasingly clear that these PAs have limited future prospects without the cooperation and support of local people, especially in the Global South (Mcshane and Wells, 2006). However, in this context, my argument is that sometimes managing PAs in collaboration with local communities is not possible, even if conservation management officials are willing to involve them. Sometimes local communities are reluctant to collaborate due to certain inherent factors, and are, therefore, happy with their exclusion. This somehow reinforces the argument by Haukeland (2011) that local communities do not have limited capacity to conserve biodiversity.

Biodiversity conservation and development issues are becoming more and more important. There is an increasing recognition that conservation and development need to be integrated (Singh, 2008). More specifically, conservation and poverty alleviation need to be addressed in tandem for conservation effectiveness, particularly in the Global South (Martin *et al.*, 2011). Conservation is not only compatible with social-economic development, but is to a large extent dependent on it (Sayer, 2009). Conservation cannot be sustained at the cost of social-economic

development, especially in the Global South (Seely *et al.*, 2003; Shahnawaz, 2002). It would be unfair for conservationists to ignore the needs of poor people who live in and around the PAs (Sayer, 2009). The need to integrate local communities' needs in biodiversity conservation has become crucial (Bobo and Weladji, 2011). However, there is limited evidence to suggest how the two (conservation and development) should practically be integrated. A general conclusion in the literature has been that 'a way must be found to achieve both conservation and development objectives' with general realizations that to conserve all biodiversity is often not a realistic objective, and development is inevitably associated with some losses of biodiversity (Sayer, 2009). From this perspective, I argue that the management of PAs have been under pressures of development needs from the adjacent communities and have been struggling to balance between conservation and such development needs while minimizing losses of biodiversity resulting from such development.

A review of the literature on pastoral – conservation conflicts revealed that debates on such conflicts are often structured around three main competing economic sectors (conservation, pastoralism, and agriculture). The competition has structured not only debates on conflicts between conservation and pastoralism, but also debates between pastoralism and other forms of livelihoods as well. Much of these debates revolve around the way pastoralists keep their livestock, the way they embrace big numbers of livestock, how pastoralism is viewed by other land-users, especially conservationists and agriculturalists, and solutions for pastoral related conflicts (see for example Homewood *et al.*, 2012; Hodgson, 2001; Brockington and Homewood, 1996; Mattee and Shem, 2006; URT, 1997). With these debates, my argument is that in the absence of common understanding, conflicts between pastoralism and other forms of livelihoods (not necessarily conservation) are likely to continue for unforeseeable future.

These theoretical perspectives offer grounds for the detailed discussions of the findings of this research presented in the empirical chapters 3, 4, 5, and 6 of this thesis. Also, it is important to note that even the research objectives (and eventually, the research questions) of this study were developed in line with these theoretical perspectives and the conceptual framework discussed above. Such objectives are introduced and elaborated in the following section.

1.11 Objectives and research questions

As mentioned, the overall objective of this research was to examine the conservation conflicts in Tanzania's national parks. The aim was to map the conservation conflicts using the case study of SANAPA as a step towards their sustainable solutions. Specifically, the study sought to address the following objectives: to analyze the dynamics of conservation conflicts in and around SANAPA; to examine the pressures of development on biodiversity conservation in and around SANAPA; to examine the conflicts between pastoralism and biodiversity conservation in and around SANAPA, and to examine the extent to which SANAPA has considered models of PA-people relationships. To achieve these objectives systematically, the study was guided by the following four inter-related research questions:

- i. What are the dynamics of conservation conflicts in and around SANAPA? This question was built on the notion that if conflicts are to be adequately addressed, their context must be clearly understood (Allendorf, 2010; Allendorf *et al*, 2012; Dearden *et al*, 2005; Madden, 2004). In line with this question, the dynamics and drivers of conservation conflicts, particularly in the context of Tanzania, were explored and elaborated in chapter 3 titled *Dynamics of conservation conflicts between Tanzania's National Parks and adjacent communities: a case study of Saadani National Park*.
- ii. What are the pressures of development on biodiversity conservation in and around SANAPA? This research question aimed to discuss the integration between biodiversity conservation and development following an increasing recognition that conservation and development need to be integrated (Eaton, 2005; Singh, 2008). As a contribution to the debate about economic development versus environmental protection and conservation, empirical evidence on the dimensions and consequences of this integration in the context of Tanzania is discussed in detail in Chapter 4, titled *Tanzania's National Parks and the pressures of development: experience from Saadani National Park*.
- iii. What are the pastoral-conservation conflicts in and around SANAPA? This question was inspired by the fact that issues of conflicts between pastoralism and agriculture in Tanzania are well documented in the literature (see for example, Mattee & Shem, 2006; Olenasha, 2006; Sendalo, 2009; PINGO, 2013). However, issues of conflicts between pastoralism and biodiversity conservation hardly exist in the literature. This question,

therefore, aimed to examine these issues in the context of Tanzania. Chapter 6 clearly presents such issues under the title *Pastoralism and Biodiversity Conservation: should they live together? Key actors' perspectives from Tanzania*.

- iv. To what extent SANAPA has considered the models of PA-people relationships? This research question was built on the notion that protected areas have limited future prospects without the cooperation and support of local people, especially in the Global South (Mcshane and Wells, 2006). The question, therefore, aimed to understand the extent to which the various models of protected area-people relationships, widely applied by PA managers worldwide to foster positive relationships with local communities, were being applied in Tanzania. These have been clearly addressed in chapter 5, titled *Protected area-People Relationships in Tanzania: a case study of Saadani National Park and its neighbouring communities*.

1.12 Structure of the thesis

This thesis is presented in seven chapters. The first chapter has introduced the background to the problem to give a general picture of biodiversity conservation on a global scale, especially by looking from the global context. Through a review of the literature on conservation conflicts, the chapter has defined the position on the research problem and direction of the thesis in relation to conservation conflicts. Key concepts and their theoretical perspectives have been discussed in detail. The research context of Saadani National Park (SANAPA) was briefly introduced. The nature of the research problem, research objectives and specific research questions were clearly stated, including the conceptual framework and key theoretical arguments informing this research.

The second chapter outlines the methodology used for data collection for this thesis. It outlines the underpinning reasons towards adopting a case study approach and employing a combination of techniques of data collection. A brief description of the case study area (SANAPA) and various participants involved in the study is provided. The analytical framework that defines patterns of data analysis is introduced. A critical discussion of the study limitations and strengths is presented.

The findings of this thesis are presented and discussed in detail in the empirical chapters' three to

six. Chapter three is based on the research question 1, which focuses on the dynamics of conservation conflicts between Tanzania's National Parks and adjacent communities. Chapter four addresses research question 2, which examine the pressures of development in Tanzania's National Parks. Chapter five focuses on research question 3, which investigates the pastoralism – conservation conflicts while Chapter six discusses protected area-people relationships in Tanzania.

The final chapter, chapter seven, provides general discussion, conclusions and future perspectives. It is a concluding discussion of the findings of this research in relation to the four research questions, which the previous four chapters have explored. In this discussion, the chapter provides a summary of the key findings of this research, and brings together the four empirical chapters. The discussion identifies implications of the findings, presents key lessons learnt from this research work, and suggests possible ways towards sustainable solutions for conservation conflicts in Tanzania. Lastly, the chapter identifies avenues for future research.

CHAPTER TWO: RESEARCH METHODOLOGY

2.1 Introduction

This chapter outlines the methodology used for data collection for this thesis. It starts by providing a detailed discussion of the research strategy adopted and the reasons for choosing it. It highlights the underpinning reasons towards adopting the case study approach and the reasons for employing a combination of techniques of data collection. The chapter then continues with a description of the case study area profile, which provides background information of the research context and establishes the context of generality of the findings. A brief description of the various participants involved in the research is also provided. The analytical framework that outlines the patterns of data analysis is introduced. A critical discussion of the study limitations and strengths is presented.

2.2 The research strategy and design

In order to understand profoundly the conservation conflicts between SANAPA and groups of local social actors, the research employed a case study approach to collect data. The approach was descriptive, exploratory and explanatory in nature in which I used SANAPA as a single instrumental case study – a bounded system within one geographical location. In line with Robson (1993), I used multiple sources of data inspired by ethnographic research to have an in-depth understanding of the conservation conflicts going on in the area. The case study approach was chosen because studying conservation conflicts in the context of a particular PA provides specificity. Among countries and even within the same country, cultural and geographical differences and the varying levels of conservation status of PAs can affect the specifics of the situation (Allendorf, 2010; Allendorf *et al*, 2012; Dearden *et al*, 2005). In other words, since conservation conflicts occur within a particular cultural, political, and social context, they must be analyzed and addressed within the same context (Madden, 2004).

In addition, the case study approach was chosen because of its considerable ability to explore and generate a holistic, in-depth investigation, and intensive knowledge about a particular community (Saunders *et al*, 2000). Implicitly, this case study approach enabled the collection of detailed information about a community and gaining of a rich understanding of that particular community within the research context. The fact that the study sought to investigate people-

environment relations, implies that conducting a case study at the community level was an appropriate research strategy.

To increase the validity of the findings and successfully address the central research questions, data for this thesis were collected through the use of a multiple – method approach (in-depth semi-structured interviews, focus group discussions, informal discussions, field observation and document analysis), enriched by the triangulation of both secondary and primary data. The approach enabled the piecing together and interpreting a diverse range of information (Keeley & Scoones, 2000), comparison of data, complimenting the findings, and increasing the chances of understanding the issues in question (Long, 2007). In addition, the study was strengthened through the triangulation of both quantitative and qualitative data. However, to explore commonalities and variability across the specific objectives of this research, and to generate adequate data for each of the specific objectives - to increase validity and generality of the findings, and for manageability, data for this research were collected in four phases of fieldwork. In fact, this multiple-phase of fieldwork approach led to more comprehensive knowledge and eventually better understanding of the big picture (Stake, 2000).

There were four phases of data collection being specific for a particular objective or research question. In turn, each of these has constituted a separate empirical chapter, which have been generalized in the context of SANAPA together with its neighbouring communities. It is important to note that although each phase of fieldwork was specific for a particular research question, data collection was not restricted to that particular question. Throughout the fieldwork, people were encouraged to express themselves freely, and any data encountered or information raised relevant to other research questions were collected straight away regardless of the phase. This was important in order to avoid asking the same thing from the same people, as this could be boring to the respondents. Although there were marginal differences between participants across research questions, in many cases the information was probed from the same participants.

Fieldwork was conducted from October 2011 to February 2012, November 2012 to February 2013, November 2013, February to April 2014, July to November 2014, and from January to February 2015. Overall, data were collected by using five major techniques mentioned above: in-depth semi-structured interviews, focus group discussions, informal discussions, field

observation and document analysis. Each of these techniques is briefly discussed separately in subsequent sections.

2.2.1 Tanzania and the case study area profile

Tanzania is classified as one of the least developed countries with foreign aid accounting for about 40% of the national budget (Dempster, 2007). The World Bank estimates that 67.9% and 87.9% of Tanzanians live below poverty line of \$1.25 and \$2 a day respectively (World Bank, 2012a).

Globally, Tanzania ranks second only to Brazil in terms of natural beauty reflected in natural resources, cultural and tourism attractions (WEF, 2012). The country has set aside approximately 30% of her total land as protected areas for biodiversity conservation, hence categorized as one of the ‘mega-diversity’ nations (Igoe & Brockington, 2007). Contributing to this are the country’s extensive tracts of wilderness and rich biodiversity realized in various forms of protected areas, including the 16 National Parks, Ngorongoro Conservation Area, 33 Game Reserves and 43 Game Controlled Areas (URT, 2012). Such protected areas play a major role in the conservation of biodiversity and demonstrate great conservation efforts of the country.

Saadani National Park (SANAPA), the case study area, is located along the Indian Ocean beach-front roughly 100km (60 miles) northwest of Dar es Salaam, the country’s commercial capital (Figure 2). The park, which covers an area of 1,100 km² (430 square miles), was gazetted in 2005. It is one of the most recently gazetted National Parks in the country. The park is unique, in the sense that it is the only marine and terrestrial national park in Tanzania (www.saadanipark.org/aboutsaadani.html#).



Figure 2: Map of Tanzania showing location of Saadani National Park and other 15 national parks in the country

Source: http://www.tanzaniaparks.com/tanzania_map.html

The purpose of the Saadani National Park is to protect and conserve: the coastal zone and its diverse resources and range of activities (including the beach); the green turtle and its habitat; the lowland forests, especially Zaraninge Forest Reserve; endemic, rare and endangered species; the estuaries and mangroves, especially the Wami River; historical and cultural sites (both inside and outside the park); and the interesting mix of scenery in Saadani (TANAPA, 2009).

The park ecosystem falls into three districts of Bagamoyo in Coast Region, and Handeni and Pangani in Tanga Region. Statistics from park offices indicated that, at the time of data

collection (October 2011- February 2015), SANAPA management considered 16 villages to be adjacent to the park (Figure 3). This was by virtue of sharing geographical boundaries.

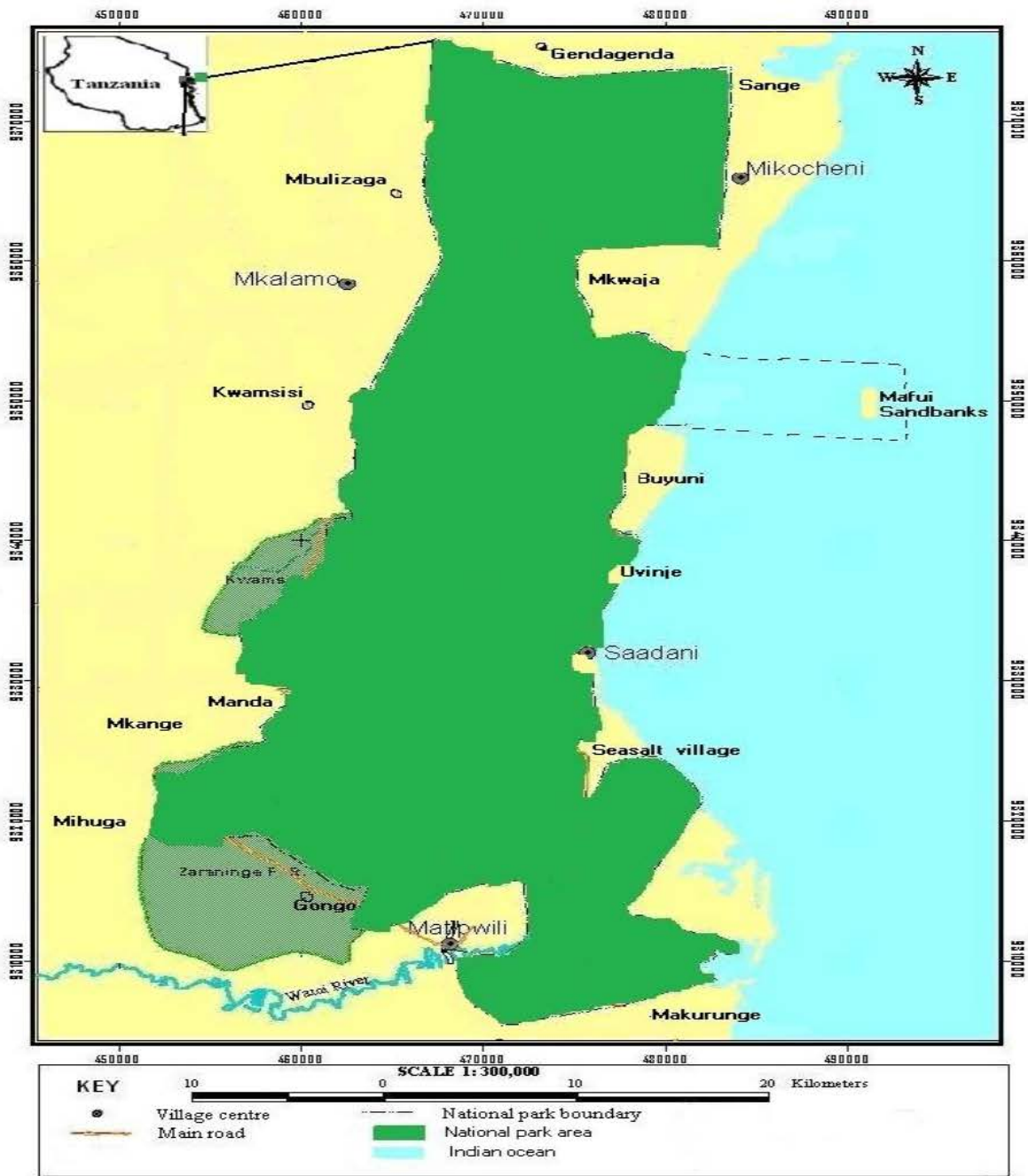


Figure 3: Map of Saadani National Park showing location of surrounding villages
 Source: SANAPA office, February 2012 – as modified for this study

The Ministry of Natural Resources and Tourism expects SANAPA to become one of its most important national parks in the near future because of its uniqueness as the only one in the country with ocean frontage. Also, its location in the Bagamoyo area, which is not only the major historical tourist site of Tanzania, but also its proximity to the country's commercial capital, Dar es Salaam, and an area selected by the Government of Tanzania as a core area for future development (URT, 2002). Bagamoyo was recently designated as Tanzania's seventh world heritage site by UNESCO.

The decision to choose SANAPA as the case study area was based on a combination of three major factors. First, the background information about the establishment of this protected area. Second, there was evidence that there were already conflicts going on in the area. The conflicts were revealed during the exploratory visits to the area. Third, being a newly established park, the management of SANAPA lacks empirical information about various issues happening in and around the park, the scientific basis needed for management interventions. The findings of this research are, therefore, expected to shed light on and help the park management, among other beneficiaries, to better formulate management strategies that will bring sustainable solutions to conservation conflicts, integrate local communities in conservation and improve park-people relationships.

2.2.2 Types of study data collected

This research is enriched by the use of both secondary and primary data. Primary data are the new or original data generated by this research, whereas secondary data are existing data or information collected for a purpose other than that of the researcher (Finn *et al*, 2000). Various techniques of data collection were employed to gather both primary data and secondary data. To structure this section well while avoiding too much overlap, I will start discussing secondary data first before doing the same to primary data.

2.2.3 Secondary data

In order to successfully address the research questions (see section 1.8), the research required some secondary data collection. The main purpose was to better understand the background of key issues the research was trying to examine. As argued by Veal (1997), secondary data, though meant for another purpose, is considered useful in providing the basis for a research. Secondary

data used in this research were obtained from various sources, including village governments and SANAPA offices available in the study area, Wildlife Division and pastoral NGO offices based in the country's capital city, Dar es Salaam. Other sources of secondary data were local newspapers, brochures, books such as SANAPA Management Plan, reports of the Outreach programme at SANAPA and of various issues on the ecology of this park. These reports were useful as they provided key information and outline some of the issues this research was examining.

Government publications also formed an important source of secondary data. A number of published government documents such as the National Tourism Policy of 1999, Tourism Master Plan of 2002, Poverty Reduction Strategy Paper of 2000, National Economic Survey of 2008, and National Strategy for Growth and Reduction of Poverty of 2005 and 2010 were accessed from relevant government offices and from the internet. These documents provided important insights of the situation in the study area and useful information needed to accomplish the objectives of this research.

2.2.4 Primary data

Primary data were collected using four major techniques. These included in-depth semi-structured interviews, focus group discussions, informal discussions, field observations and document analysis. While each of these techniques is discussed in detail in the subsequent sections, document analysis also served as a source of secondary data.

2.2.5 In-depth semi-structured interviews

A series of in-depth semi-structured one-to-one interviews were carried out with various natural resources stakeholders. Overall, the interview participants included: three senior officials working with the Wildlife Division - decision-makers at the national level – and the interviews focused on conservation issues. The three had a rich experience in PA management and extensive knowledge of relevant community issues. Also, there were three senior park officials who were decision-makers at the park level; 13 park rangers who were responsible for enforcement of conservation laws; 15 community leaders and local politicians (three ward councilors and 12 village leaders) who were decision-makers at ward and village levels; one

NGO officer dealing with pastoral issues; and 17 ordinary members of the local community who were pastoralists.

These people were chosen because of their ability to contribute to the overall research objective based on their extensive knowledge, experience, expertise, and involvement in various issues in the study area. Semi-structured interviews were preferred because the approach allows greater standardization and control while enabling easy comparison of responses to a question (Burton and Cherry, 1970; Finn *et al*, 2000). In addition, despite having specific questions, semi-structured interviews allow more probing to seek clarification and elaboration of the respondent's own ideas, aspirations, and feelings while generating detailed, 'rich' context, qualitative data (Long, 2007).

Snowball sampling technique was used as an identification tool for interviewees in the local communities - whereby I (the researcher) purposively identified key initial participants and after interviews with them, these individuals were asked to subsequently provide referrals for other community members they considered appropriate for this research. The criterion used was whether a person had knowledge about conservation conflicts in general. The sample size for interviews and informal discussions was reached when new participants were no longer adding insights to the research questions. However, since this was a qualitative research, the sample size was not meant to represent the large population of the study participants, but to obtain rich information that would help to understand and explain specific phenomena important for the research (Given 2008).

2.2.6 Structure of the interviews

To minimize language and translation problems, all interviews were conducted by me, the researcher. Those who participated in the interviews were encouraged to give expression to their views, thoughts and intentions freely. All interviews were conducted in Kiswahili, the national language in Tanzania, which all interviewees were familiar with and in which I am fluent. With the consent of interviewees some interviews were digitally recorded and later transcribed, and notes taken. To make people feel free to express themselves, all interviewees were explicitly guaranteed anonymity. Each interview lasted between 45 minutes and one hour.

Each interview was conducted at a mutually convenient time and place and mainly covered questions about the nature, causes, and solutions to conservation conflicts for which data were being collected. The interview guides for each research question and phase were designed to provide a framework of gathering information, and had questions designed to identify and explore key topics and issues that were central to the research. The combined or general interview guide is attached as Appendix 1.

2.2.7 Focus group discussions

To allow a meaningful comparison of responses and in order to complement and verify the information obtained from the in-depth semi - structured interviews, focus group discussions were conducted with 49 ordinary members of the local community (40 peasant farmers and nine pastoralists). In total, six focus group discussions were carried out, each with seven to nine participants, with men and women forming separate groups. The fact that these individuals are too many for the interviews suggested that bringing them together as a group to explore a particular topic or issue in a permissive, non-threatening environment was an appropriate research strategy (Ogunbameru, 2003; Kreuger, 1988). Focus group discussions often generate great ideas out of the blue, allow interaction while creating a chain of thoughts and ideas, and encourage spontaneous response since people have a definite point of view - and the question is normally thrown to all (Ogunbameru, 2003).

2.2.8 Informal discussions

As Kreuger (1988) argues, informal discussions are often useful way of getting reliable data because there is normally less individual pressure than in the interviews. To get views of the wider community, some data were collected through informal discussions with a total of 80 ordinary members of the local community. These included both peasant farmers and pastoralists, men and women with consideration of age differences. The four phases of data collection from the field enabled me (the researcher) to spend considerable time in the field. It is through this opportunity that I got to know the people, establish contact, build thrust/rapport and ultimately was able to talk to them freely and in an informal way. This was possible given the time I spent in the study area, coupled with my experience with the wider community.

2.2.9 Field observations

Field observations inspired by ethnographic research were additional sources of primary data that involved personal observations of the situation and conflicts in the study area. During fieldwork I visited all 16 villages considered by SANAPA management to be adjacent to the park, with the intention to physically see, among other things, the nature of the conservation conflicts going on there. Pictures of various areas and scenarios that provided tangible evidence of the research site that could help to verify information gathered from the study participants and other data sources were taken. This day-to-day observation not only allowed me to witness ongoing conflicts and identify possible causes, but also provided him with a better understanding of what happens in the study area in relation to conservation conflicts. This helped to disclose the realistic situation rather than just relying on reported information. For instance, it was through these field observations that extensive tree cutting for building poles, firewood and charcoal production (as resource-use conflicts) and problem wildlife species (as human-wildlife conflicts) were witnessed. Also, personal observations helped in the framing of follow-up questions and cross-checking. Veal (1997:127) argues that while “the good researcher is all eyes”, careful observation often aids in interpreting data.

2.2.10 Document analysis

Document analysis, was also an important tool in the collection of data. A number of relevant documents, including study reports were collected and reviewed (see also section 2.2.3). Specifically, documents pertaining to natural resources (wildlife, land, forest resources, water etc.) use and conflicts in the study area and in Tanzania in general were collected. Although such documents often provide data primarily for administrative use and research is only a secondary use, they often provided useful insights or information that can help to answer the research questions (Finn *et al*, 2000). I paid attention and critically took note of the policy requirements and guidance from the following documents:

- a. The Wildlife Conservation Act of 2009
- b. The Wildlife Policy of 1998 and its revised version of 2007
- c. Forest Act of 2002
- d. Environmental Management Act of 2004
- e. The Land Act of 1999

- f. Village Land Act of 1999
- g. National Land Policy of 1995
- h. Livestock and agriculture policy of 1997
- i. Agricultural sector development strategy of 2001
- j. Various consultancy and other reports

Other sources of secondary data included local newspapers, brochures, books such as the Saadani Management Plan, reports such as EIA report on the proposed BioEthanol production on land next to SANAPA, government publications such as the Economic Survey report of 2011, Tourism Master Plan of 2002, Poverty Reduction Strategy Paper of 2000, and National Strategy for Growth and Reduction of Poverty of 2005. These documents were accessed from various government offices and from the internet. Analysis of them provided a wider picture about the conservation conflicts in Tanzania’s PAs thereby providing a better understand of the background of the key issues I was trying to examine.

2.2.11 Profiles of study participants

A breakdown of the sample size of the study participants is presented in Table 2. A total of 137 people were involved in this research. Out of these, 41 were participants of the in-depth semi-structured one-to-one interviewed. The rest of the study participants were pastoralists and peasant farmers available in the study area who were involved in interviews, focus group discussions, and informal discussions (Table 2).

Table 2: Breakdown of study participants

Affiliations of study participant	Data collection techniques participated	Participant code	Number of participants
Village government	Interviews	Government 1-21	21
Saadani National Park officials	Interviews	Park 1-3	3
Saadani National Park rangers	Interviews	Ranger 1-13	13
Wildlife Division officials	Interviews	WD 1-3	3
NGO	Interviews	NGO 1-1	1
Pastoralists	Interviews, Focus group	Pastoralist 1-37	37

	discussions, Informal discussions		
Peasants	Focus group discussions, Informal discussions	Peasant 1-59	59
Total			137

Source: Field data for the study 2011- 2015

2.2.12 Affiliations of study participants

As mentioned, the participants for this research came from various institutions such as the government conservation agencies, non-governmental organization, and village government. In order to understand the perspectives of the participants and how they fit into the research context and the wider community, each of these institutions is described in more detail in the subsequent sections.

2.2.13 Village government

As mentioned, SANAPA is surrounded by 16 villages by virtue of sharing geographical boundaries. The administration structure of each of these villages, like any other village in Tanzania, is composed of the following officials: the Village Executive Officer (VEO), who is an employee of the local government (appointed officer) and usually there is one in each village; the village chairperson elected by the villagers (elected officer); and several sub-village (hamlet) chairpersons. Both are elected for a term of 5 years (Figure 4).

The VEO is the office bearer and required to be in office every working day. He/she is normally the first contact person in all issues that involve the government and the villagers, and passes them over to the village chairperson and then to the village government, of which sub-village chairpersons are members. Thus, based on the area administration structure in Figure 4, it is clear that the sub-village chairperson is the person well-placed to help organizing villagers to achieve a particular development goal.

It is, however, important to note that several villages (usually not less than 3 villages, with a total population of not less than 10,000 residents) form a ward. The ward is under the Ward Executive Officer (WEO), who is an employee of the local government and a Ward Councilor, who is

elected by the residents of the villages that comprise the ward and represent the ward at the District Council (the local government).

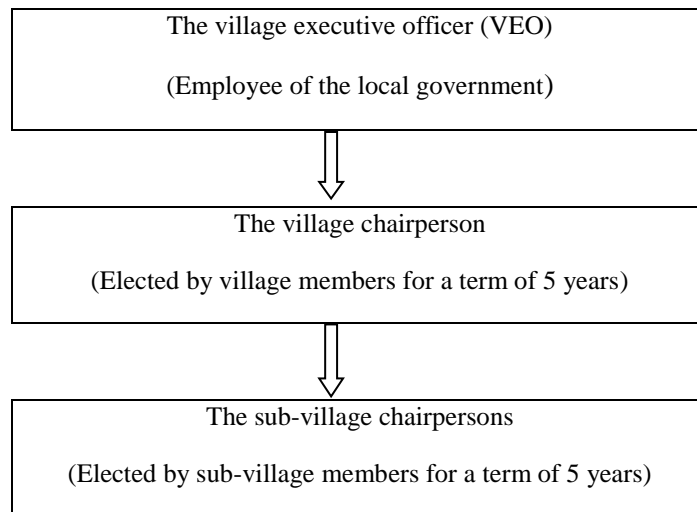


Figure 4: Study area (Village) administration structure
Source: Field data for the study (2011- 2015)

While Figure 4 gives, among other things, an impression of the flow of information and commands in relation to communication to and from the grassroots, it clearly indicates community leaders in as far as administration of the village is concerned. It helps to clarify the different positions of responsibility each of the local government officials who participated in this research, was involved or engaged with. Therefore, since the study was conducted in all 16 villages bordering the park, of the 21 local government officials who participated in this research, 16 were elected officials (village chairpersons) and two were local government employees (village executive officers) from two different villages. The remaining three participants included two Ward Councilors and one Ward Executive Officer (WEO).

Both elected and employed members of the village government who participated were also members of the Village Executive Committee (VEC), which is responsible to the village general assembly. One of the key tasks of VEC is to prepare agenda and make recommendations on various issues that require consideration and approval of the general assembly, the decision-making organ of the village, which is responsible for general matters for which the village is involved. This is to say that the local government officials who participated in this research were, in fact, the decision-makers at the community level.

2.2.14 Wildlife Division

The Wildlife Division (WD) is a government department under the Ministry of Natural Resources and Tourism. It is responsible for the management of Game Reserves (GRs), Game Controlled Areas (GCAs), Wetlands, and all wildlife occurring outside National Parks and Ngorongoro Conservation Areas. Also, the WD facilitates establishment of Wildlife Management Areas (WMAs) managed by groups of villages, creates awareness and disseminates information about wildlife management to village communities (<http://www.mnrt.go.tz/sectors>).

The WMAs are a recent category of PAs in Tanzania established on village lands and are managed and owned by the respective villages. They are created to enable villages to benefit directly from natural resources while participating in conserving them through a formalized community-based natural resources management (Tetra Tech ARD & Maliasili Initiatives, 2013).

2.2.15 Non-governmental organization (NGO)

In the study, interviews involved one non-governmental organization known as the Pastoralists Indigenous Non-Government Organization (PINGO). This NGO is based in Arusha, one of Tanzania's 26 administrative regions, and operates all over Tanzania where its target group (indigenous pastoralists and hunter-gatherers) is found. It was established in 1994 and its main objectives focus on the rights of the marginalized indigenous pastoralists and hunter-gatherers communities, especially in their struggle for land rights and development agenda.

The NGO endeavors to amplify the voices and foster the interests of pastoralists and hunter-gatherers by *lobbying and advocating for change* on good governance and human rights (social, economic, political and cultural rights), *capacity building* of member civil society organizations and other key stakeholders, and *networking* with other organizations with similar objectives.

2.3 Data analysis and presentation

Content analysis was used to analyse qualitative data collected. Data analysis involved three stages. The first stage involved organizing the data by question - sorting and putting all the responses/data for each question together. The second stage involved identifying themes – looking for consistencies and differences across responses of each question. The third stage geared towards interpretation of the themes and their relationships – organizing them into

coherent categories that summarize the data and bring meaning to the questions the research sought to answer.

Based on the analysis of the data, the nature, root causes and dynamics of the conservation conflicts between SANAPA and various actors were drawn up, including the main factors shaping such conflicts. Two styles were used to structure the data across these categories: paraphrasing while remaining faithful to the original meaning; and the use of illustrative quotes that have been applied in a particular context. The major themes in relation to the main research questions have informed the four empirical chapters of this thesis. Consequently, the findings from this analysis are presented and discussed separately in each of these chapters.

2.4 Analytical framework

To ensure effective overall conclusions from this research work, it was necessary to develop a coherent analytical framework through which the analysis and findings could be structured and linked. The framework outlines patterns of analysis at the same time acting as a foundation for understanding the relationships between various issues the study seeks to address. The analytical framework developed to address this study's research questions is summarized in Figure 5.

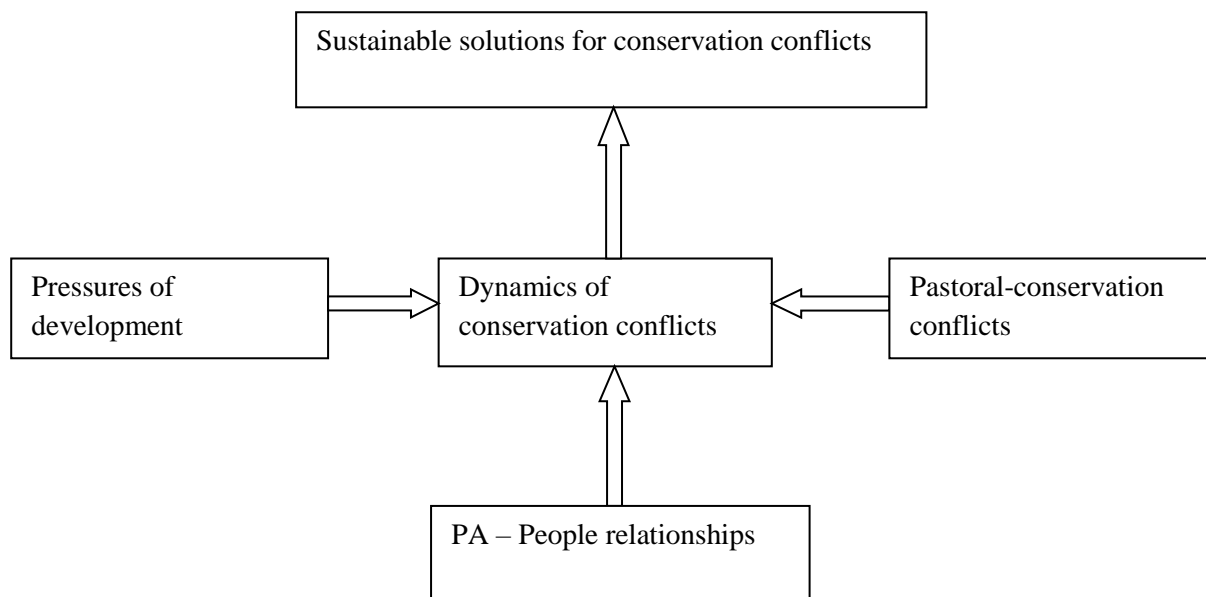


Figure 5: Analytical framework for examining conservation conflicts between managements of PAs and local social actors

Source: Field data for the study (2011-2015)

While to some this analytical framework might look a simple unilateral sketch to complex and difficult problems, it is important to note that such dynamics were informed by the objectives and research questions (see section 1.10). More specifically, I used my study objectives and research questions to develop this analytical framework. The idea was to show their relationships to each other and their overall impact to the case study, SANAPA. This framework suggests that the relationships between the management of PAs and various social actors have a bearing on conservation conflicts. In turn, this has resulted into dynamics of conservation conflicts, including the pastoral-conservation conflicts and pressures of development for the case of SANAPA discussed in detail in this research. The framework further suggests that the analysis of the entire matrix of such conservation conflicts is fundamental for achieving arrays of sustainable solutions to those conflicts (Figure 5).

2.5 Study limitations and strengths

Limitations of this research were those inherent to any research involving interviews. As argued by Veal (1997), it is important to remember that interviews are usually affected by a general tendency and desire of interviewees to be helpful and friendly towards the interviewer. The outcome of this notion is often an attempt by interviewees to try to reveal only what they think the researcher would like to hear. The complexity of the whole idea, which could be a possible source of bias for this research, is practically vested in the way such interviewees attempt to cover or exaggerate their interest in and involvement into a particular issue which they think the researcher is trying to investigate (Veal, 1997). However, I did not notice the tendency observed by Veal (1997). This could be attributed to by the fact that I am also Tanzanian, though from a different part of the country, and generally shared the same language (Kiswahili), with the study participants and the community at large.

Although the findings through this case study give an indication of conservation conflicts in Tanzania, it would be short-sighted to conclude or establish the generality of the findings for all protected areas in the country. As such, the findings and interpretation in this study cannot be generalized, neither presented as indisputable facts. Rather, they are opinions based on respondents' knowledge and experience with the study area, coupled with several months of my stay during fieldwork and engagement with conservation issues in Tanzania.

It is, however, important to note that all the figures modified for this study, especially those showing the location of the villages, infrastructure (roads and railway line), the main areas forming SANAPA ecosystem, contested land, and boundary demarcations, were not drawn on scales. Such professional drawing was difficult to achieve, time consuming and did not add value to the key issues the study sought to address. The figures were modified manually and sufficiently to give the reader an impression or a rough picture of the situation in the study area needed to understand the various arguments raised in this study.

One of the strengths of this research lies in the quality of data used. As mentioned, research data were collected using a combination of multiple techniques, whereby data from one technique were integrated and compared with those from other techniques. This triangulation helped to verify and strengthen the results of this research study.

In addition, the research is strengthened by the fact that it brings together perspectives from conservation stakeholders at the community level, where, because of various reasons including language and cultural barriers-among others, many researchers have not been able to explore. While most studies have focused on pastoralism and agriculture to address pastoral-related conflicts in Tanzania, this research has gone a step further, in that it examines issues of conflicts between pastoralism and biodiversity conservation that hardly exist in the literature.

While the uniqueness and global importance of the Saadani ecosystem is recognized, empirical information about this ecosystem hardly exists in the literature, partly because the park is newly established, no much research has been undertaken so far. Thus, this comprehensive research about SANAPA would be one of the important sources of detailed information regarding this ecosystem. Indeed, the research is useful to a wide range of people in Tanzania and elsewhere: PA managers, policy and decision-makers, academicians, and the general public.

Furthermore, the results are strengthened by my long period of field observations and experience in the case study area (see section 2.2.9), coupled with my experience with the wider community in Tanzania. Indeed, the study sheds light and acts as a starting-point for future studies and is a useful source of information regarding conservation conflicts in Tanzania's PAs and elsewhere.

2.6 Conclusion

This Chapter has outlined three major reasons to justify why the study was carried out in SANAPA: its background information; the presence of on-going conflicts; and the lack of empirical information on the area. It has also described various conservation stakeholders who were involved in this research: ordinary members of the local community; village government officials (decision-makers); conservation management officials; and NGOs.

Also, the Chapter has considered the whole process of data collection, from the designing of the research instruments (interview guides) to using those instruments in the field. It has described four techniques of data collection employed in this study (interviews, focus group discussions, informal discussions, field observations, and document analysis) and considered a number of limitations and strengths associated with these techniques.

It is important to note, however, that the use of a combination of multiple methods was adopted because of the need to address the same research questions from different angles and the need to improve the validity of the results while complementing and comparing the findings from one method with those from the other. While each method significantly contributed to the success of this research, the approach of examining something in different ways indeed increased the chances of understanding it (Long, 2007).

CHAPTER THREE: Dynamics of conservation conflicts between Tanzania's National Parks and adjacent communities: a case study of Saadani National Park

Abstract

The dynamics and drivers of conservation conflicts can be very different depending on where they occur. Thus, if conflicts are to be adequately addressed, their context must be clearly understood. Using the case study of SANAPA, this chapter aims to contribute to the understanding of these issues by examining the dynamics of conservation conflicts between Tanzania's National Parks and adjacent communities. It explores this using a multiple-method approach of qualitative research based on: in-depth semi-structured interviews with community leaders and park staff; informal discussions with local communities; document analysis; and a three-month period of field observations coupled with my experience with the wider community.

The results show that SANAPA is confronted with enormous conservation conflicts with its adjacent communities. These include boundary conflicts, resource-use conflicts, human-wildlife conflicts, and conflicts related to encroachment and blockage of wildlife corridors. These conflicts present challenges to the management of SANAPA as they threaten biodiversity conservation in and around the park leading to loss of habitat, over-exploitation of park resources, fragmentation of the park, loss of critical ecological connectivity between important habitats, loss of important dispersal area for wildlife, threatened species and increased pressure on park resource-use. This chapter discusses these conflicts and argues that the root causes of such conflicts revolve around a combination of factors arising from the park itself, local communities, investors as well as government agencies and institutions, and are reinforced by the media.

Key words: conservation conflicts, biodiversity conservation, local communities, wildlife, habitat loss, fragmentation, poaching, resource-use

3.1 Introduction

This chapter discusses the dynamics of conservation conflicts between Saadani National Park (SANAPA) and its neighbouring communities. The chapter is split into four major sections. The first section gave a summary of the chapter in an abstract. The second part then presents a brief discussion of the current debates and literature on conservation conflicts in which this chapter situates itself. This includes an overview of the current approaches towards conflict resolution

and the rationale of the topic. The third section gives an overview of the methodological approach specifically for this chapter. The fourth section presents a detailed discussion of the findings focusing on key conservation conflicts between SANAPA and the local communities, and their underlying social, economic and political dimensions. The chapter concludes with a summary that brings together key findings and issues raised in this chapter, with some recommendations for improvement and for future research.

3.2 Theoretical perspectives on conflicts between protected areas and adjacent communities

Conflicts between protected areas and adjacent communities today rank amongst the main threats to biodiversity conservation in Africa (Muruthi, 2005). As mentioned in the introduction chapter, such conflicts often revolve around damage inflicted upon by wildlife and denial of access to resources in the PAs. They are normally reflected in crop raiding, livestock depredation, destruction of property by wildlife, disease transmission, or killing of wildlife by people who experience or perceive actual or potential threats to themselves, their family or their property including killing of people by wildlife. Also, there are those associated with the utilization of resources in protected areas, particularly poaching (Distefano, 2005; FAO, 2008; Madden, 2004; Muruthi, 2005; WWF, 2008).

A review of the literature revealed that these conflicts have been due to: the continuing dominance of conservation goals over the livelihood needs of local communities; and emphasis on reducing the dependency of local communities on natural resources for a living (Balduş & Hahn, 2009; Warner, 2000). In addition, the conflicts have been reinforced by the: pressures of human population increase – reflected in the increasing harvest of natural resources; pressures of development expansion – reflected in the expansion of extractive industries - which create growing demand on natural resources; pressures of climate change - reflected in biodiversity loss and changes in ecosystem services; and other human and environmental factors (Brown, 2002a). These pressures together make biodiversity conservation more challenging and conservation conflicts more prevalent as they put greater direct competition that shrinks the resource base (Brown, 2002a; Warner, 2000; <http://www.wcs.org/conservation-challenges.aspx>).

Conservation policies in the Global South are usually blamed for: failure to increase the stake of local communities in sustainable resource management (Warner, 2000); and for requiring local

communities to alter their way of life - including their resource use behaviours that are largely connected to traditional practices and cultural beliefs (Baldus & Hahn, 2009).

Various studies recognize the need to address conservation conflicts in order to realize the twin goals of conservation and human development (see for example Hammill and Brown, 2006; Lewis, 1999; Madden, 2004; Warner, 2000; WWF, 2008). Conservation conflicts have been a constraint to sustainable natural resource management and conservation, hence complicating the attainment of both conservation and human development (Brown, 2002a; Madden, 2004; <http://www.wcs.org/conservation-challenges.aspx>; Ogra, 2008; Thapa, 2010; Shemwetta and Kideghesho, 2000; Warner, 2000).

In response, a number of approaches have been developed as solutions to mitigate the ecological, social, and economic costs of conservation conflicts. Some of the more widely accepted solutions include concerted efforts, land-use planning, community based natural resource management, compensation scheme or insurance, payment for environmental services, the promotion of wildlife friendly products, and a number of practical field based solutions that can limit the damage done both to humans and human property, and to wildlife (Hammill and Brown, 2006; Lewis, 1999; Madden, 2004; Warner, 2000; WWF, 2008).

Lewis (1996) outlines three general principles that should be observed when managing the majority of protected areas conflicts. The first principle is that the focus should be on underlying interests. This means that people's fundamental needs and concerns should be addressed to create a win-win outcome. The second principle calls for the involvement of all significantly affected stakeholders in a fair and respectful process. Stakeholders are those individuals or social groups which are directly involved in the conflict or who may be affected by how the conflict is resolved. People want to be involved in decisions when their interests are at stake, they want to have their opinions and ideas heard and valued, and they want to be respected as individuals. The third principle emphasizes the understanding of the power that various stakeholders have, and the need to take that into account when trying to resolve a conflict.

Power is a critical element in conflict resolution. Individual or social groups' perception to conflict resolution will in most cases depend on how they view their power to influence decisions in relation to other stakeholders. Therefore, it is important to understand the relative

power of the stakeholders involved in the conflict, and note that a group that feels powerless to influence an outcome may engage in or may not refrain from illegal activities. This suggests that a well-designed conflict resolution process is therefore crucial to manage conflicts. However, in designing an effective conflict resolution process, the principles outlined above need to be considered throughout the process. This goes hand in hand with an assessment of the nature of the conflict, determine who is involved, and obtain other information that would be useful in designing an effective conflict resolution process (Lewis, 1996; Madden, 2004).

More recently, the Human-Wildlife Conflict Collaboration (HWCC) also developed a framework for cultivating sustainable conservation solutions. Since 2008, its framework has been promoted worldwide to conservation professionals through a series of short course training (<http://www.humanwildlifeconflict.org/Training.htm>). The framework emphasizes a three-step approach towards sustainable conservation solutions: determining root causes of conflict dynamics; designing decision-making processes to address conflicts; and building mutual respect and trust among stakeholders. Implicitly, these steps build on and reflect the components of the conflict resolution framework proposed by Lewis (1996).

It is worthwhile to note that all these approaches acknowledge that if conservation conflicts are to be adequately addressed their context must be clearly understood. This is very important because what might be seen as a solution in one place may resist in another place. Conversely, what works fine in one place, might not work effectively in another place (FAO, 2008; Distefano, 2005; Muruthi, 2005; WWF, 2008). In addition, the dynamics and drivers of conservation conflicts can be very different depending on where they occur (Madden, 2004). As such, each situation requires a specifically tailored response that recognizes and adjusts for the cultural, legal, and social context of that protected area and for the particular dynamics of the conflict (Lewis, 1999). In other words, since conservation conflicts occur within a particular cultural, political, and social context, they must be analyzed and addressed within the same context.

It is in this context that this chapter wants to explore the dynamics of conservation conflicts between SANAPA and its adjacent communities. The originality of this chapter's contribution is that it provides a bottom-up analysis of the conflicts by bringing together local perspectives from different actors involved at the grassroots level using the case study of SANAPA. It identifies

key conservation conflicts in and around the park, discusses their nature and their ecological outcomes in and around the park, and presents an in-depth analysis of the underlying social, economic and political causes of such conflicts.

In-depth understanding of these underlying processes is urgently needed and of high contemporary relevance, as it will help the park management to better formulate management strategies that bring sustainable conservation solutions, while improving relationships with neighbouring communities. The findings further shed light on and enable policy-makers and decision-makers to look at current management strategies and see how they address conflicts with local communities. In the following section, different forms of conservation conflicts between SANAPA and its adjacent communities are presented, their nature and outcome on biodiversity conservation are discussed alongside their underlying social, economic and political causes.

3.3 Methodological approach

While a detail methodology of this thesis is provided in chapter two, it is worthwhile to give a bit of an overview of the methodological approach specific for the research question (what are the dynamics of conservation conflicts in and around SANAPA?) this chapter addresses. This chapter is rooted in the first phase of fieldwork, though data collection was not restricted to a particular question. Fieldwork was conducted from October 2011 to February 2012, totaling approximately five months, using ethnographic approach based on: in-depth semi-structured interviews with 13 park rangers from all nine ranger posts surrounding SANAPA; three park officials - decision-makers at the park level; 17 village government leaders - the decision-makers at the village level, from all villages surrounding SANAPA; two Ward Executive Officers - the decision-makers at the ward level; and two Ward Councilors - the decision-makers at the district level. As mentioned in chapter two, these people were chosen because of their extensive knowledge, experience, expertise, and involvement with various issues happening in the park and in the villages.

The fieldwork was further enriched with data from informal discussions with 15 ordinary members of the local community and field observations. This was important to gather views of the wider community. Document search and reviews (document analysis) were also carried out

to gain additional insights about SANAPA, especially on the history of the park and the way it was established and how these impact on conservation conflicts in the study area.

It is important to note that these techniques complemented each other and ensured comparison while enabling crosschecking of the findings from one technique with those of another. However, all the findings (regardless of their data sources) are integrated and presented together. This verifies, strengthens and increases greatly the validity of the findings while drawing and bringing together views from multiple stakeholders and the wider community (Simmons, 1994).

3.4 Results and discussion

Overall, the results indicate that, being a newly established park, the management of SANAPA and adjacent communities are confronted with enormous conservation conflicts, mainly boundary conflicts, resource-use conflicts, human-wildlife conflicts, and conflicts related to encroachment and blockage of wildlife corridors. These conflicts present challenges to the SANAPA management and create contentious relationships with local communities. They threaten biodiversity conservation in and around the park leading to loss of habitat, over-exploitation of park resources, fragmentation of the park, loss of critical ecological connectivity between important habitats, loss of important dispersal area for wildlife, threatened species, and increased pressure on park resource-use.

The root causes of such conflicts revolve around the way the park was established, poor law enforcement, increasing human population in and around the park, new demands from local communities, poverty as well as ignorance of local communities. However, these were coupled with political interest and investors and were reinforced by local media. Such conflicts and their root causes are discussed separately in more detail in subsequent sections.

3.4.1 Boundary conflicts

According to the SANAPA management, boundary conflicts and livestock encroachment - discussed separately in chapter six – are currently the biggest problems confronting the park. During the time of data collection for this study (October 2011- February 2015), there were several on-going village - park border conflicts in the study areas regarding areas that were annexed from village lands. Such lands were included into SANAPA during the establishment of the park to protect potential areas for biodiversity conservation and eventually, increase the size

of the park area. Boundary conflicts were in Matipwili, Saadani, Mkange-Java, Kwamsisi, Gongo, and Mbulizaga villages. The results further revealed that those conflicts had a bearing from the way SANAPA was established. There were some irregularities in the process of annexing village land that was included into the national park, new demands and concerns arising from local communities.

To understand the nature and the root causes for the boundary conflicts in SANAPA, it is necessary to look at how the park was established in the first place. In addition, this would help to clear out the confusion regarding the establishment of SANAPA, partly attributed to the limited available documentation about the park. In the following sections, therefore, a detailed discussion of the establishment of SANAPA is provided, alongside the description of the key areas (Mkwaja Ranch, Saadani Game Reserve, Zaraninge Forest Reserve and village lands) that were combined to create this park.

a) SANAPA establishment

Although little information exists about SANAPA, document analysis, informal discussions, and personal communication revealed that the park encompasses a preserved ecosystem which was established from four independent areas. Figure 6 presents these areas as; the former Mkwaja Ranch, the former Saadani Game Reserve - combined with Kisauke sisal estate, the Zaraninge Forest Reserve as well as village lands - which were annexed into the park to include potential areas for biodiversity conservation and eventually, to increase the size of the park area (Sundell *et al*, 2008; personal communication; www.saadanipark.org.html#). Part of the southern bank of the Wami River in the former RAZABA (Ranch of Zanzibar in Bagamoyo) Ranch in Bagamoyo District was also included.

The RAZABA Ranch was formally leased to the Revolutionary Government of Zanzibar in 1974 for establishment of a cattle ranch. The Ranch was given up in 1994 partly due to problems with tsetse flies, and part of it, the southern bank of the Wami River, was therefore included in the park to protect the mangrove swamps near the estuary and ensure better water access for the wildlife during the dry seasons (Sundell *et al*, 2008). The Wami River is the most important fresh water source besides numerous temporary rivers and dams available in the park (www.saadanipark.org/nature.html). It is one of the few rivers near the park that has water throughout the year, though flows drop considerably during dry seasons.

In the following sections, each of the key areas that combined to create SANAPA are described separately. This is important to understand the nature of such areas, their relevance to the park, and to understand the ecosystem of SANAPA in general.

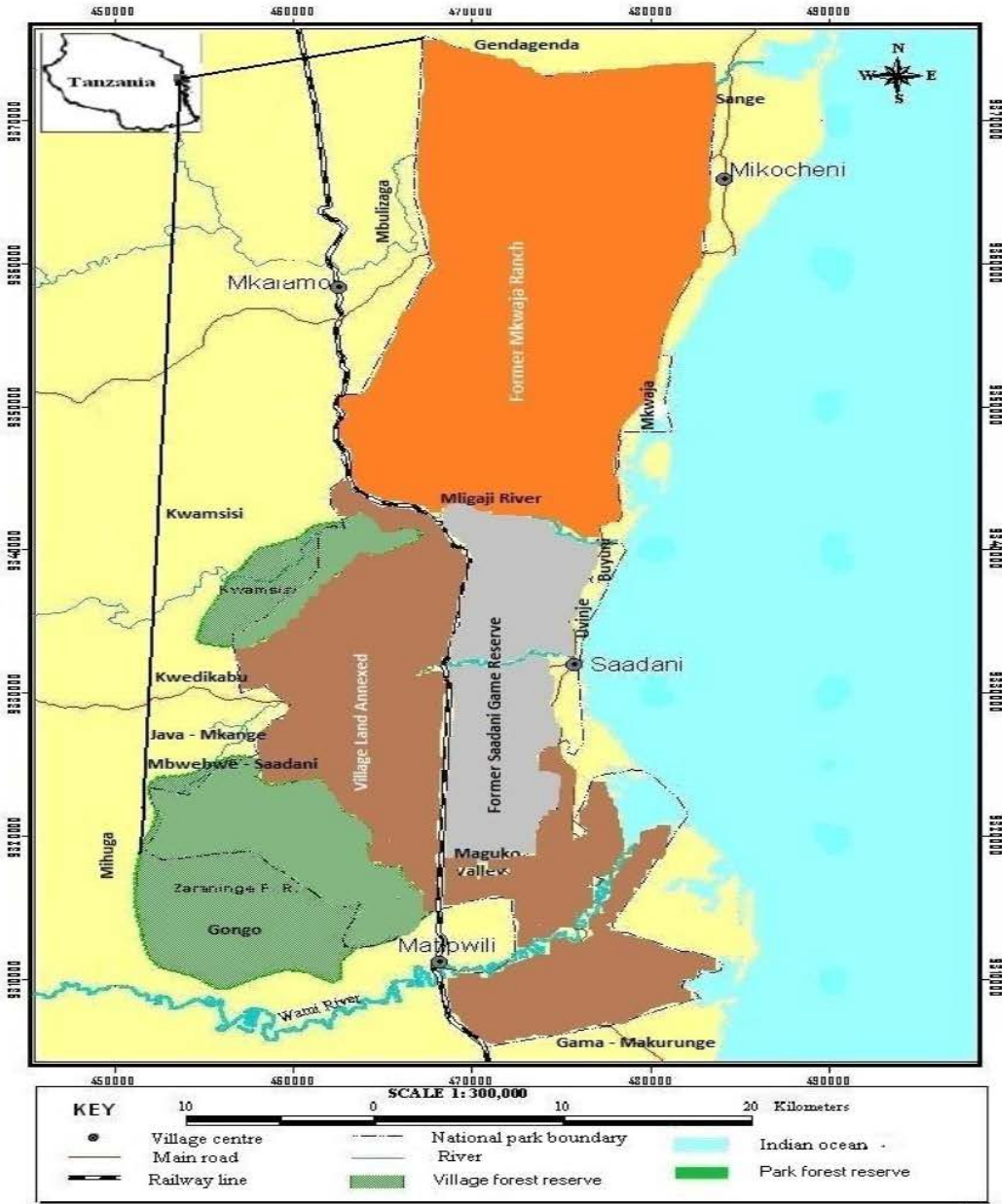


Figure 6: Map of SANAPA showing location of former Mkwaja Ranch, former Saadani Game Reserve, Zaraninge Forest Reserve and Annexed village land
 Source: SANAPA office February 2012 – as modified for this study

i) Mkwaja Ranch

Mkwaja Ranch was established in 1954 by the Amboni Plantations Limited, a Swiss - based company, the largest producer of sisal fibre in Tanzania by then. The ranch occupied an area of 462 square kilometres of humid, coastal savanna and forest directly to the north of Saadani game reserve in the Pangani District (Cochard, 2004). The ranch increased significantly over the years and became one of the biggest private ranches in Tanzania, with over 13,000 head of cattle which were mainly raised to supply the workers of sisal plantations with meat (Baldus *et al*, 2001; Cochard, 2004). However, the ranch closed in 2000 partly as a result of higher tsetse flies densities and higher maintenance costs to keep up the business. Today, the Ranch Headquarter at Mkwaja is being used as the Head Office for SANAPA.

ii) Saadani Game Reserve

Back in 1960's, local communities in Saadani village asked the government to bring game rangers to protect them against wandering wild animals and protect wild animals against poachers, who were coming from nearby villages particularly Mkalamo, Kwamsisi, Manda, Mkange, Miono, and Matipwili. Traditionally, Saadani people were not poaching - they were mainly fishing and did not like to see poaching happening in their village. Even today, fishing continues to be the major economic activity for them (personal communications; field observations).

In responding to the request by the Saadani people, the government, instead of deploying game rangers alone, brought in the idea of establishing the Game Reserve in Saadani village. In 1966, the Wildlife Division consulted Saadani villagers (elders), who agreed to release part of the village land hoping to gain some revenue from the Reserve. Compensation was awarded for the loss of cultivated land taken away for the protected area (territory demarcated by states for conservation). On the 24th January 1969, the Saadani Game Reserve became officially gazetted. The Reserve was established within Saadani village with its Headquarter in the village, today being used as the Tourism Office for SANAPA. It covered the area bordering a section of the Dar es Salaam - Tanga railway line to the west, Mligaji River to the north, Indian Ocean to the east, and Maguko Valley to the south (Figure 6). Four ranger posts were established, one on each side of the Game Reserve. However, only one ranger post (located at Matipwili) is left today and is being used by SANAPA. The rest were demolished by SANAPA because, after extending the

park area, geographically they appeared to be located inside the park (Baldus *et al*, 2001; personal communications).

The reserve, however, suffered greatly from poaching and the number of wild animals available kept decreasing over time (Baldus *et al*, 2001). In order to accord the area the highest level of conservation and legal protection the Saadani Game Reserve (together with Mkwaja ranch, Zaraninge forest and village lands) was upgraded to National Park status in 2005 under the Tanzania National Parks authority (TANAPA) (www.tanzaniaparks.com/saadani.html).

iii) Zaraninge Forest Reserve

Zaraninge Forest Reserve is the largest remaining block of coastal forest in Tanzania with an area of 17,860 ha. This lowland forest is located at 100-300m above sea level in Bagamoyo District, Coast Region, Tanzania. The reserve started as a proposed forest reserve in 1958 and was under the control of the Forest and Beekeeping Division (FBD), the Central Government. In 1985, the Local District Authorities (Bagamoyo) took control of the proposed reserve under the sponsorship of the World Wide Fund for Nature (WWF) – which was interested to conserve the forest for its biological, erosion control, catchment value and socio-economic importance (Malende, 2000). The forest supports large number of endemic and near-endemic plants and animals, and several internationally important species and many of national importance (Ansell and Dickinson, 1994). Both habitat and species diversity, and use by wild animals from Saadani Game Reserve which lies immediately east of the forest increases the species diversity of this forest reserve. Thus, the educational, conservational and recreational potential of this forest cannot be over-emphasized (Malende, 2000).

The forest was once extensive, but later was largely cleared following commercial timber extraction, mostly by external enterprises who obtained license from relevant authorities and used local labour to help cut and load larger timber trees which were then transported unprocessed elsewhere. In addition, local communities adjacent to the forest depend on it for direct and indirect products and services such as water, building materials, medicine, sacred activities and farmland. In 1985, the District Authority suspended the legal exploitation of any forest product in the reserve to control agricultural expansion, selective logging, and extensive tree cutting for building poles, firewood and charcoal production. In 1990, the intention to

gazette Zaraninge to a forest reserve (the highest conservation status forest with highest level of legal protection in Tanzania) was published. With the help of WWF, the forest was surveyed in 1995 to facilitate gazettement, Management Plan was developed (Ansell and Dickinson, 1994; Malende, 2000), and two offices (one in Gongo and another in Mbwebwe) were built to facilitate coordination and patrol of the forest reserve. Today, these offices are used by SANAPA as ranger posts. In addition WWF facilitated the establishment of tree nurseries and agroforestry farms in villages adjacent to the forest reserve (Matipwili, Gongo, Mbwebwe, Saadani and Mkange) (personal communication; field observations). Due to species richness and diversity in this forest reserve and its use by animals from Saadani Game Reserve, the forest reserve became part of the areas that were combined to establish SANAPA (personal communication).

iv) Village lands

As mentioned, part of the village lands were dispossessed and annexed into the park to include potential areas for biodiversity conservation, and to make the area feasible for conservation and eventually, to increase the size of the park (Sundell *et al*, 2008; personal communication; www.saadanipark.org.html#). However, the size of the village lands which were annexed into SANAPA was not easily identified. There was no information available on the size of such lands and the participants involved in this study, including leaders of the particular villages and park officials, turned to be not knowledgeable about it. While it appeared there were no records or documentation of such lands available in the offices of villages whose lands were annexed, access to SANAPA records was rather limited as some issues or documentations were not disclosed. Given these circumstances, I can argue that there is a possibility the size of the village lands that were dispossessed and annexed into SANAPA is kept confidential by the park management. Otherwise, it does not make sense to think that both parties (villages and SANAPA management) did not know the amount of that village lands. How the beacons for the boundary layout were established in the first place.

b) SANAPA ecosystem and boundary conflicts

Thus, the four areas (the former Mkwaja Ranch, the Saadani Game Reserve, the Zaraninge Forest Reserve and land from surrounding villages) were combined to form SANAPA ecosystem (area of 1100 km square) in which wildlife species are free to move within the entire area and its

buffer zones (Figure 6). The park ecosystem falls into three districts of Bagamoyo in Coast Region, and Handeni and Pangani in Tanga Region.

Statistics from park offices indicated that at the time of data collection for this study (October 2011- February 2015), SANAPA considered 16 villages to be adjacent to the park. This was by virtue of sharing geographical boundaries. However, out of these 16 villages, only 5 had part of their lands dispossessed and annexed into SANAPA. This was due to the potentiality of the particular areas for biodiversity conservation in those villages, their proximity and contribution to the park ecosystem. The villages that offered their lands through consultative dispossession include Makurunge (sub-village Gama), Matipwili (sub-village Kisauke and Toangoma), Mkange (sub-village Java), Saadani, and Kwamsisi (Figure 6). In fact, boundary conflicts are mainly between SANAPA and villages whose land was annexed to establish the park.

Local communities had discovered inconsistencies in the dispossession and annexing process, leading to such conflicts that affected operations within the park and its relationship with those villages. During the time of data collection, there were some land claims which were yet to be resolved. In Saadani village, for example, local communities wanted re-surveying of the boundary lay out to leave more land for them. There were similar claims in Java and Kwamsisi for the same reason. In Matipwili village, I witnessed some beacons (used to mark boundary lay out) being destroyed by local communities claiming that they did not want the current boundary lay out. The underlying argument of the local communities (captured through informal conversations) was that SANAPA has taken more land than it was agreed. It had established boundary lay out beyond the limit they had agreed up on. Also, they claimed that they were not involved in the process of annexing their land, and that some of their leaders betrayed them and corruptly offered more village land to SANAPA. In addition, there was a general feeling among local communities that more of their village land was dispossessed or taken away to be incorporated into the SANAPA, whether with or without their consent.

The conflicts were so far not violent or degenerating into a tense situation, but affected operations within the park and its relationship with those villages. In fact, violence is unlikely especially given the nature of the conflict (boundary disputes) and the parties involved in the conflict (national park administration and rural populations). In most cases this kind of conflicts have very low levels of violence, if any, since they are not linked to identity and no inter-ethnic

dimension (Vlassenroot, 2012). However, a special mediation committee composed of park officials, members from amongst local communities and other stakeholders was in place and was working on boundary conflicts in the area. According to park officials, negotiation efforts had started bearing positive results though they declined to give further details arguing that everything was still confidential.

It is important to note that there were no boundary conflicts in other parts of SANAPA, specifically in areas which were formally designated as Ranch, Game Reserve, and Forest Reserve. Among other reasons, this is attributed to the fact that these areas had clear established boundary lay outs which were inherited and maintained unaltered by SANAPA. But SANAPA established new ones for the annexed village land after compensation was awarded for the loss of cultivated land taken away for the protected area. Although, local communities offered their village lands willingly (through a series of consultative meetings), later they discovered inconsistencies in the annexing process, leading to such boundary conflicts. During interviews, village leaders claimed that the annexing process, which led to the current boundary lay out, was too professional for them to understand and follow up on what was going on. While describing the annexing process, one village leader for example, said:

“... They [the then leaders] were there at the site, but they did not understand what was going on because the whole exercise [surveying of the boundary lay out] was too professional for them to follow up,it had lots of measurements taking place, including GPS works”.

In this case, I can argue that it seems SANAPA took advantage of the ignorance of local communities on land surveying issues to take more lands from the villages by setting up the boundary lay out beyond the limit they had agreed up on. Also, it appears that there were corruption issues implicating the then village leaders that enabled SANAPA to acquire more village lands. No surprisingly, there was less time and attention by such leaders given to the annexing process. In other words, the boundary lay out process for the dispossessed and annexed village lands was not fair and transparent to the local communities. Fairness and transparency are important components to observe during stakeholders involvement process (Rogge *et al*, 2013).

3.4.2 Resource-use conflicts

Another conflict between SANAPA and surrounding communities revolves around resource-use in and around the park. The results suggest that there are conflicts related to resource-use in the

study area, reflected in new demands for more land and poaching - the illegal taking of wild plants or illegal hunting, killing or capturing of wild animals. I will discuss separately both of these conflicts in more details in the following sections.

a. New demands for land

Regarding new demands for more land, interviews with SANAPA officials and informal discussions with local communities revealed that there were demands from some villages to re-survey the current park boundary lay out to leave more land for them. Such demands were attributed to rapid population growth and the fact that the main economic activity of many local communities surrounding SANAPA is agriculture. During the time of data collection for this study, there were demands for land from Gongo and Matipwili villages attributed to the booming pineapple and rice farming respectively. In fact, it is cultivation that has encouraged people to cut down trees and clean the natural vegetation even in their village land to establish farmlands. In addition, there is a perception from the local communities that so much of their land has been put aside for wildlife use, hence such demands for more land. It should be noted that the current park boundaries were established after a series of consultations that involved local communities and key village, ward, and district officials. During these consultations, local communities had the opportunity to air their concerns, and some land was left aside for them.

Also, demands for more land were fueled by some civic leaders, especially Member of Parliaments (MPs) and Councilors, who seek votes by cheating farmers and pastoralists that they are capable of forcing the government to apportion them some land from protected areas (not necessarily SANAPA) in the country. Similarly, investors who wished to invest in village land were also contributing to such demands. Both politicians and investors often take advantage of poverty and ignorance of local communities to fulfill their political and commercial ambitions respectively. The local media were blamed for being used by politicians and investors to reinforce much of the conservation conflicts in the study area, thereby attracting public attention unnecessarily. During interviews, one park official narrated,

“I don’t understand these people [politicians and local media]; they publicize things without finding the truth or asking the other side. For example, last week [the beginning of February 2012] the Minister [for natural resources and tourism] suddenly came here [at SANAPA] asking us to take him to visit the area with conflict in Mbulizaga village [Figure 6]. In fact, we were shocked to hear such news! But later we realized that local communities, with the back-up of one investor, had told their MP [Member of

Parliament] that SANAPA had forcibly taken their land. The MP took the issue straight to the Parliament and blasted the Minister responsible. The Minister quickly decided to visit the area with the view to see the area in conflict, only to find out that such demands were ‘planted’ by one investor who wanted that land and used local communities to fulfill his mission. The investor had promised the local communities and their leaders that he would offer jobs and other services. They were totally convinced! ...the Minister reached the areas only to realize that such claims were baseless since SANAPA had not changed anything [the park boundary lay out] in that area because the area was formally under Mkwaja Ranch, and SANAPA maintained the boundaries inherited from the ranch. In fact, the MP could have approached SANAPA to hear our views before taking the issue to Parliament or telling the Minister responsible of such claims from the local communities”.

Politicians around many protected areas in Tanzania have the same problem of balancing short-term advantage over long-term gain. Countrywide, there are reports suggesting that some political leaders seek votes by building a lot of hopes and expectations amongst local communities. They even cheat poor farmers and pastoralists that they are capable of forcing the government to apportion them some land from protected areas. They further claim that they were also capable of forcing the government to allow farmers and pastoralists back to the protected areas even after years of evacuation (Tanzania Daily News 2012). This echoes Gibson (1999) who observed that many politicians in Africa are partial towards conservation because of political reasons and can use wildlife to discriminate between allies and enemies. But, all in all, ignorance and poverty of local communities are the underlying reasons why politicians and investors countrywide, including the study area, were able to play successfully with the minds of local communities. One interviewee for example said,

“I’m sorry to say this but, our local communities have very little knowledge of analyzing issues – of course, I know it’s because the majority have not gone to school. They are easily dragged by money angry people (business tycoons) to fulfill their interest. These people [business tycoons] often use villagers and their leaders to raise unnecessary demands to fulfill their interest”.

It is important to recognize that such demands for more land from SANAPA by local communities in the study area demonstrates the negotiation of trade-offs that exist between human well-being and biodiversity conservation goals in specific places, and between conservation and other economic, political, and social agendas at local, national, and international scales (Sayer, 2009). It emphasizes engagement and working to address possible trade-offs between biodiversity conservation and human well-being (Sayer, 2009).

b. Poaching

The results further indicate that SANAPA suffers greatly from poaching, which is another reflection of resource – use conflicts between the park and adjacent communities. Poaching in the study areas is reflected in the illegal hunting of wild animals for trophy and bush-meat, and tree-cutting for firewood, charcoal, and building materials, particularly timber and poles - commonly used to construct local shelters. Informal discussions with local communities and field observations revealed several incidence of massive tree-cutting. Charcoal making activities are quite significant almost in all villages in the study area. However, fuel wood is the major source of energy for cooking whereas the use of charcoal as source of energy for local communities themselves is insignificant in all villages. Charcoal production in the study area is mainly for commercial purposes, and most of it is transported to and used in nearby cities, particularly Bagamoyo, Zanzibar and Dar es Salaam.

Many people surrounding SANAPA are poor and depend heavily on natural resources around them for a living. Field observations, for example, revealed that there is no electricity in the study area though this reflects the fact that currently only 18.4% of the Tanzania's 45 million people population has access to electricity (URT, 2011). Field observations in the village forest in Kwamsisi, for example, revealed massive deforestation from uncontrolled logging for valuable and marketable hardwoods. The forest suffers greatly from extensive trees harvesting for timber, poles firewood, and charcoal production promoted by village leaders and politicians. Tree cutting is increasing alarmingly thereby putting the invaluable forest at risk of disappearing. Such utilization obviously threatens the existence of the forest, and is likely to impact negatively on SANAPA as the forest boosts several species of wildlife and serves as a dispersal area for wildlife from SANAPA. Also, the forest protects Mligaji River banks, which is one among the water sources for wildlife in SANAPA. Mligaji River flows through the park on its way to Indian Ocean. Part of this forest was annexed for conservation into SANAPA (Figure 6) when the park was established, and the remaining part was left under the village government. The forest serves as a dispersal area for wildlife from SANAPA.

As mentioned, poaching is also reflected in the illegal hunting of wild animals for trophy and bush-meat. There are several incidence of illegal killing of wildlife. During the time of data collection for this study (February 2012) for example, park rangers found a dead elephant near

Wami River. It was suspected that the elephant was poisoned by poachers using pumpkins or watermelons spiked with deadly chemicals. Poachers had chopped off the animal's tusks. Park rangers visited the scene and found the elephant's carcass following tip-offs from citizens in Gongo village that several elephants had been killed by poachers in the area.

According to the International Rhino Foundation, the illegal killing of elephants for their tusks and rhinos for their horns is on the increase countrywide. According to available data from Tanzania's Wildlife Division, between 2008 up to mid-April 2012 poachers have decimated a total of 776 elephants and 3 rhinos in various protected areas in the country. This trend is attributed to a sharp rise in the appetite for wildlife trophies, particularly in Vietnam and China. The price for raw elephant tusk in China for instance has tripled in the past year from around \$270 a pound to \$900 a pound while the price of rhino horn is around \$55 000 a kg, making it far more expensive than gold. Both ivory and rhino horn have long been used to demonstrate high social status in these countries (Vietnam and China), according to the International Rhino Foundation (<http://www.rhinos.org/rhinos>).

However, during informal discussions some local communities expressed perception that there was collusion between poachers and park rangers in the illegal killing of wildlife and illegal cutting of trees in and around SANAPA. They further said circumstantial evidence points to the fact that park rangers sometimes team up with poachers to carry out the illegal killing, especially of the most targeted wildlife species such as elephants – for their tusks. But when prompted to enquire why they held such a view point, they declined to give further details.

While playing down claims leveled against them, during interviews, park rangers underscored a number of factors behind poaching activities in and around SANAPA. These are traditional livelihood strategies of surrounding communities and embedded widespread poverty, corruption and power, and inadequate park resources to strengthen law enforcement in and around the park. In the following section, I will discuss each of these factors in more detail.

i. Traditional livelihood strategies

Based on history of SANAPA in relation to illegal activities, the northern side of the park is the most unsafe side of the park for the animals. This is according to park rangers' experience regarding the movement and distribution of animals inside the park. The area has relatively high

incidence of illegal activities, including poaching, cattle rearing inside the park and charcoal burning. In line with Ogra (2008), park rangers attributed persistent poaching in the park with the traditional livelihood strategies of the communities bordering the park, especially the northern part where poaching incidence are frequent. The area is the home of Wazigua, one of the major ethnic groups surrounding SANAPA. Other major ethnic groups surrounding the park include Wakwere, Wadoe, and Wazaramo. There are few Wagogo, Wanyamwezi, Wanyakyusa, Waluguru, and Wasukuma as well.

Hunting is one of the traditional livelihood strategies for Wazigua. They hunt mainly for bush-meat, and are famous for making their own traditional guns (commonly known as Gobole in Swahili). This is a common traditional hunting tool in the north of the park, especially in Mkalamo, Kwamsisi and Gendagenda villages where the majority of Wazigua live. During interview, one park ranger for example said,

“.....it is very difficult to stop poaching here [SANAPA] because to some people [Wazigua] it is part of their life. They make their own Gobole [local guns commonly called Gobole in Swahili] and use them for hunting. In fact, Gobole is a common tool in Mkalamo, Kwamsisi and Gendagenda [villages in the northern part of the park]. Of course, if you ask them, they will tell you that they use such weapon for crop protection against wild animals, mainly warthogs and wild pigs, but in real fact they kill those animals in the name of crop protection. In Makurunge, Matipwili, Gongo [villages in the southern part of the park] they use much of snares, and poaching there is not that serious, the only problematic area is Tumbilini [part of Gongo village]”.

It should be noted that historically, some rural communities in Tanzania used bush-meat as a source of protein while others would consider hunting certain animals a fundamental part of their livelihoods, religion or traditions (Gamasa, 2001). However, these were seemingly possible under low impact, conservation-friendly, traditional customs when human population levels were low and lower level of development. Today bush-meat hunting has evolved from a low-level subsistence activity to a huge commercial trade, supplying urban and even international markets, posing what some scientists believe to be the biggest threat facing wildlife populations in many African countries (Kiiru, 2002). The bush-meat trade is one of the most significant conservation issues facing the African continent today. For example, in his report about bush-meat trade in East Africa, Gamasa (2001) observed that even though this trade has become a livelihood security for many people living around wildlife areas, its rate of extraction outweighs the rate at which wildlife regenerates.

Bush-meat crisis in Tanzania has been a serious problem due to combination of factors such as traditional livelihood options, poverty, lack of awareness on value of wildlife, and lack of employment. Other factors include poor existing wildlife conservation law that impose low punishments, which are not gauged with the value of animals, poor law enforcement accelerated by corruption, inadequate collaboration among stakeholders, and lack of knowledge on handling wildlife cases particularly to those who arrest poachers, handle and present exhibits before the courts of law (Lowaeli, 2008).

ii. Poverty

As mentioned, poaching in the study area is also fueled by widespread poverty among local communities surrounding SANAPA. Poverty makes them depend on natural resources i.e. increases over-dependence on natural resources around them for a living. Informal discussions with communities in the study areas revealed that widespread poverty demonstrated by limited economic activities were another factor for bush-meat crisis in their area, particularly in the northern part of SANAPA where poaching is much more rampant. Communities in Kwamsisi for example, rely mainly on maize and sesame as the major food and cash crops grown in the area and both these are seasonal crops, hence not available throughout the year. But villages in the south, such as Gongo, where poaching incidences are relatively low have in addition pineapples, coconuts, bananas and vegetables which are grown year – round. It should be noted that many people in the study areas are peasants and depend heavily on their small-scale agriculture for their income. The relationship between economic activities and poaching was also observed by Gamasa (2001), Kiiru (2002) and Lowaeli (2008) across African countries.

iii. Corruption and power

The other factor, which makes the park to struggle in its efforts to curb poaching, is corruption and abuse of power caused by legal institutions that handle wildlife cases, particularly police and courts. These are normally expressed in terms of discouraging park rangers' efforts to fight against poaching activities. Park rangers raised grave concern on the way police handle poachers/wildlife criminals. They had a general feeling that sometimes police sideline with poachers brought to police custody for legal procedures after being arrested by park rangers. There have been cases where park rangers arrest poachers, with vivid evidence, but they end up being set free by the police or by the court of law. Through this way, they find their way back to

poaching activities, and some have been re-arrested for committing similar wildlife crimes. According to them, this situation contributes to failure of many wildlife cases, diminishes their spirit to work, and frustrates their efforts to conserve biodiversity. In fact, park rangers questioned the competence of police officers to handle wildlife cases. Also, they appeared skeptical about the capacity of legal institutions that handle wildlife cases, in terms of their level of awareness, values they attached to wildlife species during sentencing, and causes of failure of many wildlife cases before the courts of law. In addition, they felt there was poor cooperation and coordination between wildlife law enforcement agencies (investigators, prosecutors, magistrates and wildlife conservation bodies) during prosecution of wildlife cases, leading to such failure.

Also, they blamed the procedure involved in wildlife cases saying they take long time to be concluded and therefore giving room for corruption. For example, the process of seeking the consent of the Director of Public Prosecution (DPP) is a big problem, which causes unnecessary delay in the prosecution of wildlife cases. Business tycoons involved in ivory trade often take advantage of this procedure to corruptly set free poachers -normally poor local communities used to do the poaching. This echoes Chris and Vincent (2008), who observed that fighting poaching is a big war because it involves people with large sums of money and extensive network, from within and outside the country. One park ranger, for example, said,

“.....you know, we only arrest these small fish [poor local communities often used to do the poaching], take them to the police or court of law, but we leave big fish [poaching dealers] untouched. When they hear their small fish have been arrested somewhere, they use their money to corrupt law enforcement officials and free them out of legal arms. Of course, they [poaching dealers] take advantage of our poor law enforcement system accelerated by corruption”.... From what I see, poaching will never stop unless the government targets poaching dealers, you know why? They get high profit margin from the illegal business. Even the fines we charge them do not have significant impact on their profit”.

Park rangers further blamed poor cooperation from the park management as the cause of continuing poaching activities in SANAPA. They felt there was some sort of reluctance by the park management to act on their reports about poaching activities. Such failure discourages park rangers to work hard. Citing one incidence, one park ranger for example, said,

“In some cases our bosses [the management] is not serious enough to support park rangers in their daily duties. There was one time when we asked for a vehicle to arrest suspects and collect evidence following information from reliable sources (informers)

that some people have killed an animal and hide it somewhere. We went to the scene on foot and found the said animal in a particular house. But when we asked for a vehicle from the boss to enable use carry the suspects plus the evidence, the boss simply said there is only one car today and I'm using it, so just leave it! We didn't feel good because we know protection is the core activity in wildlife conservation, so it should be a priority when it comes to who should be given the vehicle! Honestly, such acts demoralize our spirit to work hard".

Implicitly, diminishing spirit of work amongst park rangers may cause dishonest rangers to team up with poachers, thereby cementing the perception held by some local communities that there was collusion between poachers and park rangers. In the study area poaching is represented by gunshots, snares, bow and arrows and poisoning – a new poaching strategy recently been crafted. As opposed to noisy guns, poisoning minimizes chances of been heard, and is meant to kill an animal for its trophy without seeking to use the meat.

Also related with corruption and power are lenient court punishments. Park rangers had the feeling that punishments awarded by the courts to wildlife criminals, especially fines, are too low to deter others from committing similar offences. Although, there are some amendments in the new Wildlife Conservation Act No. 5 of 2009 as compared to the old one (Wildlife Conservation Act No. 12 of 1974), still the punishments stipulated there in are small compared to the actual value of biodiversity conservation, the efforts and resources pumped in the protection, and to make people abstain from engaging in poaching activities. They attributed such lenient punishments with too much freedom left over to magistrates when exercising their discretionary right, particularly when imposing punishments as per the Wildlife Act. The weakness of the Act, according to park rangers, stems from its provision for either a fine or imprisonment or both, depending on the discretion of the court. It further defines the range for the fine and imprisonment. These together create loopholes for corrupt magistrates to award lower punishments. In fact, corruption was cited the biggest problem weakening wildlife cases, cutting across the chain of law enforcement agencies (wildlife authority, police and court).

Corruption – the abuse of entrusted power for personal gain - is a large problem and a major public concern in Tanzania (WEF, 2013). It is widely manifested across public institutions, especially public officials and politicians. It is both petty corruption as well as grand corruption demonstrated in bribes and kickbacks (WEF, 2013). Corruption has been a major hindrance for wildlife conservation as it facilitates poaching activities in the country. As such, poachers have

remained a menace over the years in Tanzania, decimating wildlife populations out of seeking quick riches. Fighting poaching remains a big challenge as the vice involves corrupt people with large sums of money and extensive network, from within and outside the country (Chris and Vincent, 2008).

iv. Inadequate park resources

Another reason for rampant poaching in the study areas is inadequate park resources to enable effective law enforcement. Park rangers blamed TANAPA in general for failure to invest in core activities of the park, especially law enforcement to protect wildlife resources. According to them, law enforcement around SANAPA is undermined by limited park resources. The park is short of manpower particularly park rangers, vehicles for patrol, and limited financial resources to cater for regular patrol costs. A visit to one ranger post (Gendagenda) for example, revealed that there were only two park rangers, and no vehicle. Commenting on this situation one park ranger for example, narrated during interview,

“As you can see, we are only two of us! Practically, it is very difficult to deliver output here because under any circumstances one has to remain at the post at all time for security reasons. This means the other also cannot go alone [patrol], so we just seat here all day. ...You can also imagine how difficult it is to walk [to conduct patrol] in the bush on foot, no vehicle, no what – how far can you go and for how long! We are really working under difficult conditions. For instance, we have a big problem with cattle keepers (pastoralists) especially during dry season. Sometimes we see herds of cattle, in big numbers (100, 1500 even 300 and over) grazing in the park, we are only 2 or 3 at the post. In some cases, they [pastoralists] will let their children to look after these herds or sometimes they just leave them alone because they know they will come back in the evening after feeding or you cannot do anything with them because we are few in number. Or if you confine them, it’s okay for them because all they need is their cattle to feed. So in essence we will look after them [cattle]. They know we cannot stay with them for long time, given the fact that we are few and no storage facilities to keep them for long time. In the evening, they will come to negotiate so they can collect their cattle back. They know, if we take them to the court, they will pay much lower fines than we charge them using our by-laws. So in most cases we end up negotiating with them on how much they should pay”.

It is said that such pastoralists take advantage of the inadequate park resources to break the law leading to frequent incidence of livestock encroachment in SANAPA. It is, however, important to note that this problem has been introduced here to show the dynamics of conservation conflicts the local communities have with SANAPA. The problem of livestock encroachment in

SANAPA is discussed separately in more detail in Chapter Five as one of the research questions for this study.

In this case, I can argue that poaching (the illegal hunting of wild animals for trophy and bushmeat, and tree-cutting for firewood, charcoal, and building materials, particularly timber and poles) in the study area illustrates how local communities depend on those resources for their subsistence needs and how their struggles over access to such resources become criminalized (Bobo and Weladji, 2011; Thapa, 2010). Access denial to resources in PAs (land, wildlife, forest products, etc.) is one of the key reasons for conflicts between PAs managements and adjacent communities (Bobo and Weladji, 2011). The local communities perceive this denial of access as ignoring their dependence on natural resources for their physical survival and for their spiritual practices, such as accessing sacred sites (Bobo and Weladji, 2011; Norgrove, 2003; Ali, 2007; Thapa, 2010).

3.4.3 Blockage of wildlife corridors and destruction of dispersal areas

Further conflicts between SANAPA and adjacent communities are reflected in the blockage of wildlife corridors and destruction of dispersal areas for wildlife. The park is experiencing blockage of its corridors and loss of dispersal area (buffer zone) by human settlement and farming. These have blocked migratory routes and destroyed dispersal areas resulting into human-wildlife conflicts such as crop destruction by elephants. Interview results and field observations revealed that the park has lost its dispersal areas in Buyuni, Gama-Makurunge, Gendagenda, Msubugwe, Saadani, Java-Mkange and Kwamsisi villages due to such factors.

The park ecosystem seems to be isolated from other biologically rich areas. Before, wild animals used to migrate to and from the park to Selous Game Reserve in the south, Wami-Mbiki in the west, and as far as Kiteto, Simanjiro and Tarangira in the north. Today, only one corridor exists, the SANAPA - Wami-Mbiki corridor. Though not fully documented, evidence supports sightings of wildlife movements between the two protected areas using this corridor. Interviews with park staff and informal discussions with local communities revealed that elephants and buffalo move between SANAPA and Wami-Mbiki. However, given increasing human development, it is unlikely that this corridor can be sustained for very long. The corridor is threatened by increasing pressure from human settlements, farming, timber exploitation and charcoal burning. In addition,

the corridor is already intersected by the Chalinze-Arusha Highway. Given numerous settlements along the Highway, wildlife moving through this corridor are forced to cross the bridge on the Highway at the Wami River, where there is relatively little human disturbance.

While this corridor between SANAPA and Wami-Mbiki was considered by Danielsen (2008) as good as closed, recent studies by Kikoti (2011) - who monitored the movement of collared elephants to and from SANAPA and Van de Perre *et al* (2014) - who used the Least-cost modelling and local communities' knowledge about the movement of animals to and from SANAPA, did not confirm the existence and functionality of the corridor. Three arguments can be drawn from their results. First, there may be no corridor that maintains connectivity between SANAPA and Wami-Mbiki. Second, the corridor does not exist anymore (did exist and was functional, but was closed or disappeared) due to extreme conditions, particularly increasing human disturbance. Third, the results could confirm the isolation of SANAPA from other ecosystems, although this corridor was highly predicted for this park.

Wildlife corridors refer to an area used by animals to pass from one habitat patch to another or simply an area that connect two patches of suitable habitat by passing through a matrix of unsuitable habitat, whereas a dispersal area or buffer zone is an area outside protected areas that animals use for a significant length of time, but that do not connect two protected areas (Jones *et al*, 2009). Both wildlife corridors and dispersal areas are normally identified through their use by large charismatic mammals such as elephants or wild dogs though smaller animals will also use them (Jones *et al*, 2009; Newmark, 2008).

Given my experience in the study area, the data I collected and my observation during fieldwork, I can argue that the blockage of wildlife corridors and destruction of dispersal areas for the case of SANAPA are primarily due to human settlement, farming, timber exploitation, charcoal burning, and roads. These drivers cause habitat loss and restrict the movement of wildlife into and out of SANAPA, and are attributed to rapid human population growth, economic expansion, political misgovernment, and poverty (Newmark, 2008). In addition, unlike dispersal areas which normally belong to adjacent villages, wildlife corridors in Tanzania are 'unprotected areas' and there is no management decisions to protected them against such threats as human settlement, farming, and roads construction (Van de Perre *et al*, 2014). In fact, they are currently

regarded as ‘public property’, hence vulnerable to uncontrolled human activities. As a result, many of these corridors in the country are disappearing quickly leading to loss of connectivity between wildlife habitats or between one PA and another (Jones *et al*, 2009; Van de Perre *et al*, 2014). Although more than 40% of Tanzania’s terrestrial surface areas is managed for biodiversity conservation under a protected area system (TNRF, 2012), many of such PAs are increasingly becoming isolated, thereby posing a serious threat to the long-term viability of many wildlife populations and migrations in Tanzania (Newmark, 2008).

Similarly, Jones *et al* (2009) while examining wildlife corridors in Tanzania observed that the reasons for the increasing isolation of PAs in the country are generally complex, and include a growing human population, new settlement in previously unpopulated areas, land-use shifts towards agriculture, and infrastructure development such as roads and railway lines. Unless action is taken to manage these activities, Tanzania’s PAs will become isolated – a situation likely to have serious implications for economic development, including the sustainability of the tourism industry.

3.4.4 Encroachment

Apart from the blockage of wildlife corridors and dispersal areas, SANAPA management is in conflict with local communities regarding encroachment into the park. The results indicate that the encroachment into the park is mainly by seasonal livestock herders. The encroachment is widespread along the northern parts of the park where most pastoralists are found, the Barabaig pastoralists. According to park rangers, livestock encroachment is a big problem in SANAPA, especially during dry seasons when there is shortage or scarcity of pasture and water. It is among the highest illegal activities recorded by the park. Livestock affect wildlife by entering into the park leading to depletion of the natural vegetation and eventually loss of habitat, and increasing risk of disease transmission such as anthrax and rabies. One park ranger, for example, put it during the interview,

“....we have a big problem with cattle keepers (pastoralists) especially during dry seasons. Sometimes we see herds of cattle, in big numbers (100, 150 even 300 and over), grazing in the parkSurely, it is very challenging to control such big numbers....”

It should be noted that such pastoralists are not originally from around SANAPA, according to park officials regarding who are the residents around SANAPA. The Barabaig pastoralists arrive

in the area due to their nomadic life style of which they keep on migrating in search of pasture and water. When they spot somewhere a life for their herds they get into the village legally or illegally by bribing village leaders through corruption. Some politicians also incite herders to encroach on SANAPA land with impunity. When they see the area is short of pasture, they look for alternatives elsewhere. This could be evading a nearby protected area as long as there is pasture or moving to another village.

Interviews with Barabaig pastoralists revealed that similar to Maasai, livestock keeping is not merely an economic activity to Barabaig, it is not just about making a living out of livestock – in the sense that if there are other more profitable activities, one would go for them and forego pastoralism. To them, livestock keeping is an integral part of their life, a way of life heavily intertwined into their culture and value systems. In fact, at the core of Barabaig life is pastoralism. To them, personal worthiness is expressed in terms of numbers of cattle and other livestock. A person without livestock is poor, without any standing in their society. From this perspective, one can imagine how difficult it is to convince the Barabaig to reduce the number of herds to avoid overgrazing, degradation of soil and vegetation, higher incidence of diseases, poor nutrition, increased mortality and loss of herds. As mentioned, this pastoral – conservation conflict is discussed separately in more detail in Chapter Five.

3.4.5 Human-wildlife conflicts

One of the most serious types of conflicts adjacent communities have with SANAPA involves damages inflicted by wildlife. Informal discussion with local communities revealed that all villages involved in this study have reported problems with wildlife, with some of them being season and location specific. Two major complaints against wildlife were identified, namely crop destruction and livestock predation by wildlife. Others include attacking/injuring humans, causing fear among people, destruction of property, and being a nuisance. The major problem species, according to local communities, include baboon, warthog, monkey, bush-pig, elephant, lion, leopard, hyena, rodent and birds. During data collection, for example, several groups of baboons and monkeys were frequently seen wondering around people's farms in Gongo village, though some of them were fenced to control crop destruction by wildlife and others were guarded by villagers. Also, some warthogs were frequently seen wondering in residential places

in Saadani village, being nuisance to villagers and destructing their property. Villagers seemed to be vividly annoyed by such animals.

Interviews with park officials and rangers revealed that such human-wildlife conflicts in SANAPA are a result of encroachment, blockage of migratory routes, and destruction of dispersal areas by farming and human settlement, coupled with increasing in human population pressures in the area. One park official, for example, lamented,

“...[mentioning my name] hope you know about wildlife movements, how they move from one place to another on seasonal basis. So what do you expect if, for example villagers have established farms in elephant routes, and you know how destructive these creatures are, so it’s obvious you will notice considerable damage within a short period of time! ...you know, we need to be objective and stop talking these politics, the reasons are clear...”

Human-wildlife conflicts occur when the needs and behavior of wildlife impact negatively on the goals of human or when the goals of humans negatively impact the needs of wildlife (Madden, 2004). They often result when wildlife damage crops or property, injure or kill domestic animals, threaten or kill people (Ogra, 2008; Thapa, 2010). They escalates when local communities feel that the needs or values of wildlife are given priority over their own needs, or when local institutions such as SANAPA and people are inadequately empowered to deal with such conflicts (Madden, 2004).

In my opinion, human-wildlife conflicts, particularly crop damage by wildlife is a serious problem not only to the livelihoods of the local communities around SANAPA, but also to communities around other PAs in Tanzania. The problem will become increasingly prevalent since PAs in the country are not fenced, human populations increase, development expands, and the global climate changes. Human-wildlife conflicts reduce local support for conservation and engender resentment and opposition to it (Madden, 2004; Ogra, 2008;Thapa, 2010). Consequently, addressing human-wildlife conflict requires greater interaction and collaboration not only among conservation organizations and other wildlife agencies, but also across disciplines such as economic and social development organizations, land use planners, agribusiness, and other key decision makers (Madden, 2004).

It is important to note that human-wildlife conflicts have been introduced here to illustrate the dynamics of conservation conflicts the local communities have with SANAPA. The problem is

discussed in more detail in Chapter Six that discusses on the relationships between SANAPA and adjacent communities.

3.5 Conclusion

This chapter focused on the conservation conflicts between SANAPA and its adjacent communities. The results have revealed that the two parties are confronted with a number of conservation conflicts, including boundary conflicts, resource-use conflicts, blockage of wildlife corridors and dispersal areas, encroachment, and human-wildlife conflicts. The root causes of such conflicts revolve around a combination of factors arising from the park itself, local communities, investors as well as government agencies and institutions and are reinforced by the media.

Evidence from SANAPA illustrates serious conservation conflicts in and around Tanzania's National Parks. Human needs for natural resources, such as wood for timber and charcoal, bushmeat for protein supply, ivory for quick riches or land for crop cultivation and cattle farming, are putting deep and unsustainable impacts on biodiversity conservation in SANAPA. Also, there are concerns over the judiciary department to fast-track wildlife cases and issue heavy punishments to those found guilty as fines currently charged are too minimal, hence attracting more people to engage in the malpractice. In addition, there have been complaints by local communities about the continuing problems related to their crop destruction and livestock predation by wildlife, and a general feeling that more of their village land was taken and incorporated into the park.

All these present challenges and threats to biodiversity conservation in and around the park leading to loss of habitat, over-exploitation of park resources, fragmentation of the park, loss of critical ecological connectivity between important habitats, loss of important dispersal area for wildlife, threatened species and increased pressure on park resource-use. In addition, they nurture negative relationships between SANAPA and adjacent communities. Such conflicts have a bearing on the way the park was established, poor law enforcement, increasing human population in and around the park, new demands from local communities, poverty as well as ignorance of local communities. Poachers have taken advantage of poor law enforcement accelerated by corruption, and other weaknesses to accomplish their mission leading to frequent incidence of poaching in and around SANAPA and eventually decline in population and local extinction of some wildlife species.

The chapter has important implications for decision-makers and conservation specialists. Factors (short of manpower, patrol funds, and working equipment) hindering efforts to address poaching in its entirety need to be sorted out in order to strengthen law enforcement and stop poaching activities in the country. Conservation education and awareness raising campaign are needed among local communities to increase their capacity to conserve forests, wildlife and other natural resources and ensure wildlife have safe places to live in. Corruption is worrisome and impacts negatively on wildlife conservation in the country. The government needs to act with urgency and seriousness to fight against corruption. Concerns from local communities that there are some workers from SANAPA allegedly cooperating with poachers to carry out the illegal practices need to be taken seriously. Also, corruption concerns from park rangers that sometimes police sideline with people accused of poaching and brought to police custody by park rangers for legal procedures, but were released without legal actions taken against them. In addition, concerns that some people initially appeared in court accused of poaching, were released without adhering to court procedures. All these claims require a thoroughly investigation to substantiate them. This would be a stepping stone towards strengthening agencies in the law enforcement chain (wildlife authority, police and court), and identifying park staff linked with poaching for relevant legal action.

Furthermore, the results illustrate how local communities in Tanzania depend on natural resources from PAs for their subsistence needs. This implies the need for allowing limited access to resources in PAs. The denial of access to resources in PAs is perceived by the local communities as ignoring their dependence on natural resources for their survival, leading to frequent conflicts between managements of PAs and adjacent communities (Bobo and Weladji, 201; Norgrove, 2003; Ali, 2007; Thapa, 2010).

The demands for land from SANAPA by local communities demonstrate the need for engagement and working to address possible trade-offs between biodiversity conservation and human well-being. The negotiation of trade-offs that exist in specific places between conservation goals and other agendas such as socio-economic goals need to be recognized (Sayer, 2009).

CHAPTER FOUR: Tanzania's National Parks and the pressures of development: experience from Saadani National Park

Abstract

There is an increasing recognition that biodiversity conservation and development should be integrated in order to achieve both conservation and development objectives. However, there is limited evidence to suggest how the two should practically be integrated. On the other hand, there is an increasing recognition that development is one of the most important direct drivers of biodiversity loss, habitat loss, and changes to ecosystem services. While reflecting on these issues (the absence of practical evidence of the integration and the adverse impacts of development on conservation), the managements of PAs are often under pressures of development, trying to minimize losses of biodiversity that come from development. This chapter examines the pressures of development in and around SANAPA and highlights the underlying social, economic and political causes of such pressures. It explores these using a multiple-method approach of qualitative research based on: in-depth semi-structured interviews; informal discussions; document analysis; and field observations coupled with my experience with the wider community and the case study area in general.

The findings show that the management of SANAPA is in conflict with the investors in the area and local communities over the pressures of development on biodiversity conservation in and around the park. The park is overwhelmed by development pressures, mainly arising from transport infrastructure development in and around the park, the proposed sugarcane plantation adjacent to the park, as well as sea salt works in and around the park. These pressures present challenges to the management of SANAPA and are blamed for causing habitat loss, pollution, road kills, human disturbance, animal feeding, and disease transmission, poaching, fragmentation, over-exploitation of park resources, loss of important dispersal area for wildlife, increasing uncontrolled human influx and activities inside the park. They also create tensions between SANAPA and investors in the study area, and with local communities. This chapter discusses these pressures in detail and argues that such pressures are mostly the outcome of the government's struggle to balance between biodiversity conservation and social-economic development.

Key words: biodiversity, conservation, biodiversity conservation, development, development pressures, social-economic development, wildlife

4.1 Introduction

This chapter discusses the pressures of development in Tanzania's national parks. A theoretical discussion of the pressures of development on biodiversity conservation and the relationship between conservation and development in general has been provided in more details in chapter one (see section 1.6). This chapter uses the case study of Saadani National Park (SANAPA) to discuss the pressures of development in the context of Tanzania's national parks. It has started by presenting an abstract of the key issues the chapter wants to discuss. It continues by looking at the theoretical perspectives of the tensions between biodiversity conservation and development, pressures of development as well as the rationale of the topic. The chapter then presents a detailed discussion of the findings focusing on the key development pressures in and around SANAPA, discusses their nature and outcome on biodiversity conservation in and around the park, and highlights their underlying social, economic and political dimensions. It concludes with a summary that brings together key findings and issues raised in this chapter, including recommendations for further research.

4.2 Theoretical perspectives on the tension between development and biodiversity conservation

The tension between development and conservation is often viewed from the adverse impacts development causes or is likely to cause on the environment and biodiversity in general (see for example Sayer and Campbell, 2004; Brown, 2002b; Mai and Nguyen, 2003). Also, the tension is normally about the denial of socio-economic opportunities that biodiversity conservation causes or is likely to cause on development. More specifically, the negotiation of trade-offs that exist between human well-being and biodiversity conservation goals in specific places, and between conservation and other economic, political, and social agendas at local, national, and international scales (Sayer, 2009).

As mentioned in the previous chapter, pressures of development make biodiversity conservation more challenging and conservation conflicts more prevalent since they threaten the resource base in the protected areas (Brown, 2002a; Warner, 2000; <http://www.wcs.org/conservation-challenges.aspx>). The impacts of development are generally reflected in increasing environment

pollution, land conversion for agriculture, the expansion of extractive industries - which create growing demand on natural resources resulting into deforestation, degradation of land resources, over-exploitation of biological resources, threats to ecosystems, and introduction of invasive species that establish and spread outside their normal distribution (Thapa, 2010; Ali, 2007; Muruthi, 2005; Norgrove, 2003; Warner, 2000). The impact of these on biodiversity is normally habitat change - expressed in habitat loss, and ultimately species extinction or decline in species population. As such, there is an increasing recognition that development is one of the most important direct drivers of biodiversity loss, habitat loss, and changes to ecosystem services (Mai and Nguyen, 2003; <http://www.unesco.org/en/esd/>).

Despite such adverse impacts development causes on biodiversity, the need to combine development activities with conservation has become increasingly recognized (Martin *et al*, 2011; Singh, 2008; Sayer, 2009; Seely *et al*, 2003; Shahnawaz, 2002). Throughout the world the integration of conservation and development has become crucial, given the need for economic growth and poverty reduction (Singh, 2008) and that development is necessary in order to meet basic human needs (Eaton, 2005). Conservation institutions such as PAs have been trying to forge links between human development and biodiversity conservation (Sayer, 2009). A number of principles that should underlie extractive industries have been suggested. For example, to foster sustainability, extractive activities are sought to be ecologically, socially and economically sustainable, and state how over-harvesting would be controlled and how extractive use would contribute directly to biodiversity conservation (Hess, 2005). The emphasis has been on activities that reduce, eliminate or mitigate threats to biodiversity conservation and their underlying root causes as well as activities that are designed with the conservation and sustainable use of biodiversity and ecosystem services as the primary goal (Millennium Ecosystem Assessment, 2005). This goes hand in hand with making the trade-off between conservation and development explicit (Sayer, 2009).

As such, many countries have been shifting to more sustainable economic models, with development approaches aiming at poverty alleviation without undermining ecosystems and the natural resource base (Millennium Ecosystem Assessment, 2005). However, the challenge has been on how to integrate the two (conservation and development) to achieve both biodiversity conservation and socio-economic development in a sustainable manner (Singh, 2008). A general

conclusion that ‘ a way must be found to achieve both conservation and development objectives’ has left much to be desired, since development is inevitably associated with some losses of biodiversity (Sayer, 2009; Singh, 2008). There is limited evidence to suggest how the two should practically be integrated. Also, its implementation often depends on the support and cooperation of a number of different departments and other organizations, each with their own agenda and hierarchical structures (Brown, 2002a). In addition, its success normally depends on economic factors (Wells, 1992), policies and institutions that can serve to reconcile the linkage between conservation and development (Martin *et al*, 2011; Brown, 2003). There are also some social issues that can constrain the prospects for integration of the two. These include social interpretations of conservation as well as social implications of the integration of conservation and development (Singh, 2008; Brown, 2003). As such, the integration continues to be debated (Singh, 2008).

Despite these challenges, the need to internalize development concerns into biodiversity conservation has become a priority. However, there are four major issues that need to be observed when integrating conservation and development in protected areas, according to Brown (2002a) and WB (1994). These include: identifying the means by which PAs may enhance the lives of communities living in and around them i.e. creating and/or strengthening linkages between conservation and community livelihoods; identifying threats of development to protected areas; strengthening capacity for management and law enforcement; and aiming for conservation awareness programmes at all levels of society. While reflecting on these issues, the managements of PAs are often under pressures of development, trying to minimize losses of biodiversity that result from development. In this chapter, we shall see the pressure of development on biodiversity conservation in and around national parks in Tanzania, in the struggle to attain both conservation and human development. The chapter addresses this by bringing together perspectives from the grassroots using the case study of Saadani National Park (SANAPA). It identifies key pressures of development in and around the park, discusses their nature and outcome on biodiversity conservation in and around the park, and highlights the underlying social, economic and political causes of such pressures.

Understanding these underlying processes helps the park management to better formulate management strategies that bring sustainable conservation solutions, integrate development in

conservation, and in turn improve relationships with various local social actors, including investors and adjacent communities. The findings further shed light on and enable policy-makers and decision-makers to look at current management strategies and see how they address conservation and development issues in protected areas.

4.3 Methodological approach

Data for this chapter was collected in October 2011 – February 2012 through a multiple-method approach. A total of 24 in-depth semi-structured interviews were conducted. Of those who were interviewed, 11 were park rangers, two were park officials, and six were village government officials from Gongo, Mihuga, Matipwili, Makurunge, Saadani, and Buyuni, each represented by one official, the village chairperson. There were also two interviewees from the ward level: the ward councilor and the ward executive officer.

Informal discussions were also conducted with 32 members of the local community. Of those who were involved, six were from Gongo, five from Mihuga, five from Matipwili, 6 from Saadani, five from Makurunge, and another five from Buyuni. Participants of the informal discussions were long-time members of the local community, with varying periods of living and experience in a particular village. The majority of them had lived in a particular village since they were born, others since the village was established while some had lived there longer than 10 years. The assumption was that such people had enough experience with a particular village and SANAPA in general - especially with various issues happening in the park and in the villages, and hence the ability to contribute to the research question.

Data was also collected through field observations and document analysis. Various pictures of tangible evidence to the study were taken during field observations. A number of previous studies, reports and other relevant documents were collected and reviewed for insights that could help to address the research question more explicitly. The findings from these techniques complemented each other and are integrated, presented and discussed together in the following section.

4.4 Results and discussion

Overall, the results indicate that, being a newly established park, the management of SANAPA is in conflict with investors in the area and local communities over the pressures of development on

biodiversity conservation in and around the park. The park is overwhelmed by development pressures, mainly arising from transport infrastructure in and around the park, the proposed sugarcane plantation adjacent to the park, as well as sea salt works in and around the park. These pressures present challenges to the management of SANAPA as the park is suffering from habitat loss, pollution, road kills, human disturbance, animal feeding, and disease transmission, poaching, fragmentation, over-exploitation of park resources, loss of important dispersal area for wildlife, increasing uncontrolled human influx and activities inside the park. They also create tensions between SANAPA and investors in the study area. Various actors from various institutions at different levels, including SANAPA itself, the private sector, local communities at the grassroots, local and central governments have a bearing in such issues.

Such pressures of development create tensions between SANAPA and investors in the study area, and with local communities. The root causes of much of these pressures revolve around the government's struggle to balance between biodiversity conservation and social-economic development reflected in conflicting interests and lack of collaboration among government institutions, coupled with poverty as well as ignorance of local communities. In the subsequent sections, the three forms of pressures of development in and around the park are presented; their nature and outcome on biodiversity conservation are discussed alongside their underlying social, economic and political causes.

4.4.1 Transport infrastructure development in and around SANAPA

The findings revealed that there are pressures of development on biodiversity conservation in and around the park arising from transport infrastructure in and around SANAPA. Field observations and interviews with park officials suggest that such infrastructure development in and around the park potentially affect the ecology of SANAPA. With an area of 1100 km², SANAPA is overwhelmed with eight public transport networks (seven road networks and one railway line) that pass through the park at various points. These include: the road from Mkwaja to Makurunge on its way to Bagamoyo; the road from Mkwaja to Mkalamo on its way to Mkata; the road from Saadani village to Mkange and Miono on its way to Mandera; the road from Matipwili to Mkange; the road from Manda to Kwamsisi; the road from Mbulizaga to Gendagenda; the road from Mikocheni to Mkalamo; and the road from Mikocheni to

It should be noted that in addition to these 8 public transport networks (including the railway line) there are several other road networks within the park used for game viewing and for management purposes such as patrol routes.

During the time of data collection for this study more expansion of roads (Picture 1 and 2) was going-on in the southern, eastern and western parts of the park, with the view to widen the road and upgrade some to tarmac level.



Photo 1: Trees along the narrow public road being cleared for road expansion in Zaraninge forest reserve in SANAPA

Source: Field survey for the study, October 2011



Photo 2: A section of the widened road under construction in Zaraninge forest reserve in SANAPA

Source: Field survey for the study, October 2011

Interviews with decision-makers at the community level (ward councilor, ward executive officer and village government leaders) revealed that the government is committed to such developments to enable farmers transport cheaply their produce to the market. As mention in the previous chapter, many people around SANAPA are small-scale farmers (peasants), who depend primarily on agriculture for their livelihoods. In addition, such roads are meant to create a shortcut to the Country's commercial capital, Dar es Salaam, and eventually reduce current traffic congestion along the Chalinze – Dar es Salaam Highway - currently the main entry for upcountry vehicles to the capital. Before, SANAPA acted as a barrier to local communities for such improvement on the transport networks.

According to SANAPA officials, the park is suffering from habitat loss, pollution (noise, oil spills, littering), road kills, human disturbance, animal feeding, and disease transmission from

public infrastructure, particularly roads and railway lines. In addition, such infrastructures together make the area more fragmented while, at the same time, interfering with wildlife movements and migration routes, increasing uncontrolled human influx and activities inside the park. In fact, rapid infrastructure development has remained one of the major challenges in managing this national park. Ultimately, these frustrate efforts by SANAPA to conserve biodiversity. Regarding these infrastructure, one park official for example, said,

“Honestly, our park is overwhelmed with these roads, they are everywhere in the park. If you go North there is that one going to Mkata, East you see this [pointing] one going to Bagamoyo, there is also that one [pointing] going to Mkange, in the South they have even cut down tree to widen the one passing through Zaraninge forest! So its roads, roads everywhere, I can’t even imagine the future of this park!”

Although the negative effects of the transport infrastructure development in and around SANAPA may be overstated and the positives unappreciated by SANAPA officials – who are obviously conservationists, it is worth noting that SANAPA is already constrained by blockage and encroachment of its corridors by increasing pressure from human settlements, farming, timber exploitation and charcoal burning. As noted in the previous chapter, the park ecosystem is already isolated from other biologically rich areas such as Wami-Mbiki in the west, Selous Game Reserve in the south, and as far as Kiteto, Simanjiro and Tarangira in the north. Before, wild animals used to migrate to and from SANAPA to such biologically rich areas. The only one corridor that was thought to exist, the SANAPA - Wami-Mbiki corridor, is no longer there. Recent studies by Kikoti (2011) and Van de Perre *et al* (2014) did not confirm the existence and functionality of this highly predicted corridor for SANAPA.

On the other hand, the results from informal discussions with various members of the local community and interviews with decision-makers at the community level (ward councilor, ward executive officer and village government leaders) suggest that such developments were embraced by the local communities. This unlike SANAPA management, who were not happy with infrastructure development in and around the park - only that there was no way out, to them, those were signs of ‘new life’ in their villages. Poor road infrastructure has been cited as one of the key factors hindering farmers’ efforts to lift themselves out of poverty. Farmers often complain that their crops sell at low prices while consumers complain over higher prices in the market due to rising costs of transport emanating from poor roads (Uche, 2012). In fact, poor

road infrastructure to transport crops from areas with plenty to areas with little has also been blamed for food insecurity in Tanzania. For example, one village government official noted,

“...You know, sometimes I just wonder if this country is really serious to improve the lives of its people. If you go to urban areas you clearly see how people complain of soaring food prices. But the problem is obvious! Food crops are there but the problem is poor road infrastructure to transport them from areas with plenty to those with shortages. So we could be investing heavily in road construction to alleviate the problem. Now, we are happy that the government is working to fulfill its promises made by the President in his 2010 presidential campaigns in our area.you see roads are being constructed now, but it’s strange that our neighbours [SANAPA people] are not happy with these roads”.

The results further suggest that while the government, through establishment of various conservation institutions and interviews with village government officials, seems to be committed with biodiversity conservation, it often struggles with a balance between conservation and social-economic development. This arises from the fact that the potential drivers of economic and social development, such as transport infrastructure, need to be in place. But on the other hand, such drivers often bring their own pressures on biodiversity conservation. As such, the government attempts to simultaneously address the two distinct problems of alleviating poverty and conserving biodiversity. Infrastructure development in the study area aims at attacking one of the root causes of poverty – linking the poor to the market economy (Barrow and Murphree, 2001; Ferraro, 2001), especially in rural communities while minimizing losses of biodiversity inevitably caused by such development (Sayer, 2009). In this case, the government seems to explore options and find solutions that meet both local livelihood needs and biodiversity conservation goals. Commenting on such infrastructure, one ward official narrated,

“We really need these roads [pointing to Matipwili – Mkange and Mkwaja – Bagamoyo roads]; we have been isolated for long time. Hope you have seen those rotten pineapples in the farms, no roads, no one would bring his truck here [to carry the crops], and if he comes he may not leave [because the road is terribly bad]. We love our National Park but we also want to live, so honestly, we need the road! That’s why you see me coming here every now and then [at Wami River in Matipwili where the bridge was being constructed] to see how things are progressing.After all, this road is taking just a small portion of the park, and I don’t think that small portion will make that big impact to the park. You know the problem with these people [park management] is that they want to conserve every land, so where are we going to live or pass.you know sometimes, you just need to use your common sense, you see people have their farms everywhere, they grow a lot of crops, but they don’t earn anything out of their efforts because they can’t take their produce to the markets, no reliable roads!”

A move by the government to have such infrastructure in place for the local communities seems to reflect the experience of Goodall (2006), who observed that long-term conservation in Africa can never be successful unless local communities are taken into consideration. This implies that there is a need to balance between biodiversity conservation and social-economic development as it is now increasingly evident that the need to conserve natural assets is not only compatible with social-economic development but is to a large extent dependent on it. In fact, to conserve all biodiversity is often not a realistic objective, and development will inevitably cause some losses of biodiversity (Sayer, 2009).

It should be noted further that in agriculture-based countries – which include most Sub-Saharan Africa - agricultural development remains the primary driver for spurring growth, overcoming poverty and enhancing food security (<http://www.cic-wildlife.org/index.php?id=478>). Tanzania, for example, cannot avoid agriculture as the major catalyst of development taking into account that about 80 percent of the 45 million people population in Tanzania are farmers, and out of every 100 people, 80 are small-holder farmers (peasants) who farm between two and four acres (URT, 2011). But on the other hand, agricultural policies and practices arguably have the greatest impact on biodiversity conservation in a given area. This is due to the fact that agricultural development is often associated with conversion of forest and grasslands into farmlands contributing to dramatic loss in wildlife habitat, and ultimately leading to large scale demise of wildlife populations and diversity (<http://www.cic-wildlife.org/index.php?id=478>). However, the negative impacts of such development on biodiversity conservation can be reduced through proper planning and design, coupled with appropriate research before, during, and after any development in and around PAs (Fyumagwa, 2012). And since much of human well-being depends on biodiversity (Collins, 2013; Homewood *et al*, 2012), it is necessary to consider other key components of conservation: economic growth, poverty reduction, improvement of quality of life, and social well-being (Homewood *et al*, 2010).

4.4.2 The proposed sugarcane plantation adjacent to SANAPA

The findings revealed further that there are pressures of development on biodiversity conservation in and around the park arising from the proposed sugarcane plantation adjacent to SANAPA. Also, the findings indicate that there have been conflicts between those who want to use land for investment (investors) and conservationists - who often want to use land for

conservation purposes in the form of protected areas. The Agro-industry in the former Razaba Ranch adjacent to SANAPA represents an important conflict case study between conservationists and investors. The Ranch borders the Wami River and Saadani National Park in the north (Figure 8).

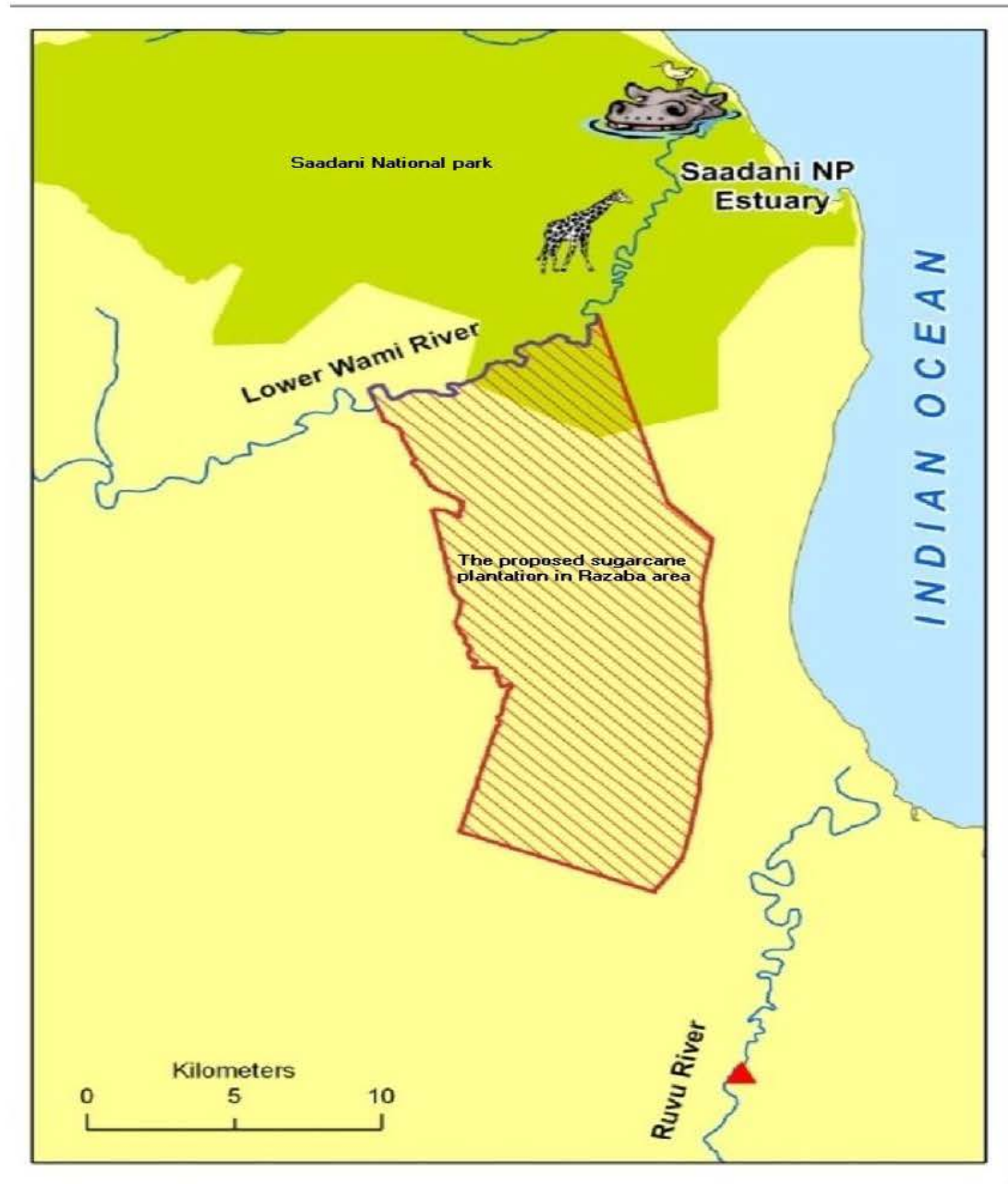


Figure 8: The former Razaba Ranch in the Wami River Basin adjacent to Saadani National Park
Source: Monroy, 2010 – as modified for this study

The Razaba Ranch and Agro-industry

In the following section, I will describe the Razaba Ranch and Agro-industry, discuss the nature of the conflict with SANAPA, and point out why this Agro-industry in the former Razaba Ranch (the proposed sugarcane plantation) is considered by SANAPA as a pressure of development to conservation efforts in and around the park.

The Razaba Ranch was formally leased to the Revolutionary Government of Zanzibar in 1974 for the purpose of establishing a cattle ranch. Inhabitants were compensated and resettled outside the area. A socio-economic and cultural environment survey carried out by ORGUT Consulting AB indicated that the Razaba area has a long history of settlement for at least 1500 years with farmers, hunters, traders and fishermen (Sundell *et al*, 2008). Three villages (Makurunge, Kidomole and Matipwili) and 4 sub-villages (Gama, Razaba, Kitame and Mkwajuni) have land bordering the Razaba area. However, peasants in these villages cultivate paddy near the former Razaba Ranch.

The ranching strongly affected the area as many forest thickets were cleared to eliminate tsetse flies. Natural wetlands were modified to establish water reservoirs and several roads were constructed to ensure access to, within and from the area. A ranch headquarter was constructed with several buildings including a primary school which is still in use. The ranch also established a coconut plantation which still exists. The cattle ranch was given up in 1994, partly due to problems with tsetse flies, and was closed. Many of the present woodland thickets started growing up as the cattle was removed and the ranch management ceased. This semi wilderness attracted both peasants and pastoralists - who used the area for small-scale farming and as a seasonal grazing land respectively. There are a few settlements within the overall area and some sparsely populated pastoralist settlements, mostly of a temporary nature or seasonal nature. The majority of the houses are simply mud and wattle huts roofed with grass thatch or coconut leaves.

In 2005 the former Saadani Game Reserve, just north of the Razaba area, was gazetted as a national park including part of the southern bank of the Wami River in the former Razaba area. (Government Notice No 281 of 2005). This area was included in the national park to protect the mangrove swamps near the estuary and ensure better water access for the wildlife during the dry seasons. TANAPA considers the remaining area of the former Razaba Ranch as an important

dispersal area for wildlife in SANAPA, especially given the fact that the park is rapidly becoming isolated due to a number of reasons including expanding human settlement, farming and infrastructure development. The area is potentially rich in wildlife and shares many species with the adjacent Saadani National Park. All taxonomic groups including mammals, birds, reptiles, amphibians, fish and many invertebrate groups are represented. The importance of this area for bird conservation, for example, is indicated by the high abundance of birds observed during the field survey. More than 20 different large mammals are reported from the area. Warthog, duiker Sykes monkey and yellow baboons were physically observed during the field survey while elephants, hippos, bushpigs, buffalos, reedbuck galagos were recorded through animal signs. Local hunters and other local people further report the presence of such notable mammals as lion, leopard, cheetah, black and white colobus monkey, sable antelope and wild dogs.

In a move to annex the remaining ranch area, SANAPA approached those (peasants and pastoralists) who had moved back in the former Razaba Ranch with the view to compensate them so they could leave the area for the park. They left the area and SANAPA resurveyed the area and established beacons to mark the new park boundary. When SANAPA consulted those who were still living in the area for compensation, others, who used to live there but were compensated when the area was leased to Revolutionary Government of Zanzibar, had moved to other places elsewhere (such as Bagamoyo, Dar es Salaam, or nearby villages) to start new life. When those who had moved the area heard that their fellows have been compensated, they organized themselves and started asking for compensation as well, and criticized the legality of SANAPA's approach to take their land. They demanded for the minute sheet of the meetings to see if their village (Matipwili) was involved in the process just like when the land from Kisauke (another sub-village of Matipwili) was included in the park. While pressing for compensation, they moved back to the area and establish their settlements, and engaged in a number of activities including cultivation of rice, pawpaw, mango, maize, vegetables and other food crops.

Later, SANAPA came to learn that the Revolutionary Government of Zanzibar has already agreed to allocate 22,000 hectares of the Ranch to SEKAB BioEnergy Tanzania Limited for sugarcane plantation. SEKAB BioEnergy Tanzania Limited is a company in Sweden, which intends to develop 20,000 ha concession for irrigated sugar cane production and a BioEthanol

processing plant located on the former Razaba Ranch property in Bagamoyo District. This was the start of the conflict between SANAPA and the investor over the proposed new agro-industrial area under SEKAB BioEnergy. While a discussion about who has legal rights over ownership of the area in conflict falls beyond the scope of this study, the conflict between SANAPA and SEKAB over this area was more about the negotiation of trade-offs between conservation and economic goals respectively.

It is, however, important to note that apart from taking the land that SANAPA thought was important dispersal area for wildlife in the park, SEKAB in addition intends to draw water from Wami River for irrigation of the proposed sugarcane plantation. The proposed new agro-industrial area has its northern boundary along the Wami River and Saadani National Park (Figure 8). Water withdrawal from rivers is one of the most important direct drivers of biodiversity loss and changes to ecosystem services (Millennium Ecosystem Assessment, 2005). In the same line of thinking, conservationists in Tanzania argue that rising agribusiness investments has brought yet another threat to biodiversity conservation in the country (World Bank, 2012b). Although such activities have the potential to provide revenue for development, they also pose potential threats to conservation efforts due to spatial distribution and extent of agricultural concessions and the environment impact that agriculture causes - through the use of chemical fertilizers and pesticides (World Bank, 2012b).

However, interviews with park officials revealed that there have been a series of discussions between the government, SANAPA and SEKAB, with the view to find a lasting resolution about this area. In fact, during the time of data collection for this study, the conflict was on its final stages though park officials were somehow not happy with the government decision on the matter. But since the decision was made by the President when he visited the area, there was nothing more they could do apart from adhering to the government's directives. One park official for example, said,

“Yes, the Gama [part of the area in Razaba ranch] conflict is over now, the President has decided we [SANAPA] take one kilometer beyond the river [Wami River] and we leave the rest to the BioFuel Company [SEKAB BioEnergy Tanzania Limited]. Yeah, we are very disappointed, but that is the decision from the Head of the State, there is nothing more we can do! So the park is on the process to re-allocate our beacons”

It is, however, important to note that such decision by the President appears to reflect the government's struggle to balance between biodiversity conservation and social-economic development. It is a reflection on how to internalize development concerns into biodiversity conservation while minimizing adverse impacts of development on conservation. Also, it reflects Tanzania's five year development plan in which the government promises to promote agriculture by transforming it from subsistence-based into commercially viable ventures, expansion and improvement of irrigation, and development of agro-processing industries. Private investment is encouraged in crop farming and the supply of fertilizers, pesticides and high yielding seeds as well as agro-processing to add value to farm produce (URT, 2011). Inability to add value is a serious problem in Africa (Uche, 2012). In addition, sugar is one of the three staple food commodities, which the government seeks to increase their production to ease the cost of living, currently seen to hit millions in Tanzania. Others are maize and rice. Agriculture bears the majority of the poor people in Tanzania, and is one of the five key priority areas the government focuses to promote in its five year development plan. Other areas include infrastructure, industry, skills development, and tourism, trade and financial services (URT, 2011).

On the other hand, the local communities seem to be in a tense of speculation and confusion about their future. Informal discussions with them revealed that they were confused of their fate in the area though they know they will be evicted after some time, but were expecting some compensation. The only thing they were still unsure of is that they do not know exactly who is going to take the area and pay them compensation, and were urging the government to speed up resolution efforts. Interestingly, they seemed to embrace the BioFuel Company more than TANAPA. One community member for example, said,

“...so we are still waiting for our fate, we don't know who is going to give us our right [compensation]. We just hear rumours the area has been given to the BioFuel Company, and we are happy with that, but we haven't seen them here, so we are eagerly waiting for them!”

It is, however, important to note that these people were paid compensation when the area was a ranch under the Revolutionary Government of Zanzibar, and some of them were compensated again by TANAPA when SANAPA took over the area. Implicitly, one could imagine why this time they would like the areas to be allocated to the BioFuel Company as they expect some more compensation from the company as well.

Rising agribusiness investments in Tanzania are fueled by the need to strengthen food security, the need for national energy security in the face of rising prices of petroleum products, associated opportunities for socio-economic development of the rural poor Tanzanians, and the good investment environment created by the government that attracts even more investors in the field (World Bank, 2012b). In addition, the proposed sugar plantation in the study area seems to come in timely as the country struggles to solve the sugar deficit in the country as its availability becomes more problematic with inflation of the commodity. Predominant subsistence farming in Tanzania is being cited by World Bank (2012b) as a major factor behind the agriculture sector's failure to bring about economic empowerment to the people. Through the national agriculture investment strategy, the government seeks to attract agro-business investors from around the world to invest in the sector and modernize it in order to make farming more attractive to the youth, who comprises about 50 percent of the 45 million people population in Tanzania. While unemployment is the core problem facing the youth population in the country, the same (youth) have a general feeling that farming is a back-breaking occupation. In addition, the government describes the move to welcome agro-business investors as beneficial to small-scale farmers – who can take advantage of supply chain and investments to access new market opportunities. Elsewhere in the country, established private large farmers were providing extension services and market for small-scale farmers around them (URT, 2011).

4.4.3 Sea salt works in and around SANAPA

The results suggest that there are also pressures of development on biodiversity conservation in and around SANAPA arising from sea salt works in and around the park. During fieldwork two important sea salt works were identified: the Coastal Sea Salt Company in SANAPA and the newly established sea salt works in Buyuni village. There were tensions between SANAPA and sea salt companies and between SANAPA and local communities over such salt works in and around the park. SANAPA officials had the feeling that salt works in and around SANAPA present another impediment to conservation efforts in and around the park. The park management was in conflicts with local communities for selling their land to investors in the field. The study revealed that the root causes of such conflicts are mainly conflicting interests and lack of collaboration between government institutions, with a bearing on ignorance and poverty of local communities in the study area. In the following section, I will describe these two salt works (the Coastal Sea Salt Company in SANAPA and the newly established sea salt works

in Buyuni village) and highlight the nature of the conflict with SANAPA while pointing out why they are viewed by SANAPA as pressures of development to conservation efforts in and around the park.

Sea salt works in SANAPA

Sea salt works in SANAPA are operated by the Coastal Sea Salt Company. The company is situated within SANAPA and its operations take place inside SANAPA as well. However, it is important to note that the Coastal Sea Salt Company is inside SANAPA legally. The company was there even when the area was a Game Reserve, but under the State Mining Corporation (STAMICO) by then. STAMICO, a parastatal organization, approached the Game Reserve requesting for that site to start Sea Salt Works, and they were given. So it is a legal area within another legal area.



Photo 3: Salt production at Sea salt works in SANAPA
Source: Field survey for the study, October 2011

Interviews with SANAPA officials revealed that when SANAPA took over the area (the Game Reserve with the salt company in it), it started a series of negotiations with the company owners aiming to move the salt company out because TANAPA Policy does not allow such kind of activities within the National Park. Negotiations were framed around compensating the company

so they could leave the place. Unfortunately, this option did not work out because the investors are not willing to leave their business. When this failed TANAPA initiated another move to get rid of the salt company. This time, TANAPA approached government institutions responsible for the issuance of land lease asking them not to renew the salt company's lease once it expires in 2017. However, this strategy also seems not to work out, because, despite TANAPA's efforts, there were rumours during the time of data collection for this study that the company has already extended their lease for another period, normally up to but not exceeding 99 years (URT, 1999). One park official for example, said,

“We had a series of meetings with these people [the salt company] so we could give them compensation and leave the place, they don't like to hear something like this! We started another move to get them out of the park, this time by lobbying relevant government authorities not to extend the company's lease once it expires in 2017. This strategy also doesn't seem to work out because there are rumours that they have already renewed their lease, of course, through unscrupulous officials, you know our country! So that's the story behind these people [the salt company],I don't know how we can remove them, you know the length of right of occupancy normally specified in the lease, it's years and years, to me it's like there is no way out!

While the controversial renewal of the salt company's lease somehow indicates that there are conflicting interests and lack of collaboration between government institutions, it also compromises the confidence of conservationists in the country and frustrates efforts by SANAPA to conserve biodiversity in and around the park. In addition, it demonstrates the importance of bringing together all key players in conservation rather than working as fragmented institutions as it seems the case here. On the other hand, this cements the idea that the government is trying to balance between biodiversity conservation and other economic sectors.

However, SANAPA maintains that although, there is no study so far conducted to investigate the impact of this company to the park, obvious threats are already seen. The company has created a Sea salt village (Figure 7), and has directly or indirectly brought in over 300 people. Some of these people use the company as a cover (as workers of the company), but are actually poachers. Others just come to stay with their relatives who work for the company, but in the course of stay they engage in poaching and other illegal activities. One park ranger for example pointed out,

“You see all those people [pointing to settlements in Sea-salt village], don't think they are all workers of the salt company – some are just poachers staying with their friends or relatives who work for the company. There are times when they sell game meat among

themselves in dark market, but they don't sell to someone they don't know. If you are there you can just hear words like coconut, pawpaw, beans etc. for sale, but in essence they mean game meat. They do so to avoid attracting the attention of any visitors who might be there without their knowledge. They really give us hard time to protect these creatures [wild animals] in the park”.

In addition, these 300 people depend heavily on park resources for survival. Based on their lifestyle and nature of job (casual labour), I could imagine their wages, their widespread poverty and eventually acknowledge their heavily dependence on natural resources around them for a living. They illegally cut trees for firewood, charcoal, and building materials, particularly poles which are commonly used to construct local shelters. These activities together lead to loss of habitat and over-exploitation of park resources, threaten species and increase pressure on biodiversity conservation in SANAPA. The Coastal Sea Salt Company has been blamed by SANAPA management for being one of the big sources of increasing uncontrolled human influx in and around the park. It is, however, important to note that population growth and over-consumption are critical driving forces behind loss of biodiversity (WWF, 2012).

Informal discussions with local communities indicated that the major source of lighting is kerosene. Fuel wood is by far the major source of energy for cooking. The use of charcoal as source of energy for the villagers themselves is insignificant in all villages in the study area. However, charcoal making activities are quite significant throughout- in almost all villages. Most of the charcoal is transported to and used in Bagamoyo, Zanzibar and Dar es Salaam. Many villages have fairly good road infrastructure, especially during the dry season, and hence are easily reached by trucks to transport charcoal to the target markets.

As pointed out in chapter 3, SANAPA suffers greatly from poaching activities expressed in the illegal hunting of wild animals for trophy and bush-meat and tree-cutting for firewood, charcoal, and building materials - particularly timber and poles for shelters. Similar to what Lowaeli (2008) observed, these activities are practiced in many varied styles in a secretive way, and their distribution patterns are more and more complex to escape the efforts of the responsible official agents to suppress the activities.

The newly established salt works around SANAPA

In another sea salt conflict, the Buyuni people approached SANAPA requesting assistance to develop the village land-use plan. Since the village borders the park (Figure 7), SANAPA agreed

with them to set aside a Wildlife Management Area (WMA), a community owned wildlife area, in the plan. The area was meant to generate income for the village through tourism activities while serving as a dispersal area for wildlife from SANAPA. However, when SANAPA finished the land-use plan, one investor approached the village and convinced them that he wanted to establish a Sea salt works in the village in the area specifically meant for the WMA. The investor had promised hefty compensations to village, the provision of clean and safe water to communities and improvement of health, transport and education services. There were also promises of abundant employment opportunities. To SANAPA, this was really shocking news because already there is the Coastal Sea Salt Company inside the park, which brings a lot of challenges and threats to wildlife conservation.

The park did some efforts to stop the investor from establishing the Sea Salt Works in Buyuni village. Several government institutions responsible for the issuance of legal permits needed for the business were consulted. But due to lack of collaboration between government institutions and unscrupulous officials the investor managed to obtain all legal documents required to start the business. He cleared the natural woodland habitat with forest thickets and grassland resulting into loss of rich biodiversity, to establish his business. However, his business is not doing well because the soil type there does not allow water to stay – the water perforates into the soil (seepage) before evaporation takes place. In fact, the project has stalled and left frustration among communities not only from unfulfilled promises and compensation that are peanuts, but also from collapsing business.

My experience in Tanzania as a citizen and researcher shows that the craze in recent years for huge investments on village land in Tanzania has seen poor local communities being dispossessed of their land through tricky contracts and the false hope of making richness overnight. Both of which have seen these communities being short-changed and having nothing in their name. With a target of fulfilling their business ambitions and promises of improved socio-economic conditions to local communities, such investors often manage to acquire, legally and illegally, large tracts of arable land in many parts of the country (WB, 2012). In most cases, investors capitalize on the lack of collaboration between government institutions, poverty and ignorance of local communities. One park official for example, said,

“In my experience here, many conflicts with local communities, especially land disputes, originate from money – angry people [investors] who want to invest on village land.

Normally, they capitalize on the lack of collaboration between government institutions, corruption, poverty and ignorance of local communities to fulfill their business ambitions”

While sometimes the investors acquire land through established channels meeting requirements by the central government, the district council and other relevant authorities, villagers are often tricked into selling their land with promises of hefty compensations to the village government and individuals, the provision of clean and safe water to communities and improvement of health, transport and education services. There are also promises of abundant employment opportunities, usually in thousands. However, most of the promises are not met and this leaves individuals and communities in general poorer than they would otherwise have been without selling their land to the investor. Frustration also abounds among community members because an endless process to get redress begins and besides the fact that the process never ends favourably. The relevant authorities who should have helped these communities get their rights abandon them. At the end of the day a sour relationship between the community, the investor and government is created.

Although Buyuni village is not inside the park, SANAPA’s concerns were the adverse impacts associated with the business to the survival of wildlife in park, especially given the fact that already the Coastal Sea Salt is causing a number of challenges to biodiversity conservation in the park. Buyuni village borders the park (Figure 7). Thus, similar effects to the park were expected, thereby adding much more pressure and threats to wildlife conservation in and around SANAPA. In addition, clearing of vegetation, establishment of project, infrastructure, increased human presence and activities would interfere with the wildlife movement and migration routes.

On the other hand, Tanzania, as one of the countries in the Global South, views the industrial sector as the rolling stock of economic growth and development, employment generation and poverty alleviation. The country is struggling to build and establish sustainable industrial sector that could become the engine for economic growth (URT, 2011). This implies that the government is likely to be reluctant to close down Sea-salt works in the study area, especially given the fact that the importance of the industrial sector in speeding up economic growth with tangible impact on poverty alleviation was obvious. It has been trying to balance between biodiversity conservation and socio-economic development.

In addition, I can argue from this local case study that the interests of conservationists and local communities will not be the same in general. It is clear that negotiations of trade-offs will always be at the forefront when making decisions of what to invest on a particular piece of land. Investment opportunities that ‘promise’ to address people’s concerns are mostly welcome by the local communities. In fact, by choosing not to make their land available for biodiversity conservation, local communities in Buyuni village represent an example of how market-driven business ventures would work if local communities truly could have exclusive rights to their land and the capacity to negotiate directly with potential investors (Igoe & Brockington, 2007). These are critical issues to consider when seeking to advance biodiversity conservation beyond protected areas, especially on village lands, both in Tanzania and globally.

4.5 Conclusion

Using a case study of Saadani National Park (SANAPA), this chapter has presented a depth of understanding of the relationship between conservation and development in the context of Tanzania. More specifically, the chapter has examined development pressures in relation to biodiversity conservation in and around SANAPA, and has shed light to the challenges and complexity of internalizing development concerns into biodiversity conservation with the view to achieve both conservation and development objectives.

The findings show that the management of SANAPA is in conflict with the investors in the area and local communities over the pressures of development on biodiversity conservation in and around the park. The pressures of development come from: transport infrastructure development in and around the park, the proposed sugarcane plantation adjacent to the park, as well as sea-salt works in and around the park. The root causes of such pressures revolve around the government’s struggle to balance between biodiversity conservation and social-economic development reflected in conflicting interests and lack of collaboration among government institutions, coupled with poverty as well as ignorance of local communities.

From the case of SANAPA, the chapter has important implications for decision-makers and conservation practitioners that need to be addressed if both conservation and development goals are to be realized. While the integration of conservation and development is generally accepted, alongside the fact that development is inevitably associated with some losses of biodiversity, the way it is in SANAPA needs some improvement. Infrastructure development in SANAPA needs

to be controlled for the betterment of biodiversity conservation. The current eight transport networks (seven roads networks and one railway line) appear to be too much, perhaps unnecessarily given the size of the park (1100 square kilometers). Some of these could be closed. The operation of the on-going sea-salt works needs to be reviewed. Their workers could stay outside the park and be allowed to come to work for the Sea-salt company during official hours. As such, the Sea salt village that was created by people as they come to work for and live near the company could be closed. The proposed sugarcane plantation adjacent to the park is likely to cause more loss of important dispersal area for wildlife, more fragmentation of SANAPA, and water withdrawal from Wami River. The River is important for the mangrove swamps near the estuary and is the source of water for the wildlife during the dry seasons. Environment Impact Assessment (EIA) needs to be conducted before further steps are taken, and once approved, its operations should seriously adhere to EIA guidelines that will be proposed. This is quite important to ensure that objectives of the plantation are achieved without compromising conservation objectives.

Through the local communities in Buyuni village, the findings have cemented the importance of negotiation of trade-offs between conservation and economic goals. It is therefore necessary to consider other key components of conservation (economic growth, poverty reduction, improvement of quality of life, and social well-being) since much of human well-being depends on biodiversity (Collins, 2013; Homewood *et al*, 2012; Homewood *et al*, 2010). For instance, sacrificing some land for the proposed sugarcane plantation and sea salt works will do far more to the livelihoods of the local communities in terms of poverty reduction than conserving the same land for community tourism activities. In my opinion, based on my observations and experience to the area during fieldwork as a researcher and as a citizen in the country, the management of SANAPA should focus more on managing the perceived threats or pressures of such developments than being conservative with defensive kind of conservation.

As mentioned for the case of SANAPA, one way to control human influx into SANAPA is that some public roads could be closed and remain with only few necessary and most needed, and then keep an eye to those few that will remain operational. This implies erecting entry and exits gates (one of the techniques of law enforcement) on each public road network to control and monitor human influx in and out. To further control human influx into the park, those working

for the sea salt company should stay outside the park and be allowed to come to work during official hours. This goes hand in hand with maintaining close watch and monitoring of vehicles in and out of the park, including cargo trucks that come to the sea salt company. I understand that all these certainly have cost implications in the end. But if we really want to achieve an optimal balance between conservation and development, protecting biodiversity against threats, and creating or maintaining particular standards of biodiversity conservation, then investing in law enforcement is inevitable. In fact, there is a strong body of opinion that in the face of growing threats to conservation, conservation money should be invested in law enforcement to strengthen control and monitoring of the threats of biodiversity conservation (Sayer and Campbell, 2004).

Threat-based conservation embraced by conservationists places them in a permanently defensive mode of thinking and acting in a way that reflects resistance to the integration of conservation and development (Sayer, 2009). But the challenges conservation practitioners (PA managers) are facing today (rapidly increasing human populations, poverty, food security and supply etc.) require more than ever that conservation and development be integrated (Wells *et al*, 2004). However, the integration requires proper planning and design, coupled with appropriate research before, during, and after the integration (Fyumagwa, 2012). This is useful to evaluate and monitor the integration and reduce the negative impacts of development on biodiversity conservation.

CHAPTER FIVE: Pastoralism and biodiversity conservation: should they live together? Key actors' perspectives from Tanzania

Abstract

Issues on conflicts between pastoralism and agriculture in Tanzania are well documented in the literature. However, issues on conflicts between pastoralism and biodiversity conservation hardly exist in the literature. This chapter examines the pastoral – conservation conflicts in the context of Tanzania's national parks. The chapter uses the case study of Saadani National Park (SANAPA) to study these kind of conservation conflicts. The aim is to understand the pastoral-conservation conflicts between the management of SANAPA and the pastoralists.

Fieldwork involved multiple method-approach: in-depth interviews with conservation management officials, community leaders, an NGO dealing with pastoral issues, and decision-makers at the community level - village leaders and local politicians; focus group discussions with pastoralists and small-scale farmers (peasants); document analysis; and field observations, coupled with my four-month period stay in the study area plus my experience with the wider community of Tanzania.

The results indicate that the main conflict between conservation and pastoralism in the study area is the encroachment into SANAPA by livestock in search of pasture and water. The livestock encroachment, however, is seasonal and is done by migrating pastoralists who are not originally from around the park. This chapter discusses this conflict and argues that the conflict happening in this particular case is more than a resource – use conflict driven by access denial. The conflict is induced by traditional management practices embraced by pastoral societies, the way conservation and agriculture are prioritized in Tanzania, and is reinforced by the practices of soliciting bribes embraced by conservation management staff, politicians, administrators, police and magistrates. With these factors, conflicts between pastoralism and other forms of livelihoods (not necessarily conservation) are likely to continue for unforeseeable future.

Key words: pastoral - conservation conflicts, biodiversity conservation, pastoralism, conservation, agriculture, livestock encroachment, Saadani National Park

5.1 Introduction

This chapter discusses the conflicts between pastoralism and biodiversity conservation in Tanzania. As pointed out in the theoretical chapter (section 1.7), there has been tensions between pastoralism and biodiversity conservation leading to frequent conflicts between these forms of livelihoods (see for example Reid *et al.*, 2008; Brown, 2002b; Homewood *et al.*, 2012). However, reports that document such pastoral – conservation conflicts hardly exist in the literature. This chapter wants to contribute to filling out this gap by examining the pastoral-conservation conflicts in the context of Tanzania’s national parks. The chapter uses the case study of Saadani National Park (SANAPA) and the pastoralists to study these kind of conservation conflicts. The chapter has started by presenting its summary of key issues in the abstract above. It then presents a brief discussion of the current debates and literature on the tension between pastoralism and conservation conflicts, which is the core issue this chapter wants to discuss. This is followed by an overview of the methodological approach and data analysis specifically for this chapter.

In the results section, the chapter presents a detailed discussion of the findings on the conflicts between pastoralism and biodiversity conservation, highlighting on the framework developed to examine key issues on these conflicts. This is followed by the discussion of the Tanzanian conservation, agriculture, and pastoralism sectors during colonial State and post-colonial State, including modernization ideologies of the government on pastoralism. The concerns of the pastoralists over such ideologies are presented and discussed as well, including the survival strategies of the pastoralists against the dominance of conservation and agriculture in the country. In the last section, the chapter concludes with the summary that brings together key findings and issues raised, recommendations for sustainable solutions, and avenues for further research.

5.2 Theoretical perspectives on pastoral – conservation conflicts

As mentioned in the theoretical introduction chapter (section 1.8), analysis of conflicts between biodiversity conservation and pastoralism hardly exists in the literature. Within the little literature that exists, the pastoral - conservation conflicts are viewed from two perspectives. First, from the adverse impacts biodiversity conservation causes on pastoralism, mainly the direct killing of livestock by wildlife and the denial of access to resources in PAs (pasture and water for

livestock) (SCBD, 2010; Marshall *et al*, 2007; Warner, 2000). Second, from the adverse impacts pastoralism causes on biodiversity, often habitat change, loss and species extinction or decline due to long-term environmental degradation, competition for resources, diseases interaction, and the direct killing of wildlife by pastoralists or wildlife by livestock (Homewood *et al.*, 2012; Madden, 2004).

These pastoral - conservation conflicts tend to be most noticeable during periods of stress such as drought when access to PAs is seen by pastoralists as vital to the survival of their herds and, hence, having a significant impact on their livelihoods (SCBD, 2010). However, conservationists maintain that wildlife - livestock interactions is not allowed due to increasing risk of disease transmission (commonly anthrax and rabies), competition with wild animals for pasture and water, and environmental destruction leading to depletion of the natural vegetation and eventually loss of habitat. To enforce this, they have formulated conservation policies and enacted conservation laws and practices that discourage livestock from entering into biodiversity protected areas (see for example Tanzania's Wildlife Conservation Act No.5 of 2009 and Wildlife Policy of 1998). However, despite this restriction, pastoralists still move their livestock into PAs in search for pasture and water, leading to criminalization of their practices, tensions and contentious relationships between them and conservationists (Bobo and Weladji, 2011; SCBD, 2010). In fact, a closer look on the literature revealed that this denial of access to resources (pasture and water for livestock) has structured not only debates on conflicts between conservation and pastoralism, but also debates between pastoralism and other forms of livelihoods, particularly agriculture (see for example Benjaminsen *et al*, 2009; PINGO, 2013; HPG, 2009; Mattee and Shem, 2006; Sendalo, 2009).

From this perspective, my argument is that there are two competing viewpoints that lead to the prevalence and recurrence of these pastoral – conservation conflicts. The conservationists' stand is that no interactions between wild animals and livestock while that of pastoralists is that access to PAs especially during times of drought is vital to maintain their pastoral livelihoods. In this situation, there are those who blame conservationists for embracing threat-based conservation, which focuses on protecting biodiversity against external threats rather than basing conservation plans on desired outcomes i.e. outcome-based conservation (Sayer, 2009). Also, there are those who argue that pastoralists do not prioritize biodiversity conservation in the same way as

conservationists, thereby leading to recurrence of pastoral – conservation conflicts (Homewood *et al.*, 2012). I can, therefore, argue that the tension between conservation and pastoralism appears to have originated from these competing perspectives of conservationists and pastoralists and are reinforced by their practices, policies and laws that govern the use of land in a particular country.

The bottom-line is that conservationists want to preserve biodiversity in and around PAs for much of human well-being (Collins, 2013) while pastoralists, on the other hand, want their livestock to feed on pasture in and around such PAs for survival (SCBD, 2010). A profound reflection on these perspectives can help to understand the conflicts between conservation and pastoralism, particularly in terms of their nature, root causes and resolution. As mentioned, this chapter presents a detailed case study of local conflicts between conservation and pastoralism in Tanzania using one particular case study, Saadani National Park. Studies on resource conflicts within a wider context of political economy emphasize that since conflicts occur within a particular cultural, political, and social context, they must be analyzed and addressed within the same context (FAO, 2008; Distefano, 2005; Muruthi, 2005; WWF, 2008; Madden, 2004; Lewis, 1999). In other words, conflicts need to be understood within a particular context – a historical, social or economic setting. In particular, this chapter wants to bring together perspectives of key actors in the pastoralism and biodiversity conservation in terms of their role in structuring, reinforcing, and resolving pastoral – conservation conflicts in the study area.

5.3 Methodological approach

Fieldwork was carried out during several visits to SANAPA in 2013 and 2014. Data was collected on the nature, causes, and solutions to conservation conflicts. Political factors were also taken into account. In-depth interviews were conducted with three senior officials working with the Wildlife Division, SANAPA staff (two senior officials and 13 park rangers), community leaders (two Ward Councilors and 12 village leaders), and one officer working with an NGO dealing with pastoral issues. To get views of the wider community, 17 pastoralists were also interviewed. In addition, three focus group discussions (composed of 7-9 people) were carried out with small-scale farmers (peasants). Initially, the plan was to include both peasants and pastoralists in each of the focus group discussions. But this was difficult to achieve because pastoralists in the study area live a mobile life, so difficult to bring them together. Furthermore, it

was realized that there was some resistance from these groups to sit together due to the enmity that exists between them.

Snowball sampling was used to choose interviewees among local communities. The first individuals, however, were purposively selected and asked for further referrals in order to identify other people who were considered as relevant for the study. The criterion used was whether a person had knowledge about conflicts related with pastoralism in general. Informal discussions were also carried out with 14 members of the local community (8 peasants and 6 pastoralists). The sample size for interviews and informal discussions was reached when new participants were no longer adding insights to the research questions. Both the interviews and discussions were conducted in Swahili by myself (the researcher) but, later transcribed and translated to English.

Field observations, to witness the role of such conflicts in the study area, were made possible with my four-month period stay in the study area plus my experience with the wider community.

In this study, data analysis was conducted in four steps. First step, involved the analysis of data collected from the initial fieldwork phase (see the research strategy section 2.2), which was mostly exploratory visits to the study area. The idea was to get to know the area, the people and to identify key themes that structure understandings of the conflicts between pastoralism and conservation and actors involved.

In the second step, data collected from the actual fieldwork using the interview guide (Appendix 1) were analyzed in line with the questions in the guide while looking for consistencies and differences across responses of each question. Several themes and analytical issues emerged, such as how conservation, pastoralism, and agriculture influence the political commitment of the government, and their impacts on pastoral – conservation conflicts. It is important to note that during the analysis of field data, agriculture emerged as one of the analytical issues that could provide more detailed insights into pastoral – conservation conflicts in the study area. Consequently, more data on agriculture was collected during document analysis and agriculture was, therefore, considered in the analysis of data.

In the third step, a number of relevant documents and other studies were collected and reviewed. The review was important to set this discussion in the context of key analytical issues identified

from field data about conservation, pastoralism, and agriculture including their dominant perspectives in the literature on pastoral – conservation conflicts. During this review, the nature and evolution of these forms of livelihoods in the country was examined by looking at how they became established in the first place, how they were realized, promoted and articulated in laws, policies and institutions. The review integrated the stories from the field about the conflicts from key actors – pastoralists, peasants, NGOs, conservation management officials, and decision-makers at the community level - village leaders and local politicians.

In the fourth step, a framework (Figure 9) was developed to present and discuss the findings while still keeping conservation, agriculture and pastoralism as central concerns and objects of analysis. This framework is discussed in detail below in the section of results and discussion. However, I should point out that after data analysis, I developed this framework to show the relationships of key perspectives identified and other analytical issues while examining the pastoral – conservation conflicts in the study area. The aim was to study these issues in a more systematic way. In the following sections, the chapter now discusses the findings from this analysis.

5.4 Results and discussion

Overall, the findings indicate that the main conflict between conservation and pastoralism in the study area is the grazing of livestock inside SANAPA (Picture 4).



Photo 4: Cattle grazing in one of the protected areas (not SANAPA) in Tanzania
Source: Tanzania Daily News, Dar es Salaam, 29 January 2013

The pastoralists bring their livestock into the park to graze - an act described by park officials as livestock encroachment into the park. However, this encroachment into SANAPA by livestock is seasonal and is done by migrating pastoralists who are not originally from around the park. Such pastoralists are absent for parts of the year, especially during wet season.

The analysis of both field data and the review of previous studies and various report documents revealed that the root cause of this conflict revolves around the way biodiversity conservation and agriculture are prioritized in the country as well as the mobile form of livestock keeping embraced by pastoralists and are reinforced by issues of governance and corruption. The actors in conservation and agriculture sectors have created negative images about pastoralists and pastoralism. The pastoralists, for instance, are presented as being conservative and resistant to change, are described as 'don't care people' - do not care about other people's life, are aggressive to their neighbours, and can deliberately take their livestock to feed on someone's crops. Yet, pastoralism is presented as environmentally destructive. On the other hand, the same actors have created positive images about conservation and agriculture. For example, both agriculture and biodiversity conservation are portrayed as drivers of economies and job creators (Figure 9). While each of these images has some validity, it is more than likely that the way in which pastoralists interact with conservationists and agriculturists is more complex than each image suggests. But the bottom-line is that these images have structured not only debates on conflicts between conservation and pastoralism, but also debates between pastoralism and other forms of livelihoods as well, including their recurrence in Tanzania.

In the following framework (Figure 9), the main ideas underlying these sectors (conservation, agriculture, and pastoralism), actors advocating them, and their political leverage over government are captured, presented and discussed in more detail. The aim is to show how biodiversity conservation and agriculture are prioritized in Tanzania, and how this prioritization has contributed to the recurrence of the pastoral related conflicts in the country.

5.4.1 A framework for examining on pastoral-conservation conflicts

This framework (Figure 9), among other things, suggests that various actors with varying power, knowledge, and positions are behind conservation, agriculture and pastoralism sectors through their decisions, practices, and way of thinking. These are underpinned by their dominant

ideologies informing such sectors and are reinforced by power relations from the global level via the national to the grassroots, and the interlinkages between these levels.

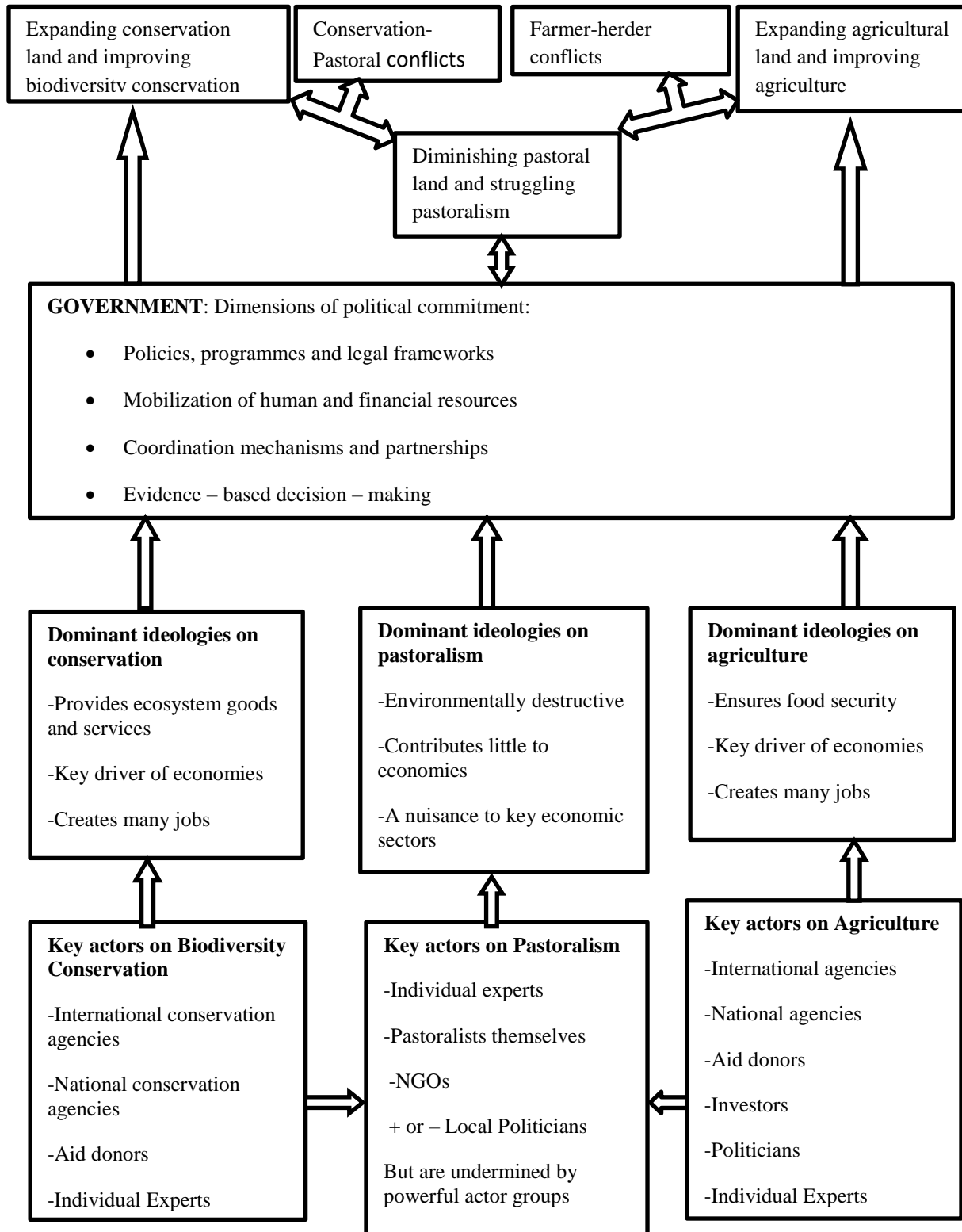


Figure 9: A framework for examining pastoral – conservation conflicts
Source: Field data for the study 2011- 2015

Also, the framework suggests that the dominance of the sector partly depends on the dominant ideologies underlying that particular sector especially its direct impacts on economies, actors advocating the sector in question and their political leverage over government - often measured in four dimensions of political commitment: policies, programmes and legal frameworks; mobilization of human and financial resources; coordination mechanism and partnerships; and evidence – based decision-making. Both conservation and agriculture sectors enjoy this political commitment from the government of Tanzania and cements their dominance over the pastoralism sector (Figure 9).

The outcomes of such political commitment, according to the framework, have been policies, laws and practices that favour conservation and agricultural sectors - expansion of conservation land and improved biodiversity conservation; and expansion of agricultural land and improved agriculture – with little attention on pastoralism. Conversely, there has been decisions and practices that affect pastoralism leading to diminishing pastoral land, struggling pastoralism, and frequent conflicts with conservation and agriculture (Figure 9). While a detailed discussion of these issues is provided in the subsequent sections of this chapter, my argument is that the way in which the conservationists, agriculturalist, and pastoralists interact with each other and the State, and how these parties perceive each other can help to better understand the conflicts between pastoralists and other land-users.

In the following sections, therefore, I will discuss the relations between the State and each of these three key sectors (conservation, agriculture, and pastoralism), which according to me, structure the pastoral – conservation conflicts in Tanzania. Through my research, I found that there are important overlapping issues to consider in these sectors when one wants to understand the tension between pastoralism and other forms of livelihoods (not necessarily biodiversity conservation). In discussing the relations between the State and such sectors, I rely on the notion that sometimes it is necessary to go back in time to find out whether there are any substantive differences in the perceptions of these sectors between colonial State and post-colonial State. My underlying assumption is that since the composition of the State has changed over time, its

perceptions towards such sectors might have changed too. In this review, I will look at the way such perceptions have contributed to structure the pastoral related conflicts in the country.

5.4.2 Biodiversity conservation and the State in Tanzania

As pointed out in chapter one, advocates of biodiversity conservation describe biodiversity as the wide variety of ecosystems and the living organisms: animals, plants, their habitats and their genes (Collins, 2013). They view the importance of biodiversity in terms of: economic value - often through nature based tourism and recreation; and our heavily dependence on biodiversity for existence - upon the functioning of the ecosystems for their goods and services such as food, fuel, medicinal plants, construction materials, tourism and recreation, wild genes for domestic plants and animals, oxygen, fresh water, pollination, protection from storms and flood, stable climate, and nutrient cycling that maintain the conditions for life on Earth (Wilson, 2002; <http://www.iucn.org/what/tpas/biodiversity/about/?gclid=CInDj8-10q8CFc4LtAodwnFfHg>).

The main ideas that frame the biodiversity conservation are thus: biodiversity brings foreign currencies to the economies through tourism, creates employment, and supports our lives through ecosystem services. These points are increasingly used by governments to justify biodiversity conservation and the establishment of PAs (Chape *et al.*, 2008). Tanzania, for example, has set aside 40.5% of her land for conservation (about a third of the country's total surface area of 947,300 sq.km), hence categorized as a 'mega-diversity' nation (Stolla, 2005; WEF, 2012). Contributing to this are the country's extensive tracts of wilderness and rich biodiversity realized in various forms of protected areas, including the 16 National Parks, Ngorongoro Conservation Area, 33 Game Reserves, 43 Game Controlled Areas, and several Forest Reserves and Marine Parks (URT, 2012). Such protected areas play a major role in the conservation of biodiversity and demonstrate great conservation efforts of the country (Chape *et al.*, 2008).

Baldus (2000) and Nelson (2007) highlight the history of biodiversity conservation in Tanzania before and after independence that led to the emergence of the conservation in the country. Before independence, the biodiversity conservation was advocated by local chiefs and colonial administrators. Their actions promoted and established conservation in the country (Baldus, 2000). They defined institutional practices and individual activities that reflected their determination in conservation. They set parameters within which people could act to uphold biodiversity conservation (Baldus, 2000). Biodiversity conservation in Tanzania was

characterized by certain taboos or legal restrictions on hunting wildlife, the establishment of protected areas to preserve habitat, and central control over wildlife by state organs (Nelson, 2007).

Before the arrival of Arabs and Europeans on the East African Coast (Tanzania inclusive) the human pressure on wildlife was minimal. The killing of wildlife was not that extensive as local communities hunted for subsistence, and hunting technologies were poor, hence did not reduce wildlife population (Baldus, 2000). In addition, there were some taboos that also advocated conservation by prohibiting the killing of certain species of wildlife, cutting of some species of trees, and entering into certain forests, which were regarded as holy (Nelson, 2007). Supervision of such areas was in the hands of local chiefs, who were, in fact, conservation pioneers (Baldus, 2000).

After the arrival of Arabs, pressure on wildlife increased. Uncontrolled commercial hunting of wildlife for trophies (ivory, skin and horns) advanced using firearms. Ivory trade was established. The hunting was done by commercial hunters of different nationalities and some local people who were contracted. However, when the Germany took over in 1885, their administration could see the devastating effect of such uncontrolled hunting of wildlife. In 1891, the Germany administration declared the first hunting regulations, six years after the establishment of the Protectorate (what is now mainland Tanzania) and all hunting was regulated. In 1896, the first general Wildlife Ordinance was issued which applied to all German colonies in East Africa. Further hunting regulations were issued in 1898, 1900, 1903, 1905, 1908 and 1911. These laws regulated the off-take, hunting methods and trade in wildlife, with some endangered species (e.g. ostriches, chimpanzees) being fully protected. Wildlife population consequently recovered and conservation motivations changed from consumptive use (e.g. through hunting tourism) to aesthetic aspirations or non-consumptive-use such as game viewing. However, during British colonial rule some wildlife species were culled to keep their numbers in line with a growing population and expanding agriculture. In 1921 the British government established the Game Department (today the Wildlife Division under the Ministry of Natural Resources and Tourism). Its role was to administer game reserves, enforce hunting regulations and protect people and crops from problem animals (<http://www.mnrt.go.tz/sectors>).

After independence in 1961, biodiversity conservation became more dominant when Tanzania re-asserted her position on biodiversity conservation. This followed an increased focus on wildlife's potential to contribute to national income through tourism (Honey, 1999). Government officials and politicians led by the first President of Tanzania Mwalimu Julius Kambarage Nyerere became key advocates of biodiversity conservation in the country. Conservation motivations changed from the aesthetic aspirations of Europeans to the economic development priorities of the Tanzania state. President Nyerere maintained that the sustainable management of Tanzania's wildlife is a matter of great importance to the country. While addressing the symposium on conservation of nature and natural resources in modern African states in Arusha – Tanzania in 1961 (the Arusha Conference 5-12 September 1961), he gave a speech that has become inspirational and known as the Arusha Manifesto. He was quoted as saying: “the survival of our wildlife is a matter of grave concern to all of us in Africa. These wild creatures amid the wild places they inhabit are not only important as a source of wonders and inspiration but are an integral part of our natural resources and of our future livelihood and well-being. In accepting the trusteeship of our wildlife, we solemnly declare that we will do everything in our capacity to make sure our children's grandchildren will be able to enjoy this rich and precious inheritance” (quoted in http://www.tanzaniaparks.com/corporate_information.html).

Since then, the policy of the Government has been to continue with the extension and creation of many more protected areas. As mentioned, Tanzania today has one third of her surface area devoted to biodiversity conservation as protected areas. This commitment is inspired by the fact that biodiversity is central to the country's tourism industry which today provides over 40% of the foreign exchange earnings realized through hunting concessions and trophy licenses, export of live animals and from non-consumptive tourism such as game viewing and photographic tourism (Kideghesho, 2007). The other commitment comes from the growing appreciation of nature worldwide as a source of ecosystem goods and services, which make up the foundation for human well-being (Chape *et al.*, 2008). Protected areas are considered a cornerstone of conservation efforts around the globe (Bobo and Weladji, 2011; UNEP World Conservation Monitoring Centre Report, 2008).

The commitment to conservation continues to grow as the government recognizes biodiversity conservation as an important economic sector for economic opportunities and benefits (Stolla,

2005). The contribution of the sector to the country's GDP and foreign exchange earnings, creation of employment – both direct and indirect jobs have been realized (Stolla, 2005). Backing the economic importance of biodiversity conservation President Nyerere viewed tourism as an insurance to economic uncertainty. He was once quoted as saying: “I personally am not interested in animals. I do not want to spend my holiday watching crocodiles. Nevertheless, I am entirely in favour of their survival. I believe that after diamond and sisal, wild animals will provide Tanganyika [now mainland Tanzania] with its greatest source of income. Thousands of Americans and Europeans have the strange urge to see these animals” (quoted in Levine 2002:1047).

As pointed out earlier, protected areas in Tanzania are mainly in the form of National Parks, Game Reserves, Game Controlled Areas, Ngorongoro Conservation Area, Forest Reserves, Marine Parks and Wildlife Management Areas. With such an extensive expansion of protected areas network, Tanzania is applauded globally (described as a mega-diversity nation) for such commitment in biodiversity conservation (Stolla, 2005). This commitment has informed institutional arrangements for managing such protected areas and through which conservation is practiced. The main authority for wildlife management is the Ministry of Natural Resources and Tourism (MNRT). Within the Ministry is the Wildlife Division (WD) (now renamed the Tanzania Wildlife Authority (TAWA), which has authority for wildlife in Game Reserves, Game Controlled Areas and unprotected areas. National parks are managed by a semi-autonomous parastatal agency, the Tanzania National Park Authority (TANAPA). Ngorongoro Conservation Area is managed by another semi-autonomous parastatal agency, the Ngorongoro Conservation Area Authority (NCAA). And Wildlife Management Areas (WMAs) are managed by local communities in collaboration with the WD.

Also, the conservation commitment has informed laws and policies for managing biodiversity conservation. A number of legislation has been enacted or reviewed to protect biodiversity within and around protected areas. The main legislation is the Wildlife Conservation Act (No. 12 of 1974 R.E. No. 5 of 2009). This is responsible for protecting wildlife inside of Game Reserves and Game Controlled Areas as well as any wildlife found outside of any type of protected area. There is also the Tanzania National Parks Act (CAP 282 R.E. 2002), the Ngorongoro Conservation Act (CAP 284 R.E. 2002), the Forest Act No. 14 of 2002, and other laws relevant

to conservation. In addition, there are PA regulations, and policies such as the Wildlife Conservation Policy, which was formulated in 1998 to promote conservation of biological diversity and sustainable utilization of wildlife resources; to administer, regulate and develop wildlife resources; and to promote the engagement of the private sector and communities in managing wildlife and sustainable utilization and sharing of benefits.

State organs that manage PAs in the Tanzania use these laws and policies all together when enforcing biodiversity conservation in the country, as some provisions overlap with each another. In discussions with SANAPA officials, it was revealed that while these laws have their jurisdictions, sometimes it happens that an offence committed is stipulated by more than one statute. When this happens, it's the discretion of the warden to choose which statute to effect charges against the culprit. But normally the statute which offers a relatively severe punishment to the offender is chosen. A park official commented,

“We enforce all these laws (the Tanzania National Park Act, the Wildlife Conservation Act, the Fisheries Act etc.) depending on where the offence is committed and the circumstances of the offence in question, but when we realize that the offence falls into more than one statute, we often go for the one which offers more severe punishments”.

These laws, policies and institutions show how biodiversity conservation is established in Tanzania, indicate the authority of such highly centralized state management agencies, and reflect and consolidate biodiversity conservation in the country. Also, they demonstrate the way conservation is practiced and often dictate the direction in which possible solutions for conservation issues are sought. When asked how they manage the pastoral-conservation conflict, one park official for example, commented,

“We conduct regular patrols, apprehend offenders and take them to the court of law or fine them straight away using our park regulations as the case may be. Also, we conduct conservation awareness campaigns - we organize meetings with villagers to raise their awareness on wildlife conservation and on the activities restricted by the Wildlife Conservation Act, including grazing in the park.Sometimes we play-back clips of speeches of top government officials (such as the President) on biodiversity conservation so they [villagers] could hear directly from them how serious the government is on biodiversity conservation”.

It should be noted that the main pastoral-conservation conflict in the study area was the encroachment into the park by livestock. This occurs when pastoralists move their herds into the park. While trying to explain the extent of this conflict during the interview, one park ranger for example, said,

“...we have a big problem with livestock keepers (pastoralists) especially during dry seasons. Sometimes we see herds of cattle, in big numbers (100, 150 even 300 and over), grazing in the parkSurely, it is very challenging to control such big numbers....”.

Advocates of biodiversity conservation argue that there are several livestock – wildlife conflicts to consider when livestock interact with wildlife; competition for resources (water and pasture), disease transmission, herders being attacked by wildlife, occurrence of wild fires (pastoralists use fire to make ecosystems regenerate suitable pasture for their animals), livestock being killed by wildlife, wildlife being killed by herders, and long-term environmental degradation. It is from this perspective that Tanzania enacted conservation laws to discourage livestock from grazing into PAs. This situation, however, causes tensions between livestock keepers and conservation management officials.

5.4.3 Agriculture and the State in Tanzania

In Tanzania, agriculture rests on the main idea that it is the backbone of Tanzanian economy and the mainstay of the living of the majority in the country (UNDP, 2008). The sector is structured on specific ideas that: Tanzania’s economy depends heavily on agriculture, which accounts for half the GDP; agriculture bears the majority of the poor people in the country - employs 76.5 percent of the workforce; and higher demands for food associated with population growth implies the need for accelerated agricultural production growth to ensure food security (URT, 2011). Such ideas have been an essential stimulus for encouraging governments to take the measures necessary for improved agriculture. Both governments - before and after independence - have placed considerable attention on agriculture as the agricultural sector manifests in the country (Cooksey, 2012).

Like the conservation, the establishment of an agricultural sector was first advocated by colonial administrators, particularly during Germany rule when a plantation economy was established in the country (Mshana 2005). The colonial rule introduced sisal, coffee, tea, cloves, rubber and cotton plantations in the country. Cash crop plantations were emphasized to cater for the growing markets of raw materials in Europe. Apart from working in the plantations, people were also encouraged to start growing cash crops in their small scale farms (Mshana 2005).

Even after independence, agriculture has continued to flourish. With the pressure of the growing population associated with higher demands for food, agriculture has received much attention

from governments, international agencies, aid donors, individual experts and other advocates of this sector (Figure 9). Policies and practices that favour agricultural development have been established in the country (Cooksey, 2012). The emphasis has been on both cash crops and food crops – to make the country self-sufficient in terms of food security (UNDP, 2008).

Today, agriculture is one of the five key priority areas the government focuses to promote in its five year development plan (URT, 2011). Other major economic sectors include tourism (biodiversity conservation), textiles, mining, fisheries, and energy (UNDP, 2008). Like, the conservation, advocates of the agricultural sector have also secured sustained political commitment across the four dimensions: policies, programmes and legal frameworks; mobilization of human and financial resources; coordination mechanism and partnerships; and evidence – based decision-making. These have resulted into policies and practices that favour: expansion of agricultural land and improved agriculture (Figure 9).

With much attention from the government, international agencies, aid donors, the dominance of the agricultural sector over other sectors has become obvious. Agriculture has remained at the top of the political agenda and the focus of the advocates of agriculture has been on the availability of food and cash crops. The government keeps on creating an enabling environment for the expansion of farms for both small farmers and large commercial estates and facilitates towards improved agriculture (FAO, 2014; URT, 2001).

The focus on the availability of crops has created conflicts with other land-users, particularly pastoralism and conservation, since the actions, practices and way of thinking of the advocates of agriculture are often geared towards accomplishing this mission. For instance, wildlife is seen by agriculturists as a pest due to crop raiding. During fieldwork for this research it was revealed that a variety of wildlife were implicated in crop raiding - from elephant, baboon, warthog, monkey, bushpig to rodent and even birds. As mentioned earlier, during British colonial administration some wildlife species were culled to keep their numbers in line with expanding agriculture (Baldus, 2000). In one stakeholder workshop about bird pests control operations in Tanzania for which I was among the members who were invited, there were hot debates between agriculturalists and conservationists when the former considered carrying out aerial chemical spraying in conservation areas (forest and wildlife protected areas) as a control measure to

protect cereal crops (rice, millet, sorghum and wheat) from bird pests. Protected areas are considered by agriculturalists as homes for breeding colonies of bird pests.

Even when the government is short of options choosing between agriculture and conservation, for example, it would go for agriculture at the expense of conservation. This was observed in 2012 during fieldwork for this study. The government was forced to approve the construction of a public road that passes through SANAPA at various points to enable farmers transport cheaply their produce to the market. The construction inevitably caused some losses of biodiversity and the road remains a constrain to the park. In addition, agriculture has so much proliferated in the study area and elsewhere in the country involving clearance of forests for farms establishment and expansion. All this has been at the expense of conservation.

Similarly, actors in the agricultural sector consider pastoralism more of a nuisance than a source of benefits. During fieldwork, for example, it was noted that there was tension between farmers and migrating pastoralists due to substantial crop damage and soil degradation by livestock in farmers' fields i.e. livestock make the soil compact and hard to dig with hand hoe. As mentioned in the methodological section, it was even difficult to mix both farmers and pastoralists in one focus group discussion due to hostilities between these groups. Elsewhere in the country, however, there has been clashes between farmers and herders in Kilosa, Kilombero and Mbarali districts (Benjaminsen *et al*, 2009; The Guardian, 2006).

5.4.4 Pastoralism and the State in Tanzania

As pointed out earlier (in the chapter one), advocates of pastoralism define pastoralists as people who derive at least half of their household gross revenue from livestock or livestock related activities (Swift and Toulmin, 1992). They are people whose livelihood depends mainly on the raising of livestock (cattle, goats, sheep, camels, and donkeys) for milk, meat, transport, and trade (Fratkin, 2001). Pastoralism can be described as the use of extensive grazing on rangelands for livestock production (SCBD, 2010). Over time, three unique forms of pastoral production have evolved: sedentary pastoralism - keeping livestock near farms and villages year-round; transhumance – the seasonal movement of livestock and people from valley bottoms to mountain pastures; and nomadism pastoralism – characterized by livestock being moved in constant search for forage (Weber and Horst, 2011). Nomadism differs from transhumance in that no permanent

settlement is established and likewise, no pre-defined series of movements are used (Weber and Horst, 2011).

In Tanzania, pastoralism is mainly characterized by nomadism kind of pastoralism and is dominated by pastoral societies such as the Maasai, Barabaig, Parakuyo, Gogo and Sukuma. These communities have a strong economic and cultural leaning towards livestock (Ndagala, 1990). They range from 'pure' pastoralists (who practice little or no agriculture) to agro-pastoralist (who practice both agriculture and pastoralism) (Ndagala, 1990). Traditionally, they occupied and used Tanzania's savannah landscapes for pastoralism, utilizing foraging strategies based on mobility (seasonal migrations) in order to access pasture and water occurring elsewhere. Pasture and water are highly variable both spatially and temporally in these drylands, because of low and variable rainfall and high temperatures (Hill, 2006).

Pastoralism before and pastoralism during and after colonial administration in Tanzania was characterized by certain practices that advocates of pastoralism consider to have structured, promoted and established the pastoral related conflicts in the country (see Anaclet, 1977; Ndagala, 1990). It is important to note that the areas that are now designated as protected areas were formerly used and occupied by local communities, including pastoral societies (Nelson, 2012). For example, Serengeti and Tarangire national parks were occupied by pastoralists prior to their gazettement (Nelson, 2012). Similarly, pastoralists have been occupying the today's Ngorongoro Conservation Area (McCabe, 1992). When the colonial and post-independence governments established such protected areas (national parks, game reserves, forest reserves etc.) in these native's traditional lands, local communities were evicted and, therefore, lost their rights of occupancy (Nelson, 2012).

In both colonial and post-independence governments pastoralism has been perceived as: an unproductive - contributes little to national economies; environmentally damaging – causes overgrazing, soil erosion and desertification; and unorganized – pastoralists and their livestock roam around (Ndagala, 1990; Homewood *et al.*, 2012; Hodgson, 2001; Brockington and Homewood, 1996; Mattee and Shem, 2006; URT, 1997). Pastoralists are perceived as a threat that has to be brought under control since they are the source of problems, making conflicts between pastoralism and other forms of livelihoods (mainly conservation and agriculture) seemingly inevitable (Ndagala, 1990; Nelson, 2012). Underlying these notions are the

pastoralists' mobile way of livestock keeping and the cultural value pastoralists place on building up large herds of livestock (Nelson, 2012). Traditional ways of livestock keeping have been blamed for the little produce (little milk and little beef for export) from the livestock industry. A mobile form of livestock keeping and large herds of livestock are blamed for environmental degradation and frequent conflicts with other forms of livelihoods (Olenasha, 2006; Mattee and Shem, 2006; PINGO, 2013).

Even today, these perceptions about pastoralism continue to inform policy debates and practices over livestock, land tenure, and biodiversity resource management in Tanzania (Mattee and Shem, 2006). Such perceptions have created little attention on pastoralism from the government and have stalled the positive direction for pastoral advocacy in the country (HPG, 2009; Mattee and Shem, 2006; PINGO, 2013). For instance, while government officials encourage farmers to expand their farms to ensure food security, pastoralists are being told to reduce livestock to avoid overgrazing and soil erosion (Ndagala, 1990).

The government of Tanzania has always wanted to change the traditional ways of livestock keeping in line with modern development (Mattee and Shem, 2006). Many attempts have been made to modernize pastoralism through sedentarization (settling pastoralists) and development programmes (water, pasture management and veterinary services) that aimed at improving the livelihoods of pastoralists and pastoralism have been initiated. Such attempts are illustrated by the following statements by the then President of Tanzania President Kikwete who was quoted as saying: "We are producing very little milk, export very little beef, and our livestock keepers roam throughout the country with their animals in search for grazing grounds. We have to do away with archaic ways of livestock farming. I urge all district and regional authorities, especially in areas affected by overgrazing and overstocking, to apply modern livestock keeping methods, including setting aside special grazing land for livestock keepers. This is necessary if we want to attain sustainable use of land resources and avoid frequent clashes between livestock keepers and farmers. You have all witnessed this problem. There have been serious land disputes between farmers and pastoralists in Kilosa, Kilombero and Mbarali districts" (quoted from a local Newspaper The Guardian, 4 October 2006).

Guided by modernization ideology, the focus has been on settling pastoralists – establishing permanent villages for pastoralists and providing them with improved services and economic

opportunities. A number of development programmes aiming at improving water supplies, dips, schools, veterinary services and dispensaries, including market places for their animal produce have been initiated (Ndagala, 1990). More recently, the Livestock Policy (2006) guided by the modernization goals of encouraging ‘the development of a commercially oriented, efficient and internationally competitive livestock industry’ has been formulated (Benjaminsen *et al*, 2009). The Policy condemns the communal and mobile system of exploiting range resources by pastoralists. The National Land Policy of 1995, which is enforced by The Land Act of 1999 and the Village Land Act of 1999 further strengthen the idea of restricting mobility by enclosing and registering village land in addition to opening it up for privatization of holdings (Sendalo, 2009). However, the outcomes from such interventions have been very disappointing on the side of decision-makers since pastoralists have been very conservative and resistant to change (Olenasha, 2006; Mattee and Shem, 2006). Different explanations have been advanced for the failure to modernize pastoralism in Tanzania and the responses by pastoralists towards such interventions. In the following section, I will discuss a lot more about it, look at the way pastoralists perceive and react to such modernization ideologies of the government.

5.4.5 Pastoralists’ concerns and resistance to modernization ideologies

The review of previous studies and reports and interviews with pastoralists reflected that the tradition of considering large livestock herds as expression of wealth has constantly challenged the use of zero grazing or settling pastoralists, despite its economic gains, and embraced the traditional free range livestock keeping. In my view, this was the key reason underlining pastoralists’ resistance to and failure of modernization ideologies on pastoralism in Tanzania, though there are also concerns from pastoralists. Advocates of pastoralism argue that permanent villages for pastoralists, which were established by the government without consultation with the beneficiaries, ended up concentrating livestock while hindering adequate pasture rotation and degrading the environment around settlement areas (Benjaminsen *et al*, 2009; Olenasha, 2006). Large numbers of livestock which were confined in one area perennially overburdening the grazing area. In the long run, this degraded the environment, changed the composition of pasture reflecting a decline in the number of quality animals (Olenasha, 2006).

Advocates of pastoralism argue that a mobile livestock keeping system is a strategy that enable pastoralists make optimum use of the drylands to support pastoralism without degrading the

environment. It is mobility that explains why pastoralism is well suited to drylands (HPG, 2009). They maintain that herd mobility enables pastoralists to efficiently utilize the limited resources available in the drylands and avoid increased environmental stresses, such as prolonged periods of drought, drying of water-holes, the disruption of natural water flows, siltation of pans and accelerating climate change (Benjaminsen *et al.*, 2009; HPG, 2009; Mattee and Shem, 2006; SCBD, 2010; SNV, 2012; Weber and Horst, 2011). In other words, the freedom of movement as practiced by pastoralists enables access to dispersed, ecologically specialized and seasonally varied grazing lands and watering holes (Mattee and Shem, 2006). It is an important mechanism to cope with and recover from extreme conditions of climate shocks – droughts, floods and pest and disease outbreaks (Barrow *et al.*, 2007; Olenasha, 2006).

Pastoralists move according to where and when pasture becomes available for their livestock, thereby providing adequate pasture rotation, they use tracking technique to locate pasture and water (Mattee and Shem, 2006; HPG, 2009; PINGO, 2013). Therefore, restricting mobility is simply restricting the survival of their livestock in the face of spatial and temporal variability of environmental resources. This would eventually increase the vulnerability of pastoralists to natural and man-made shocks such as droughts, floods and livestock diseases (HPG, 2009; Olenasha, 2006; PINGO, 2013).

On the other hand, reducing the number of livestock (destocking) as a way to prevent overgrazing, soil erosion and desertification is unacceptable to pastoralists (Hendricks *et al.*, 2007; Olenasha, 2006), since assertions that blame pastoralists for environmental degradation have no scientific basis (Mattee and Shem, 2006). They are stories about the supposed effects of pastoralism on the environment, which echo national and international environmental agenda (Brockington, 2006). Furthermore, the diversion of grazing land for other uses (e.g. agricultural expansion, creating PAs, mining etc.) has rendered destocking and sedentarization campaigns dubious to pastoralists (Ndagala, 1990). Government policies and practices in Tanzania encourage expansion of agricultural farms to ensure food security at the expense of key dry season pastures, particularly swamps that contain pastures herders depend on to sustain their livestock through the dry season (Benjaminsen *et al.*, 2009; Woodhouse *et al.*, 2000). Those policies and practices encourage the establishment of PAs on traditional pastoral lands that subsequently exclude pastoralists (Mattee and Shem, 2006; Olenasha, 2006). A recent forceful

eviction of pastoralists from the Usangu Plains illustrates the official bias against pastoralism. Livestock grazing in this catchment area was officially claimed to be causing a water shortage in the hydroelectric power dam (Mtera dam) hence power crisis in the country. However, the biggest water consumers are the large – scale and smallholder rice farms situated upstream of the dam (Benjaminsen *et al*, 2009).

Such arguments and tensions illustrate how it is hard for the pastoralists to do away with livestock mobility and large herd sizes, which the government of Tanzania considers to be the sources of pastoral related conflicts in the country. Advocates of pastoralism maintain that doing away with mobility and herd sizes means doing away with pastoralism, since by nature pastoralists depend on livestock, are mobile in communal grazing areas they traditionally own, and use traditional land management patterns recognized by their customary rules (Barrow *et al*, 2007; Homewood *et al*, 2012; Mattee and Shem, 2006; PINGO, 2013). In fact, these features are central to pastoralists' traditional ways of livestock keeping and are embedded in their culture and value systems. To the pastoralists, a large herd expresses personal wealth and an insurance to survive through periods of stress such as drought and disease epidemics (Boku, 2008). During interviews, one Ward Chancellor, who is a Maasai pastoralist, said,

“...it's true that we [pastoralists] have large herds, but you know what? Herd is everything to us [the Maasai and Barbaig]. When our sons start their own life, we give them livestock as start-up capital. When they want to marry, we offer livestock as bride pride. I remember for my case I offered 28 cattle for my first wife and then 18 for the second. On top of that our staple food is milk and meat. So you can imagine how livestock mean everything to our life! This implies any plan to reduce the number of livestock among pastoral societies needs to be taken with great care, and need to be a long term programme to be able to change their mindset. Otherwise, you will end up being disappointed with their response. You know, it's like a peasant who depends on agriculture for a living. And then, all over the sudden you tell him to reduce the size of the land he always cultivate under a promise that he will get more and quality harvests. Do you think he will really understand you in the first place? Obviously, you need a long term plan to be able to change their mindset slowly”.

The actions and reactions by the government and advocates of pastoralism in relation to each other reflect the complexity surrounding the pastoral related conflicts in Tanzania. This could suggest that tensions between pastoralism and other forms of livelihoods (not necessarily conservation) are likely to continue for unforeseeable future, in the absence of common understand of this problem. There are also issues of governance. Pastoralists are in minority in Tanzania and they live a nomadic life. They have limited voice in policy debates compared to

more settled agricultural farmers. These facts have made it difficult for pastoralists to influence policies because they have little representation in decision-making bodies (Benjaminsen *et al*, 2009; SNV, 2012). These patterns of inequality and the negative perceptions on pastoralism contribute largely to the formulation of policies and practices that do not favour pastoralism (Benjaminsen *et al*, 2009; Boku, 2008; SNV, 2012). Advocates of pastoralism have not yet secured a political commitment across its four dimensions: policies, programmes and legal frameworks; mobilization of human and financial resources; coordination mechanism and partnerships; and evidence – based decision-making. Still there is little interest and investment in pastoralism and inadequate integration of pastoralism into national development processes. In addition, there has always been decisions and practices that affect pastoralism leading to diminishing pastoral land, struggling pastoralism, and frequent conflicts with conservation and agriculture (Figure 9).

Negative perceptions about pastoralism have informed institutions for managing pastoralism in Tanzania - training institutions, policies and laws have been established. These institutions are considered unsupportive when it comes to the advocacy of the pastoralism in the country. The national policy on pastoralism (Livestock Policy of 2006) has been widely criticized by advocates of the pastoralism for being unfavourable to the livestock industry. The policy in place prohibits mobility, which is considered central to pastoralism (Barrow *et al*, 2007; HPG, 2009; Mattee and Shem, 2006; Olenasha, 2006). Training institutions are blamed for producing livestock experts who are critical to the industry as they are trained to see growth in livestock as an unwanted development, hence contributing to the alienation of pastoralism (HPG, 2009). While examining farmer-herder conflicts in Kilosa – Tanzania, Benjaminsen *et al* (2009) observed that even government officials working directly for the livestock industry such as a District livestock officer in Kilosa was complaining of the increasing livestock numbers while ‘growth’ in any other economic sector would usually be acknowledged.

Similarly, Tanzania’s laws do not seem to promote the pastoralism, according to advocates of this livelihood option. Land laws do not recognize traditional ownership of grazing areas of the pastoral societies. The rights of commons of the pastoralists have been very insecure with land laws in the country (Sendalo, 2009). The Land Act of 1999 and the Village Land Act of 1999 are the two pieces of legislation that govern land in Tanzania in line with the National Land Policy

of 1995. These laws have divided land into three categories: General Land, Reserve Land, and Village Land. General Land is governed by the Land Act directly under the Commissioner for Lands. Reserve Land is managed under bodies set up for these areas (for example Forest Reserves are governed by the Forest Act of 2002 while Wildlife areas are governed by the Wildlife Conservation Act of 2009); and Village Land is governed by the Village Land Act and is under the administration of Village Councils. The village council acts as an agent of the Commissioner in administering land (Sendalo, 2009). These councils have mandates to sell or lease for up to 25 acres of land to any person should they find it necessary (Wily, 2003).

With these laws, traditional grazing lands for the pastoralists have been squeezed off by the establishment of conservation areas, private ranches and large commercial estates, thereby depriving pastoralist access to their traditional range resources – loss of grazing lands. As a result, the grazing lands have become smaller and fragmented, disrupting their traditional patterns of grazing that facilitate mobility without causing conflicts with other land users (PINGO, 2013). In fact, these institutions are the root causes of conflicts between pastoralism and other forms of livelihoods in Tanzania, according to advocates of pastoral livelihoods, since pastoralism has not yet been given specific attention within existing policies and laws of the country (Olenasha, 2006; Mattee and Shem, 2006; Sendalo, 2009).

As a solution to such conflicts, pastoralists claim for their traditional areas they used to graze livestock back in those years (before colonial administration) so that they dispose of enough land for their free range livestock keeping with minimal conflicts with other land-users particularly conservationists and agriculturists. However, as pointed out earlier, many of such areas were gazetted as protected areas by colonial and post-independence governments. Others have been set aside for mining, agriculture, settlement etc. It is, therefore, difficult to practically get these areas back at the disposal of pastoral societies. While it is a fact that the adoption of modern ways of keeping livestock (such as zero grazing) could increase livestock produce (milk and beef), pastoralists still prefer free range livestock keeping. This is because it is cheaper when keeping large herds of livestock and, therefore, ensures and maintains their cultural value that large herd expresses personal wealth. This could imply that, to the pastoralists, economic profit maximization is not the main driver for their cattle keeping, and cultural values are primordial.

These debates reflect a complex process towards sustainable solutions for the pastoral related conflicts in the country. In addition, pastoralists have developed strategies to survive while maintaining their status-quo i.e. free range livestock keeping and building up and keeping large herds of livestock. In the following section, I will present and discuss in more detail the survival strategies of the pastoralists. The idea is to highlight how the pastoralists ‘fight’ to ensure their traditional ways of livestock keeping (characterized by herd mobility, large herd sizes and communal system of exploiting resources) remain untouched by the modernization ideologies of the government while surviving against the dominance of conservation and agriculture in the country.

5.4.6 Survival strategies of the pastoralists

The review of these three key livelihood options in relation to pastoral conflicts has revealed that the government of Tanzania is more into conservation and agriculture than pastoralism. Both conservation and agriculture have more powerful actor groups in terms of knowledge, resources, lobbying, policy and decision-making than for pastoralism (Figure 9). As a result, both conservation and agriculture have secured sustained political commitment from the government of Tanzania. The outcomes of this political commitment have been policies and practices that favour biodiversity conservation and agriculture at the expense of pastoralism. Today, both agriculture and biodiversity conservation are among the five key priority areas the government focuses to promote in its five year development plan, and are among the major economic sectors the country depends for foreign currencies. Pastoralism is not in the list in both categories.

Both conservation and agriculture have been given tremendous publicity internationally and nationally, portrayed by their advocates as good for the people, good for the economy, and far better for the environment than pastoralism (Homewood *et al*, 2012). Government policies, laws and practices have structured this dominance. They have defined certain activities such as livestock encroachment as threats to conservation and agriculture, hence punishable by laws (Homewood *et al*, 2012). For instance, while commenting on patrol operations carried out by SANAPA to wipe out livestock encroachment from the park, one senior park official said,

“Hundreds of herdsman stream towards SANAPA with thousands of their livestock especially during drought season, but we didn’t have this problem before, it has emerged only recently! so we are protecting the park....these people [pastoralists] are a big problem to the park, they bring large groups of livestock to graze inside the park, so we conduct patrols to clear them out.”

Local communities in the study area, who are mostly peasants, had similar views on pastoralism. They also see pastoralism more of a nuisance than a source of benefits. They complain that every year they lose substantial quantities of crops due to damage caused by livestock, and experience degradation of soil in their farmlands (livestock make the soil compact and hard to dig with hand hoe). They pointed out that pastoralists are unwanted in the study area because of their free range mode of grazing and the big numbers of livestock that they cannot control. During fieldwork, there were frequent concerns of free-range grazing and large numbers of uncontrolled livestock in the study area. On the other hand, there is a general feeling among pastoralists that they are discriminated, they are alienated from the system, they are sidelined when it comes to development processes, and their pastoralism is valueless compared to other forms of livelihoods. They are in minority hence it is difficult for them to influence policies, and so they lack political influence. Expressing their feeling, one pastoralist for example commented,

“You know it’s very strange and very unfair!! There are plenty of grasses out there [in SANAPA] and yet they don’t want our livestock to eat them while you know for sure that it’s times of severe drought, does it mean they want our animals to die of hunger? This is really unfair to us [pastoralists].and that’s why they have imposed fines for livestock found in the parks but they don’t care about people who are affected by stray of animals who are under their jurisdiction to control”

Pastoralists in the study area have been powerless against the dominance of conservationists and agriculturalists. However, they have learnt to accept their position, but they have developed some strategies to ensure they survive against this dominance of conservation and agriculture while accessing pasture and water for their livestock, particularly during times of drought when there is shortage of these. Money is the ‘weapon’ underlying their strategies to accomplish their mission – of ensuring their livestock get pasture and water - as these are the most important for their livelihoods. Through tracking, pastoralists have discovered that SANAPA has areas that have pasture and hold water towards the end of the dry season when all the surrounding areas are dry. Field observations revealed that the park has all-weather sources of water, from seasonal to permanent rivers - including the Wami River and its tributaries whose banks are overgrown with bush and therefore have much less dry season pastures. Therefore, the park is the pastoralists’ choice during dry seasons. To access SANAPA, they strategically enter the surrounding villages first through a ‘welcome’ from local politicians and village leaders. While politicians seek cheap popularity towards their political ambition, village leaders solicit bribes from pastoralists who

are desperately searching for pasture and water for their livestock. One park official for example, narrated during interview,

“This is all caused by our leaders, particularly village chairperson and village executive officer. They receive bribe from pastoralists so they could be allowed to enter, stay and graze in the village area. Once they [pastoralists] are here, they invite their fellows from elsewhere, so the chain goes endlessly. When there is no more pasture for their herds in the village, they move into SANAPA thereby creating conflict with the PA management”.

Although SANAPA is formally inaccessible because of conservation law, still they enter the park risking a fine of 10,000 Tsh (US\$ 10) per head of livestock. However, during informal conversation with some pastoralists, it was revealed that they avoid this payment by bribing park staff especially park rangers, by supervising the herds from a distance, by letting their children look after them or simply by leaving the herds alone because they know they will come back in the evening after feeding. Also, they take advantage of corruption and abuse of power embraced by legal institutions that handle wildlife cases, particularly police and courts. Since they own livestock, pastoralists have financial muscles that can be used to bribe officials (see Benjaminsen *et al*, 2009; Brockington, 2006, for more examples from Tanzania), have connections with politicians, and are eventually vocal. Describing the pastoralists during interview, one senior official from WD said,

“Pastoralists are more powerful than agriculturalists - they have financial muscle, they give bribes to government officials, have connections with politicians whom they use to fulfill their interests and are vocal for that matter!” And sometimes they approach the big boss such as the In-charge of the PA (not necessarily SANAPA) with bribe so they could be allowed to graze in the PA. Now, if they realize the boss is tough, is not cooperating with them, is not bribed easily, they would often cook a scandal for him/her and use some politicians (often MPs) who are normally vocal and easily bribed to push the government to fire him/her out of the post”.

In addition, they take advantage of inadequate park resources (manpower particularly park rangers, vehicles for patrol, and limited financial resources to cater for regular patrol costs) to break the law leading to frequent incidence of livestock encroachment in SANAPA. A visit to one ranger post (Gendagenda) for example, revealed that there were only two rangers, and no vehicle. Commenting on this situation one park ranger for example, narrated during interview,

“As you can see, we are only two of us! Practically, it is very difficult to deliver output here because under any circumstances one has to remain at the post at all time - for security reasons. This means the other also cannot go alone [patrol], so we just seat here all day. ... You can also imagine how difficult it is to walk [to conduct patrol] in the bush

on foot, no vehicle, no what – how far can you go and for how long! We are really working under difficult conditions. For instance, we have a big problem with cattle keepers (pastoralists) especially during dry season. Sometimes we see herds of cattle, in big numbers (100, 1500 even 300 and over) grazing in the park, we are only 2 or 3 at the post. In some cases, they [pastoralists] will let their children to look after these herds or sometimes they just leave them alone because they know they will come back in the evening after feeding or you cannot do anything with them because we are few in number. Or if you confine them, it's okay for them because all they need is their cattle to feed. So in essence we will look after them. They know we cannot stay with them for long time, given the fact that we are few and no storage facilities to keep them for long time. In the evening, they will come to negotiate so they can collect their cattle back. They know, if we take them to the court, they will pay much lower fines than we charge them using our by-laws. So in most cases we end up negotiating with them on how much they should pay”.

Although these strategies are manifested in money as bribes, they have enabled pastoralists to maintain their livelihoods while compensating for the lack of political influence. The practices of bribing officials have helped them to access areas vital to the survival of their herds during times of drought. In some cases, bribes have enabled pastoralists to get back their confiscated livestock even without compensation to farmers in case of crop damage by livestock or without paying huge fines to conservation authorities in case of livestock found in PAs. While studying farmer – herder conflicts in Kilosa – Tanzania, Benjaminsen *et al* (2009) also noted similar practices – how the Maasai pastoralists bribed local politicians and administrators to access pasture and water from the contested wetland. Corruption is a large problem and a major public concern in Tanzania, widely manifested across public institutions, especially public officials and politicians (WEF, 2013).

5.5 Conclusion

In this chapter, I have discussed the conflicts between pastoralism and conservation in Tanzania's national parks. Using the case study of SANAPA, I have realized that there is pastoral-conservation conflict between the management of SANAPA and migrating pastoralists. I argue, however, that the tension between pastoralism and conservation happening in this particular case is more than a resource – use conflict driven by access denial. It is prompted by a mobile form of livestock keeping, the way conservation and agriculture are prioritized in the country, and is reinforced by issues of governance and corruption.

The tension is more than being prompted by changing climate patterns that have caused sustained drought in pastoral areas. And it is more than pastoralists finding it increasingly difficult to cope with dwindling pasture and water in their traditional areas while they cannot wait and watch their animals die. The conflict is induced by traditional management practices embraced by pastoral societies, the way conservation and agriculture are prioritized in the country, the alienation of pastoralism, and reinforced by the practices of soliciting bribes embraced by conservation management staff, politicians, administrators, police and magistrates.

The dominance of conservation and agricultural sectors over pastoralism and the notion that pastoralism is alienated from development processes have played an important role in structuring this conflict. This has forced the pastoralists to indulge into corruption practices, using money as the weapon to maintain their livelihoods. However, corruption raises questions about whether the government is determined to end pastoral-related conflicts in the country, and leads to loss of trust in conservation management officials and authorities (local government, the police, and the judiciary) and their willingness to prevent such conflicts in the future. Such weakness within and between government institutions has resulted in actors trying to offer bribes as a solution to the problem.

Alienating pastoralism from development processes creates mistrust and hostilities between the pastoralists, their neighbours and the government. Both in policies and practices, the Tanzanian State needs to promote the interests of the pastoralists and recognizes pastoralism as a viable economic activity that deserves government support like other forms of livelihoods. Therefore, government policies and practices on pastoralism need to be reviewed to strike a balance between biodiversity conservation, agriculture and pastoralism while preventing the detriment of neither.

Actors involvement is crucial towards obtaining lasting solutions to the conflicts between conservation, agriculture and pastoralism. This case study has revealed several arguments from conservationists, agriculturalists, and pastoralists in favour of their sectors. Generally, the solutions for pastoral related conflicts proposed by the conservationists and agriculturalists (destocking and sedentarization) are not acceptable by the pastoralists. On the other hand, the solutions proposed by the pastoralists (recognition of traditional ownership of grazing areas of the pastoral societies and traditional ways of livestock keeping) appear unpractical and

unsustainable - cannot be a long term conclusive remedy. The fact is, with pastoralists' focus on large herd size and herd mobility, whatever land is set aside for them will not be enough after some time. As livestock population keeps growing over time, the carrying capacity of the land (in terms of pasture and water) diminishes due to overgrazing resulting from overstocking. As a consequence, livestock keepers will again roam around with their animals in search for pasture and water elsewhere, leading to re-occurrence of conflicts with other forms of livelihoods.

With these debates, however, I see conflicts between pastoralism and other forms of livelihoods (not necessarily conservation) likely to continue for unforeseeable future. I suggest that the actors involved create a setting that allows a genuine dialogue. In such a setting the government with key actors in the pastoralism, conservation and agricultural sectors can work towards a common understanding on pastoralism related conflicts as well as sustainable solutions to such conflicts in the country. Otherwise, there is a danger that the conflicts may escalate even more.

CHAPTER SIX: Protected area-People Relationships in Tanzania: a case study of Saadani National Park and its neighbouring communities

Abstract

The importance of understanding relationships between protected areas (PAs) and surrounding communities in a specific context (in a particular country or PA context) has received increasing attention (see for example Allendorf, 2010; Brechin *et al*, 1991; Zube & Busch, 1990; Nagendra *et al*, 2010; Stankey & Shindler, 2006; Allendorf *et al*, 2012). However, studies examining such relationships are rather limited for Tanzania. Using the case study of Saadani National Park, this chapter examines the extent to which the approaches of park - people relationships (benefit-sharing, mitigating human-wildlife conflicts, managing PAs in collaboration with local communities, and opening limited access to park resources), widely applied by PA managers worldwide to foster positive relationships with local communities, have been applied by managers of national parks in Tanzania. In addition, the chapter examines views of the neighbouring communities on such approaches.

Fieldwork involved a multiple-method approach of qualitative research based on focus group discussions with village leaders, in-depth interviews with park officials, informal discussions with key informants, document analysis and a four-month period of field observations coupled with my experience with the wider community.

The results indicate that benefit-sharing is the main approach to foster positive PA - people relationships in Tanzania's national parks. Other approaches (mitigating human-wildlife conflicts, managing PAs in collaboration, and opening limited access to park resources) are also important in shaping such relationships. Some are also applied, but with great variation in the extent of application. Others (e.g. opening limited access to park resources) have not been considered at all, despite their relevance. There are hindrances to these approaches such as policy issues, financial limitations, their importance to the local community, and logistical difficulties associated with them. The major stumbling blocks to local communities' collaboration in PA management are widespread poverty, low level of education and maintenance of hunting tradition. These reflect limited capacity for the local communities to conserve biodiversity. Poverty is one of the main contributors to biodiversity degradation - often reflected in overdependence on natural resources for a living, low level of education implies limited

knowledge on conservation issues to make significant contribution to the protected area, and a tradition of hunting can lead to species extinction or a decline in species population - thereby threatening wildlife conservation.

Keywords: PA-people relationships, biodiversity conservation, local communities, park-people relationships, protected areas, Saadani National Park, Tanzania

6.1 Introduction

This chapter discusses the relationships between national parks in Tanzania and their neighbouring communities. As discussed in detail in the theoretical introduction chapter (see section 1.5), protected area-people relationships are critical to achieve conservation objectives (Stankey & Shindler, 2006) because the future of PAs depends much on the cooperation and support of local communities (Mcshane & Wells, 2006; Allendorf *et al.*, 2012; Nagendra *et al.*, 2010). As such, the models and approaches of PA-people relationships (benefit-sharing, mitigating human-wildlife conflicts, managing PAs in collaboration with local communities, and opening limited access to park resources), widely applied by PA managers worldwide to foster positive relationships with local communities, are useful reflections and strategies or techniques for PA managers (Allendorf, 2010; Brechin *et al.*, 1991; Zube & Busch, 1990). Using the case study of Saadani National Park (SANAPA) and its neighbouring communities, this chapter examines the extent to which such models of PA-people relationships are being applied in Tanzania for building positive relationships with neighbouring communities.

The central question of this chapter is to assess which models of PA-people relationships are embraced by SANAPA management and whether there are approaches or practices undertaken by the SANAPA management to foster positive park-people relationships, and if so, to what extent these have shaped its relationship with neighbouring communities. The chapter will identify and explore: the extent to which such models have been embraced by SANAPA; the nature of the approaches used; and views of local communities towards such approaches.

The chapter has started by presenting the abstract as a summary of the issues it endeavors to discuss. The second part presents a brief discussion of the models and approaches of protected area (PA) – people relationships in which this chapter situates itself, their theoretical perspectives, and outlines how these models were examined for the case of SANAPA. The third

section highlights on the methodological approach used to collect data for this chapter. The fourth section presents a detailed discussion of the findings focusing on the key approaches of PA – people relationships. The chapter concludes with a summary that brings together key findings and issues raised in this chapter, with recommendations for further research.

6.2 Models and approaches for protected area-people relationships

As mentioned in the introduction chapter (see section 1.4), the main sources of contention in the relationships between protected areas and local communities have been: wildlife damage; unilateral way of establishing PAs; denial of access in and to resources in PAs; and the unknown ‘place’ of people in those PAs (Brechin *et al*, 1991; Kepe *et al*, 2001; Madden, 2004; Marshall *et al*, 2007; Ogra, 2008; Thapa, 2010; Warner, 2000; Zube & Busch, 1990). A way forward has been to integrate such people’s concerns into biodiversity conservation (Ali, 2007; Lewis, 1996; Madden, 2004). While this is useful to address the issue of contentious relationships between protected areas and local communities, it is also important for the cooperation and support of local communities on biodiversity conservation (Mcshane and Wells, 2006).

While recognizing the importance of integrating local communities into the conservation of protected areas, various models and approaches for PA-people relationships have been developed to understand the relationship that people have with PAs and to foster positive relationships with local communities. In this chapter, I will describe the models by Brechin *et al* (1991) and those of Zube & Busch (1990) as these are the dominant models mostly referred to in the literature (see for example Allendorf, 2010; Nagendra *et al*, 2010; Stankey & Shindler, 2006; Allendorf *et al*, 2012). In addition, I will discuss the approaches widely used by PA managers to apply such models of PA-people relationships.

6.2.1 Models of protected area-people relationships

In general, the models of PA-people relationships identify the various aspects that define the relationships between people and protected areas through which local communities can be integrated. In the framework of Zube and Busch (1990), four general aspects have been proposed for understanding the relationships between local communities and management of protected areas. These are namely: participation of local communities in PA management; services delivered by PA to local communities; maintenance of traditional land uses within the PA; and participation of local communities in PA’s tourism activities. The framework by Brechin *et al*

(1991), on the other hand, proposes five broad aspects that define the relationships between people and protected areas as being: historical and institutional context; displacement of people; utilization of PA resources by local communities; nature preservation and eco-development; and planning and decision-making for resource management and social change. It is important to note that such key aspects can be used as objects of analysis in understanding the relationship that people have with protected areas since they provide valuable description of the relationships between people and these areas (Allendorf, 2010).

The literature identifies four major approaches that capture these models of PA - people relationships. These approaches include: benefit-sharing approach, mitigating human-wildlife conflicts, opening limited access to park resources, and managing PAs in collaboration with communities (Distefano, 2005; Neumann, 2002; Walpole & Goodwin, 2001; Bobo & Weladji, 2011; Thapa, 2010; Kepe *et al*,2001; Madden, 2004; Marshall *et al*, 2007; Ogra, 2008; Warner, 2000; Homewood *et al*, 2010). It is important to note that the way these approaches are related with the models of PA - people relationships briefly introduced above is discussed in chapter one and presented in Table 1. In the following section, I will focus on these approaches together with the concerns over the place of people in PAs.

6.2.2 Approaches for protected area-people relationships

In Table 3 below, therefore, the same approaches of PA - people relationships (benefit-sharing approach, mitigating human-wildlife conflicts, opening limited access to park resources, and managing PAs in collaboration with communities) are related with the concerns of people that they seek to address. I established this relationship after the review of the literature on concerns over the place of people in PAs and how such concerns are being addressed to foster mutually supportive interactions between PA management and the people (sections 1.5 and 1.6).

Table 3: The relationships between people's concerns and approaches to address them

People's concerns	Approaches widely used to address people's concerns
The unilateral way of establishing PAs (often associated with forceful eviction of natives from their traditional lands)	Managing PAs in collaboration with communities
The unknown 'place' of people in PAs (what is PAs' contribution to community development, poverty reduction, improvement of quality of life, and social well-being)	Sharing conservation benefits with the wider community
Wildlife damage (crop raiding and livestock or human attack by wildlife)	Mitigating human-wildlife conflicts
Denial of access in and to resources in PAs (land, wildlife, forest products etc. and criminalization of people's practices when accessing such resources)	Opening limited access to park resources

Source: Distefano, 2005, Neumann (2002), Walpole & Goodwin (2001), Bobo & Weladji (2011), Thapa (2010), Kepe *et al* (2001), Madden (2004), Marshall *et al* (2007), Ogra (2008), Warner (2000), Homewood *et al* (2010)

As mentioned, these approaches are widely applied by protected area managers worldwide to address people's concerns outlined in section 1.4 as: first, the unilateral establishment of such PAs - often associated with forceful eviction of natives from their traditional lands; second, the denial of access to resources in such PAs (land, wildlife, forest products etc.) - upon which local communities depend for subsistence needs, and criminalization of their practices when accessing such resources; third, wildlife damage such as crop damage or costs inflicted by crop raiders and dangerous wild animals, livestock or human attack by wildlife; and fourth, the unknown 'place' of people in those PAs i.e. what is the contribution of PAs to community development, poverty reduction, improvement of quality of life, and social well-being, apart from their contribution to national economies. Essentially, these approaches seek to integrate the local communities in the PA management in various ways (Allendorf, 2010). They have been effective tools, strategies or techniques for managers of protected areas in resolving and avoiding conflicts with local communities, winning their support to conservation, and fostering positive relationships between people and protected areas (Madden, 2004; Lewis, 1996; Thapa, 2010).

Most PA managers use a variation of the four approaches mentioned above. The approaches of PA-people relationships in Table 3 outlines the potential links between those approaches and people's concerns that often cause contentious relationships between the management of PAs and the local communities. For example, 'wildlife damage' is one source of contention. This PA-people concern can be managed using the 'mitigating human-wildlife conflicts' approach while the issue of denial of access to basic needs for a living can be addressed by 'opening limited access to park resources'. However, the correlation of variables (people's concerns and approaches to address them) is not as linear as presented in Table 3 above. In practice, they often cross-cut each other and have multiple outcomes. For instance, sharing PA benefits with local communities could help to address the economic aspect of denial of access to resources in the PA while fostering positive relationships between people and the management of the PA in question. As mentioned, these approaches are useful reflections and a tool kit for PA managers for building more positive relationships with neighbouring communities (Allendorf, 2010).

While the theoretical perspectives of each of these approaches are discussed separately in the following section, it is worth noting that all of them revolve around two key issues; providing benefits as incentives for people to conserve, and mitigating adverse impacts of the protected areas to local communities (Madden, 2004; Lewis, 1996; Roe *et al*, 2000). In addition, the type of benefits and mitigation varies depending on the context, but the underlying assumption is the same in all situations: positive relationships are created or sustained when local communities believe that PAs serve, rather than ignore, their interests (Madden, 2004; Sifuna, 2011; Lewis, 1996). On the other hand, the assumption is that sustainability of biodiversity conservation will be ensured when good relationships between PAs and local communities are created and sustained (Bobo and Weladji, 2011; Thapa, 2010; Madden, 2004; Lewis, 1996).

6.2.3 Theoretical perspectives on approaches of PA - people relationships

Benefit-sharing approach is widely adopted and is considered an important motivational factor in securing local support to conservation (Distefano, 2005; Kideghesho, 2007), increasing people's tolerance to wildlife damage (Sifuna, 2011), and creating positive relationships with people (Sifuna, 2011; Walpole and Goodwin, 2001). In this approach, protected areas share tangible benefits from conservation with the wider local communities to offset the opportunity costs of protection, including problems with wildlife, and restrictions on land uses and utilization

of natural resources (Walpole and Goodwin, 2001). These incentives are often in terms of community services provision of social services such as building schools, health centres, water supply, improved education programmes, assistance in improving existing agricultural activities and introduction of new activities, among others.

However, the major challenge has been the limited funding by some protected areas to meet community demands on development initiatives, thereby being seen by local communities as a form of tokenism and so limited that they are not being adequately compensated for the brunt of wildlife damage they bear (Distefano, 2005; Strede and Helles, 2000).

Benefit-sharing approach can also be demonstrated by offering employment opportunities to locals on a preferential basis (Sifuna, 2011), encouraging local communities involvement in investment opportunities available in the industry such as tourism development (Goodwin, 2001; Tosun, 2006). Despite local communities' desire to grab such opportunities, the drawbacks have always been their poverty level and low level of education often expressed in limited capital and skills (Cole, 2006). The PAs could also help to promote products from or made by local communities such as local arts and crafts for sale to tourists, and encourage tourism businesses such as hotels to purchase locally, tour companies to incorporate itineraries for tourists to visit local villages and support local businesses (Ashley and Haysom, 2005; Meyer, 2007). However, the promotion of local arts and crafts for sale to tourists has been criticized as leading to commercialization and loss of quality and local pride (Strede and Helles, 2000).

Mitigating human-wildlife conflicts entails controlling crop damage, livestock predation, property damage, and attack of humans by wildlife. These undermine local communities' support for conservation, ruin the positive relationships between people and protected areas, and make the future of these areas unpredictable (Madden, 2004; Lewis, 1996; Thapa, 2010). Such outcomes are often evidenced by damage inflicted upon wildlife by humans, including habitat degradation and deliberate killing of wildlife (Ogra, 2008).

The literature unveils various preventive and responsive methods for managing and mitigating such damage, including provision of compensation to local communities for losses they incur (Lewis, 1996), insurance (Ogra, 2008) as well as using sophisticated wildlife damage control equipment and materials such as fencing wires, repellents, firecrackers, and chili pepper (Sifuna,

2011). While these are usually provided by governmental agencies, donors and NGOs, their nature and scope often vary depending on the situation of a particular country and its protected area in general (Madden, 2004; Lewis, 1996; Thapa, 2010). There are also traditional methods used by local communities, including local fencing, guarding, use of fire, noise-making, scarecrows, and predator models (Sifuna, 2011).

It is, however, important to note that some of these methods (e.g. all kinds of crop guarding) are labour-intensive and time-consuming (Ogra, 2008). Others such as crop guarding by shouting or throwing laming sticks are considered dangerous, especially for wildlife such as elephant and rhino as these could charge back and even kill when disturbed or when they find humans in their way (Ogra, 2008; Thapa, 2010). Other methods such as the use of sophisticated wildlife damage control equipment and materials, including fencing wires, repellents, firecrackers, and chili pepper, are dearly costly for the local communities to afford - given their widespread poverty (Sifuna, 2011). The use of a single technique is ineffective and insufficient to control all wildlife species, especially those responsible for crop damage. Methods involving noise – making through different means are hardly successful and work only for a short time, and then eroded over time as wildlife get habituated (Sitati et al, 2005).

These shortcomings highlight the need for site-specific study to be able to understand what works where and how effective a particular management technique could minimize the crop damage problem (Madden, 2004). This goes along with consideration on more intensive measures such as electric fencing and wire mesh fencing for effective mitigation and management of wildlife damage (Madden, 2004).

Opening limited access to park resources has its bearing on the importance of including local communities' subsistence needs as a consideration in park management, especially following rapidly increasing population and demand for natural resources (Heinen, 1993). Access to park resources that are needed for subsistence such as fuel-wood, building materials and animal fodder have been central for creating good relationships between protected areas and adjacent communities (Heinen, 1993). However, this has been criticized as being a short-term satisfaction at the expense of the long-term survival of the same resources, hence compromising nature conservation and hampering the potential of the resource base to supply a future flow of benefits (Strede and Helles, 2000).

Managing protected areas in collaboration with local communities is another approach, which can be used to create good relationships between people and protected areas, win local communities support to conservation, and avoid conservation conflicts. This is crucial since the interests of local communities are often affected by conservation decisions (Walpole and Goodwin, 2001) while they are regarded as legitimate and moral stakeholders in biodiversity conservation (Scherl and Edwards, 2007). Thus, they should be involved in decision-making regarding establishment of a particular protected area (Niezgoda and Czernek, 2008; Sanoff, 2000; Walpole and Goodwin, 2001). This is important to avoid difficulties during implementation, which can significantly influence the success and outcome of the process (Niezgoda and Czernek, 2008). Studies indicate that in situations where protected areas have been established without prior involvement of local communities, conflicts have been the predicted outcomes. The opposite has been true for situations where local people have been part of the decision-making body (Lewis, 1996).

Local communities should also be involved in managing protected areas. This is important to create a sense of responsibility among local communities and enhance enforcement capacity of the protected area (Walpole and Goodwin, 2001). Enforcement is labour-intensive and costly such that it remains inadequate in many protected areas in the Global South, given insufficient resources and personnel (Lewis, 1996). Thus using local community members as part of the enforcement personnel would reduce costs for the protected area.

However, the approach to managing protected areas in collaboration with communities has been viewed by some as unrealistic given the notion that local communities do not have the will or capacity to conserve biodiversity (Roe *et al*, 2000). This is partly due to their limited knowledge on conservation issues to make significant contribution to the protected area (Roe *et al*, 2000). In addition, they are generally so poor that they find it difficult even to meet their basic needs – food, clothing and shelter, hence increasing their dependence on natural resources (Sifuna, 2011). In fact, excluding people living in poverty from needed resources has inherent issues and conflicts since poverty is one of the key drivers of biodiversity degradation (Elliott and Sumba, 2010). Given these barriers, the degree of involvement of local communities in management and their power to influence decision-making and demand their legitimate stake has been questionable (Scherl & Edwards, 2007). Their participation has hardly gone beyond mere

consultation - often in community meetings to ownership and management of the resources (Mannigel, 2008; Matarrita-Cascante *et al*, 2010).

In addition, the approach to managing PAs in collaboration with communities depends on the management systems of the PA in question - whether state, community, private or co-management (Kellert *et al*, 2000). In the case of partnership between local communities and the state, the level of inclusion of local communities in managing the PA, the responsibility for sustainable use of the resources in the PA, management decisions, and ultimately the access to benefits, would obviously differ due to varying legal rights, institutions, and economic incentives (Kellert *et al*, 2000; http://cbnrm.net/resources/terminology/terms_cbnrm.html).

When the PA is owned and managed in partnership between local communities and the state, it is under a co-management system or it is maintained under 'joint resource management'. The PA is under community management when it is maintained by the community. Normally, the community consults the government for policy, legal or any other professional advice. However, in either case, there is normally an institutional arrangement that coordinates or runs the day-to-day activities of the PA. Both community and co-management systems are the outcomes of the popular concept of Community-Based Natural Resource Management (CBNRM). In general, CBNRM seeks to involve local communities in the management of natural resources and share with them the benefits of such resources (Songorwa, 2004). One of the key motivations of the government to opt for CBNRM is sharing management responsibility between local communities and the state – through a particular Department or Agency such as Forest, Wildlife, Fisheries etc. - depending on the resource in question (Kellert *et al*, 2000).

On the other hand, the PA is under state management when it is owned and managed by the state, and the same applies for private PAs. It is worth noting that the inability of the state to meet costs associated with monitoring and enforcing controls over access to state-owned natural resources is one of the factors underlying governments to opt for CBNRM in which such costs are both lowered and borne in part by local communities themselves (Leach *et al*, 1999). However, this type of tenure regime normally happens in low-value resources while state-ownership is most likely for high-value resources – especially when viewed in relation to the relative costs and benefits of managing exclusion (Leach *et al*, 1999). It is from this perspective that all national

parks in Tanzania are categorized as high-value resources and are owned and managed by the state.

While these models and approaches of PA – people relationships are useful reflections, strategies or techniques for protected area managers worldwide towards positive relationships with neighbouring communities, it remains to be demonstrated whether they are being applied by managers of these areas, and if so, to what extent. For the case of Tanzania, for example, there are no reports yet that document whether the approaches of PA – people relationships are actually being applied by PA managers in the country, and if so, to what extent. This chapter, therefore, wants to contribute to filling out this gap by examining the park – people relationships in the context of Tanzania’s national parks. As pointed out, the chapter does this by using the case study of Saadani National Park (SANAPA).

Broadly, the objective is to understand to what extent SANAPA has explored approaches widely applied by PA managers worldwide (benefit-sharing, mitigating human-wildlife conflicts, managing PAs in collaboration, and opening limited access to park resources) in shaping its own relationships with neighbouring communities? In order to answer this question, a set of questions in the interview guide (see Appendix 1) reflecting each of those approaches were asked to study participants to explore the extent of application of a particular approach, including their views regarding the approach in question.

6.3 Methodological approach

Field data was collected in November 2012 – February 2013. Fieldwork involved qualitative approaches: three focus group discussions with 32 village leaders; in-depth interviews with two park officials who have a rich experience with park management and have extensive knowledge of relevant community issues; 19 informal discussions with ordinary members of the local community; document analysis (previous studies, project documents and government reports); and field observations I made during my three-month stay in the study area, supplemented by my previous experiences in this area. This multiple-method approach helped to bundle the perspectives of the local communities and PA managers.

I gathered verbatim responses during focus group discussions, performed in-depth semi-structured interviews, and held informal discussions. This source material was then sorted into

four categories: (1) benefit-sharing, (2) mitigating human-wildlife conflicts, (3) opening limited access to park resources, and (4) managing PAs in collaboration with communities. These categories were created after considering the responses gathered in light of the widely applied approaches of PA/people relationships mentioned above. These categories are also used as a framework for presenting the findings in this chapter.

To discuss these results, I integrated the findings from one technique of data collection and compared them with those from other techniques. This process of triangulation verifies, strengthens and greatly increases the validity of the findings while drawing together views from multiple stakeholders and the wider community (Simmons, 1994). In the following section, the findings from this case study are presented and discussed in detail. More specifically, the different approaches of park – people relationships are presented, their nature and extent of application discussed alongside their underlying reasons for the extent of application.

6.4 Results and discussion

The results indicate that all four major approaches widely applied by PA managers to foster positive relationships (benefit-sharing approach, mitigating human-wildlife conflicts, opening limited access to park resources, and managing PAs in collaboration with communities) are important in shaping relationships between SANAPA and adjacent communities. However the PA managers of SANAPA do not use all four approaches equally. These managers tend to focus more on the benefit-sharing approach. They have also considered two more approaches (mitigating human-wildlife conflicts and managing PAs in collaboration with communities), but these have been or are being only partly applied. They have not considered at all the fourth approach - opening limited access to park resources. The extent of application of each of these approaches is discussed separately in the following sections.

6.4.1 Benefit-sharing approach

Interviews with SANAPA officials and the analysis of various documents issued by SANAPA and TANAPA revealed that the park has established a benefit-sharing approach in the form of an outreach programme called Community Conservation Service (CCS). The programme is available in all national parks under the Tanzania National Park Authority (TANAPA) and is funded by income raised by TANAPA. The main source of funding for TANAPA is park gate revenues generated through tourism, but this is limited and is often supplemented by external

donors. Gate revenues are centrally managed by the TANAPA Head Office in Arusha, and are redistributed across all parks based on their annual budgetary activities, including CCS activities. Through CCS, national parks in Tanzania share conservation benefits with surrounding communities. When commenting on revenue collection, one park official said,

“Our role here is to collect everything [gate revenues] and send it to the Headquarters in Arusha [TANAPA Head Office], that’s the way we operate!you know what? Some parks, including ours [SANAPA], do not collect enough to run by themselves, they collect little compared to what they need to operate. If left to depend on their revenue, they will surely die. So to help them, everything has to go into a common basket and then each park is allocated its share based on their activities” (Park 2).

Document analysis (section 2.2.10) further indicated that the CCS programme started in 1988 as a pilot project in Serengeti National Park before it grew to cover more national parks in early 1991. Today the programme is implemented in all 15 national parks, including SANAPA. The CCS is now a full-fledged department with permanently employed staff at the TANAPA headquarters and at park level.

While CCS facilitates benefit sharing between neighbouring communities and national parks in Tanzania, its objectives are primarily two-fold: (1) to improve relations between national parks and local communities; and (2) to ensure that the interests of TANAPA regarding conservation and community welfare are expressed at all levels. Conservation education is a vital part of the CCS programme. The programme offers conservation education to various groups of local communities to create awareness of conservation values associated with the park so that they can support protection measures. But this could also be a strategy to make local communities accept compromises that may be necessary in favour of biodiversity conservation in the area (Lewis, 1996).

The programme also trains local communities on project management and accounting and the use of appropriate technology – such as improved wood fuel saving stoves. The goal here is to enable them implement alternative livelihood activities as substitutes for those that adversely affect biodiversity. The increased benefits from the other livelihood activities help to reduce the likelihood of the local communities threatening conservation efforts. Also, the programme establishes conservation clubs at local schools, and organises and runs conservation films shows in such villages from time to time. It also arranges familiarisation park visits for local community

groups and students of all ages as part of its broader conservation education mission. The aim is to instill conservation values and encourage future support for conservation measures.

To ensure that the parks make a meaningful contribution to community development while at the same time avoiding a top-down approach, CCS stresses support for community initiated projects. The programme's funding scheme is called Support for Community Initiated Projects (SCIP). It was established in 1992. The SCIP fund currently amounts to 7.5% of each park's annual budget. The funding is used to support or construct school facilities, medical dispensaries, health centres, youth centres, training centres, roads, water projects, children's' rights, and many other community development projects. Generally the park contributes up to 70% of the project cost and the community contributes the remaining 30% - normally in terms of labour - to create a sense of ownership of the project among local communities.

Through the SCIP programme, SANAPA has managed to contribute to various community initiatives in many villages around the national park. In the focus group discussions (section 2.2.7), participants made reference to a number of projects that SANAPA contributed, including construction of a dispensary and a secondary school in Matipwili village. Generally, local communities seem to appreciate SANAPA's contribution to improving their livelihoods. They acknowledge such efforts and appreciate the importance of conservation. One village leader noted,

“It's just that we have so many needs, but to be honest TANAPA is doing a great job! Look at the school in Matipwili.....at least now our children go to secondary school. Before they ended up in standard seven and just stayed in the village with nothing to do!...yeah, it is hard and expensive to get a chance in other schools elsewhere. And yes, we are still in discussion with them so that they help us dig a water well...so at least we have got a place to start with.....imagine if this park was not here, where could we have gone for help? They [TANAPA] have built I think one or two classrooms for our children. So I think they have the capacity to do things. Personally, I don't understand if there people who blame them [SANAPA] - maybe poachers - of course I know these don't want to see them [SANAPA] here as they block their evil motives!” (Village leader 7)

In general, CCS has fostered a positive perception of the park from the local communities' point of view. This is especially true when comparing the benefits they receive from the PA in its current status as national park with the time when it was a game reserve. However, as Strede and Helles (2000) observed, park officials highlighted insufficient budget as the major hindrance to

support each village's community development projects submitted to the park for funding. Also, there has been some deliberate movements by sub-villages to push for a place in the list of 'adjacent villages' recognized by SANAPA. First, they lobby the responsible government agencies for official upgrading and recognition of their sub-villages to stand-alone villages. Then, by virtue of sharing geographical boundaries with the park, they automatically find their way in the CCS list. This not only disturbs CCS's plans, but also increases the financial burden on, and complicates allocation of the already limited funding. On the other hand, this allows a larger group of people to benefit from the park. Also, it suggests the need to increase the budget allocation for CCS, since biodiversity conservation is for the betterment of people – for economic gain, poverty reduction, improvement of quality of life, and social well-being (Collins, 2013; Homewood *et al*, 2012).

Similar benefit sharing schemes have been used by various PAs worldwide. For example, Chitwan National Park and Annapurna Conservation Area in Nepal have received wide recognition and have been outstanding models for many countries in the Global South for their success in benefit-sharing (Wells and Sharma, 1998). Local communities are empowered to take advantage of opportunities available in related industry, particularly ecotourism. The PA revenues contribute significantly to community development (Sharma and Shaw, 1993; Heinen and Mehta, 1999).

6.4.2 Mitigating wildlife damage

Given the dense strips of thicket cover of the predominantly forest, woodland and wooded grassland seen in the buffer zones of SANAPA that overlap with village lands, it was not surprising that participants of the focus group discussions as well as informal discussion with local communities indicated that they experience losses due to wildlife. The majority of losses were due to crop raiding and livestock predation by wildlife, although some cases of wild animals attacking humans, destroying property, and being a general nuisance were also reported. A variety of wild animals were implicated in crop raiding: elephant, baboon, warthog, monkey, bush-pig, rodents and birds. According to the local communities, the most troublesome species for attacks on livestock and humans include lions, leopards, hyenas, and snakes. However, incidences and vulnerability to such problems differ between and within villages depending on the season and location of a particular village with respect to the park.

At the time of data collection for this study, several groups of baboons and monkeys were frequently observed on villagers' farms, and some warthogs were frequently seen wandering through residential premises, especially in Saadani Village, which is situated in the middle of the park. The villagers appeared vividly annoyed by such animals. Commenting on such animals, one member of Saadani village for example said,

“...these animals have been here with us since then, they are always in our premises walking around, eating what they found, playing around, and annoying sometimes....in general they live with us all the time, there is nothing we can do with them, we just protect our holdings, guard our crops and live moves on....how can we do to them? sometimes they [baboons and warthogs] sometimes run from lions there [in the park] and come to us to hide and save their lives.....they sleep in our premises in places like abandoned houses or unfinished buildings....in short we coexist with them...not because we like but because there is no option”

Nevertheless, the inhabitants of the study areas have daily interaction with wildlife and have learned from their long-time experience how to handle the wildlife damage they encounter. For example, they employ various traditional methods to combat crop damage, including fencing their farms using locally available materials such as old fishing nets, and deploying family members to guard their farms. They also use fire, noise-making, scarecrows, and models of predators. However, due to the variation in the body size of the animals, their feeding habits, the variety of crops, and differences in the proximity of farmland to the park boundary, there is no single measure that was sufficient to scare off all wildlife species responsible for crop damage. Similar to what Thapa (2010) observed in Bardia National Park (Nepal), a combination of these methods was preferred and was seen effective for crop protection, although the work is labour-intensive and time-consuming (Ogra, 2008).

Sometimes wildlife such as elephants destroy and damage the fences, but local communities do not complain to the park management about the repairs. The park management does not take any initiative to repair the damaged fences. Instead, the villagers have learned to tolerate the damage problem and accept the situation as part of their life because they cannot afford sophisticated wildlife damage control equipment and materials. But when damage exceeds their tolerance, such as when elephants, buffalo, lion, or leopards have entered the village or threatened human life, they notify the park management and ask for help. In such cases, the park management immediately sends armed rangers to help out. At the time of writing this chapter, this was the only assistance offered by the park management to mitigate wildlife damage.

Park officials, however, maintained that such human-wildlife conflicts in SANAPA are a result of encroachment, blockage of migratory routes, and destruction of dispersal areas by farming and human settlement, coupled with increasing in human population pressures in the area. One park official lamented,

“...I hope you know about wildlife movements, how they move from one place to another on seasonal basis. So what do you expect if, for example, villagers have established farms in elephant routes, and you know how destructive these creatures are, so it’s obvious you will notice considerable damage within a short period of time! ...you know, we need to be objective and stop talking these politics, the reasons are clear...” (Park 1).

In support of this argument, field observations revealed that SANAPA has roads on all sides and settlement has grown fast. These are challenges that increase isolation of the park from larger animal populations in other PAs of Tanzania. The issue of isolation of SANAPA from other biologically rich areas is discussed in detail in chapter four.

Measures to either prevent or mitigate wildlife damage (e.g. compensation, insurance, equipment and materials) were not adopted by SANAPA. In the absence of such measures, loss of food leading to food insecurity, increased workload associated with removing or replanting damaged crops and diminished wellbeing become obvious outcomes (Ogra, 2008). Study participants reported such outcomes, but they did not mention food insecurity or any kind of compensation schemes available for losses from wildlife damage. Although reportedly not very effective, financial compensation schemes have been used to increase people’s tolerance to wildlife damage while coexisting with wild animals (Sifuna, 2011).

Payment of compensation, for example, has been used by Kenya Wildlife Service to manage human-wildlife conflicts in Kenyan PAs. Compensation is paid where a person has been injured or killed by a wild animal. However, no compensation is offered for damage to crops, livestock and other (man-made) farm infrastructure because of the logistical difficulties associated with such claims (Distefano, 2005).

While management decisions on managing human-wildlife conflicts (controlling crop damage, livestock predation, property damage, and attack of humans by wildlife) for the case of SANAPA would require further in-depth research, it is important to note that the current responsive measure by SANAPA is not sufficient to minimize wildlife damage in the study area.

A combination of both preventive and mitigation tools, both traditional means (such as the use of fires, scarecrows, and predator models) and sophisticated tools (repellents, firecrackers, and chili pepper) could work better. However, the wisest strategy for wildlife conservation could be co-management of human-wildlife conflicts by PA managers, local communities, researchers and local governing bodies (Weladji & Tchamba, 2003). The involvement and participation of local communities is crucial for preventing and mitigating human-wildlife conflicts since acceptance of the problem by the local community is essential because such conflicts can never be fully eliminated, but can be reduced (Distefano, 2005).

6.4.3 Managing PAs in collaboration with communities

While the literature recognizes the inclusion of local communities in PA management (Walpole and Goodwin, 2001), the findings of this research revealed that sometimes managing PAs in collaboration with local communities is not possible, even if PA managers are willing to involve them. The findings show that local communities in the study area are not directly involved in managing SANAPA. They have remained ‘observers’ and ‘recipients’ or ‘listeners’ of what is being decided by the park managers. The focus group discussions, however, revealed that the local communities seem to have learnt to accept such exclusion because they consider themselves unable to contribute in managing SANAPA due to their certain inherent factors. They pointed out hindrances such as their poverty, low level of education (reflecting limited expertise), and some of their livelihood strategies (e.g. a tradition of hunting for bush-meat) that threatened wildlife conservation. For example, during informal discussions one member of the local community said,

.....you know how poor we are, we have not even gone to school [no formal education], and some of us are poachers, particularly our fellows in Kwamsisi [a village in the northern part of SANAPA where poaching is much more rampant] ... so what do you expect if we are to be involved in managing this park [SANAPA]....what are we going to contribute in the first place? Or you want us to clear everything from the park! Ooho in just a year you will find no forest, no animals, no anything!!.....things like this [conservation] are for people like you who are professionals [conservationists by profession].

Although the local communities did play an important role in establishing the PA (they initiated the establishment of SANAPA) and have supported biodiversity conservation and have been positive towards this PA since it was first established as a game reserve, their actions do not always support this positive view of conservation. In particular, some traditionally embedded

practices or livelihood strategies in the study area negatively impact wildlife conservation. In the north of SANAPA, for example, poaching is rampant because communities in that place have a tradition of hunting mainly for bush-meat. As mentioned in chapter three, the northern side of the park is the most unsafe side of the park for the wild animals. Study participants, particularly the local inhabitants, identified poverty, lack of education and traditional practices as the main stumbling blocks to the participation of local communities in PA management and in the conservation of biodiversity in general.

The local inhabitants' above statements reflect Elliott and Sumba's (2010) observation that poverty is one of the main contributors to biodiversity degradation, and they reinforce the argument by Roe *et al* (2000) and Haukeland (2011) that local communities do not have the capacity to conserve biodiversity. On the other hand, these statements also reflect the argument by Lewis (1996) that local communities are likely to be happy with a particular PA if it has been established with prior consultation or dialogue with them regarding the reasons for, and benefits of, the PA. Park officials had a similar viewpoint when asked to respond on whether they were managing SANAPA in collaboration with local communities. But they were a bit skeptical if that could make a difference in their context. This standpoint is related to, and reflected in, the management structure of the PA itself. SANAPA is not a community-based natural resource; it is purely state-run and therefore community-based input is viewed as being less important to the management of the park. One park official said,

“I don't see that as a problem and a need for our park because these people [local communities] actually want land, want charcoal, want timber, want wildlife [meat and trophies] etc. they need them for a living, to make money! ...of course, we know some are just being used by politicians, business people or someone else.....by taking advantage of their poverty and greedy for quick money!.....but these are what they need from the park, it's not about being in the decision-making or being part of the management team.....it's all about access to those resources [mentioned]” (Park 1).

Such standpoint has its bearing on the nature of the protected area itself. As Kellert *et al* (2000) argues, managing PAs in collaboration with communities depends on the management systems of PAs in question, whether state, community, private or co-management. It should be noted that SANAPA is not owned or managed under a community – based natural resource management system, which would require sharing management responsibility between local communities and the state – through SANAPA (joint resource management). Instead, SANAPA is a state-run

PA and is virtually considered high value resource in the context of PAs management systems in Tanzania. State-ownership is most likely for these kind of PAs given their high-value especially when viewed in relation to the relative costs and benefits of managing exclusion (Leach *et al*, 1999). In the concluding remarks of this section, I will debate a little more on this approach 'Managing protected areas in collaboration with local communities' in the context of national parks in Tanzania.

On the other hand, the literature maintains that to win local communities' participation and support of conservation activities, they should be involved from the establishment of the PA in question (Niezgoda & Czernek, 2008; Sanoff, 2000). However, this not always the case, at least from the findings of this research. When SANAPA was established in 2005, local communities in the study area were involved in decision-making, and even some villages even contributed part of their lands to the newly established park - to include areas for potential biodiversity conservation and eventually to increase the size of the park area. But, despite this involvement still their relationship with the park management appears uncertain due to a number of conflicts between the two sides. Local communities had the feeling that their interests and livelihoods were threatened by SANAPA. The findings revealed that the management of SANAPA and adjacent communities are confronted with enormous conservation conflicts (boundary conflict, resource-use conflict –demands for land and poaching for trophy and bush-meat, and tree-cutting for firewood, charcoal, and building materials; human-wildlife conflict, and conflicts related to encroachment and blockage of wildlife corridors) requiring urgent actions. These conflicts have ecological, social, and economic costs to the parties involved (Madden, 2004; FAO, 2008; Distefano, 2005; Muruthi, 2005; WWF, 2008).

While such conservation conflicts are discussed in detail in chapter three, it is important to note that although there are still some land disputes going on between SANAPA and villages whose land was annexed to establish the park, the local communities had offered their land willingly following a series of consultation meetings. Later, however, they discovered some inconsistencies in the annexing process. This led to boundary disputes which eventually ruined the relationship between the park and villages in question. This reinforces the view that local communities cannot support PAs if their interests are threatened (Kideghesho, 2007; Thapa,

2010). As mentioned in chapter three, during the time of data collection for this study, a mediation process was underway to resolve these disputes.

In my view, however, the approach ‘Managing protected areas in collaboration with local communities’ does not perfectly fit for SANAPA. This is because SANAPA is purely a state owned protected area in which management responsibility is fully vested in the state through TANAPA. There is no partnership between local communities and the state. For this reason, the level of inclusion of local communities in managing this PA is likely to be minimum or no inclusion at all. This is due to lack of legal rights or institutions that often exist in partnerships (Kellert et al, 2000). In fact, the park management is likely see no point of involving the local communities in managing the park given their low level of education- reflecting limited expertise or knowledge on conservation issues to make significant contribution to the protected area (Roe *et al*, 2000). In addition, national parks in Tanzania have the highest level of conservation status and protection amongst wildlife protected areas in the country. They are relatively far better when it comes to monitoring and enforcing controls over access to their resources. Park management would, in most cases, involve local communities management principally to foster positive relationship and local communities’ support to conservation needed to achieve effective and sustainable conservation and relations between people and protected areas (Bobo and Weladji, 2011; Mcshane and Wells, 2006). To some extent, SANAPA uses its benefit-sharing approach (discussed above) to achieve this.

But this does not imply that the approach ‘Managing protected areas in collaboration with local communities’ is irrelevant for the case of SANAPA. Its relevance lies on the fact that all PAs in Tanzania including SANAPA are not fenced. Wild animals are free to move within the entire area and beyond the boundaries of the PAs into their buffer zones. These buffer zones (dispersal areas) belong to particular villages as part of the village lands. It is, therefore, important that villagers are involved and encouraged to participate in conservation of such wild animals, particularly once they are in the village lands. As such, the approach is still important in shaping relationships between SANAPA and its neighbouring communities.

6.4.4 Opening limited access to park resources

As pointed out in the introduction section of this chapter, opening limited access to park resources involves allowing local communities limited access to PA resources to meet their

subsistence needs - often fuel-wood (firewood), building materials and animal fodder (Heinen, 1993). This is an important recognition of their dependence on natural resources for a living, rapidly increasing population and demand for natural resources, and for creating good relationships between protected areas and adjacent communities (Strede & Helles, 2000). Discussions with villagers throughout the fieldwork period and observations made in the field confirmed that opening limited access of collection of firewood from SANAPA is not particularly important to most local communities around the park. Most villages have plenty of firewood at their disposal from their village forest resources available within daily walking distance. Allowing a limited collection of firewood is important only for people in Saadani village because their village forest (the only place where they are allowed to collect dead wood) is a long distance away, on the other side of the park. The villagers therefore minimise transportation time and expense by collecting firewood from the park forest, which is closer by and borders their village, even though this is illegal. Commenting on the opening limited access to firewood, one villager said,

“That would be much appreciated, it’s a great idea, good for us because we have got nowhere to get them [firewood] to be honest!....I think you also see the real situation.....on this side [pointing to the south] there is Sea [the Indian Ocean], and the rest of the area is national park [SANAPA]..... our forest is far away from here, you need to cross the park to reach it....besides walking in the park is dangerous and is prohibited....so you can imagine how difficult it is for us to get firewood from our forest...”.

The approach of opening limited access to firewood is working well in Royal Chitwan National Park in Nepal, and has proved to enhance local livelihood, solidify park-people relations, and give local communities a more positive perception of biodiversity conservation in and around the park (Sharma and Shaw, 1993). Because illegal collection of firewood is already a problem in SANAPA, opening limited access to local communities around the park (especially the Saadani people) could help to address the problem while fostering positive relationships between the park management and these people who live nearby. And with effective control, monitoring, and evaluation to assess field situation and conservation attitudes, opening limited access to park resources can work well with minimum loss of biodiversity (Madden, 2004; Sayer, 2009).

Similarly, opening limited access of collection of building materials (mainly timber and poles - commonly used to construct local shelters) from SANAPA is not particularly important to local communities around the park. As mentioned before, such materials can be obtained from their

village forest resources. And since construction is one-off activity (happens once in a while), even local communities from Saadani village (who I suggest be considered for limited access to firewood) can obtain building materials from their village forest located a few kilometers away (about 30 minute drive). However, as I pointed out in chapter three (section 3.3.2), many village forest resources are at risk of disappearing due to unsustainable utilization that threatens the existence of such forests. The forests suffer greatly from extensive trees harvesting for timber, poles firewood, and charcoal production promoted by village leaders and politicians.

Furthermore, the results indicate that opening limited access of collection of animal fodder is also not particularly important to local communities around the park. This is because the majority of local communities surrounding SANAPA are peasants whose main economic activity is agriculture. Field observations and interviews with village leaders revealed that there are very few inhabitants of the villages surrounding SANAPA, who are pastoralists or who practice both agriculture and pastoralism and have few livestock. However, their number could not be immediately established since there was no such statistical data at village offices, the village leaders had no such information, and had never bothered to collect such data. Thus, given the small numbers of their herds against the dense strips of thicket cover of the predominantly forest, woodland and wooded grassland seen in the buffer zones of SANAPA that overlap with village lands, it implies that there is plenty of pasture at their disposal for their livestock.

But there is a high demand for animal fodder, especially during dry seasons when additional pasture is needed beyond the borders of the village for the migrating pastoralists (Barabaig pastoralists), who flock around SANAPA with their huge herds of livestock in search for pasture. While this issue of migrating pastoralists is discussed in detail in the previous chapter, it is worth noting that these pastoralists are not residents of the villages around SANAPA. They simply arrive in the area due to their nomadic lifestyle while searching for pasture for their large herds of livestock, mainly cattle. To them, large herds of livestock expresses personal worthiness and insurance to survive through periods of stress such as drought and disease epidemics (Boku, 2008). These Barabaig pastoralists have been in conflicts with SANAPA managers over encroachment into the park to pasture their herds of livestock. Informal discussions with some villagers revealed that local pastoralists, village leaders as well as politicians in the area often

invite such pastoralists from other areas in the country. This creates an influx of pastoralists with huge herds of livestock in and around SANAPA.

Interviews with SANAPA officials revealed that it is difficult for the park management to reconcile with the pursuit of the agenda of opening limited access to park resources. The management seems to embrace what Sayer (2009) called threat-based kind of conservation - which focuses on protecting biodiversity against perceived threats rather than desired outcomes i.e. outcome-based approach. During interviews, one park official, for example, narrated,

“...Our role is to conserve biodiversity, there are conservation policies and laws we abide to.... There is no way we can allow such a thing [opening limited access to park resources]... it's contrary to the laws and contrary to our role as conservationists [of conserving biodiversity].....our fellows in Udzungwa National Park tried it [opening limited access to firewood] but failed badly..... people were collecting heaps of firewood and sell them, so to some people it turned out to be a loophole for a business....I personally don't buy the idea because it will encourage encroachment, it will encourage overdependence, it will encourage poaching and everything!.....I always say if we want really to help our people then let us start with poverty alleviation programmes, to me poverty is everything, poverty is all that brings all these problems and tensions we have with local communities....also lack of education is another factor, but let us start with poverty first!Short of that we still have a long way to go, to be honest...”.

Although grazing in Tanzania's national parks is prohibited by law, a consideration for allowing limited grazing of livestock within specific sections of the park during drought periods could be a good approach to internalize pastoralism into biodiversity conservation while fostering positive relationships with pastoralists. However, this network (or chain) of pastoralists could stall SANAPA from considering such approach due to the possibility of attracting more influx of pastoralists into the park. Also, their practice of free range grazing (nomadic lifestyle or mobile way of keeping livestock) alongside big herds of livestock makes the issue even more complex, especially when considering the associated risks: depletion of the natural vegetation and loss of habitat due to overgrazing and transmission of diseases such as anthrax and rabies. In addition, the local communities do not generally welcome pastoralists because the free-range grazing and large numbers of uncontrolled livestock cause substantial crop damage and degrade the soil (making it compact and hard to dig with hand hoe) in the fields leading to farmer - herder conflicts. On the other hand, the approach 'opening limited access of collection of animal fodder from SANAPA' for such pastoralists is simply unpractical, insufficient and laborious given their huge herds of livestock. This approach works well to pastoralists with few numbers of livestock,

practicing zero-grazing or low – intensity livestock farming, which is highly valued ecologically and economically (Bignal & McCracken, 1996; Rosen & Bakker, 2005).

Integration of local communities' subsistence needs (through opening limited access for gathering firewood, building materials and animal fodder) is common in Himalayan national parks, including Royal Chitwan, Sagarmatha and Langtang in Nepal, and the Great Himalayan National Park in India in response to a rapidly increasing population and demand for PA resources (Sharma and Shaw, 1993; Heinen and Mehta, 1999). Such opening of limited access has been used to solve park/people conflicts and improve relationships with people living adjacent to these PAs (Heinen and Mehta, 1999).

6.5 Conclusion

The focus of this chapter was the nature and extent of PA-people relationships in Tanzania. Evidence from SANAPA demonstrates that the major approaches widely applied by PA managers to foster positive relationships - benefit-sharing, mitigating human-wildlife conflicts, opening limited access to PA resources, and managing PAs in collaboration with communities - are also important in shaping relationships between national parks in Tanzania and their neighbouring communities. While the extent of application of these approaches varies considerably, the focus of park managers in Tanzania has been predominantly on the benefit-sharing approach. Other approaches (e.g. mitigating human-wildlife conflicts) have also been considered, but their applications remain partial. Yet others (e.g. opening limited access to park resources) have not been considered at all, despite their relevance. This raises the question whether SANAPA has fully exploited all the opportunities to improve PA-people relationships, although there are hindrances such as policy issues, financial limitations, their importance to the local community, and logistical difficulties associated with such approaches.

Although the findings from SANAPA should be considered only within the specific cultural and geographical parameters of this park, some implications may be applicable to similar scenarios elsewhere in Tanzania and globally. The findings can help to guide policy and management decisions on how to resolve and avoid conflicts with local communities, to win their support for conservation, and to foster positive relationships between them and management of PAs. First, the factors (widespread poverty, low level of education, and traditional livelihood practices) that hinder the involvement of local communities and their participation in conserving biodiversity

need to be addressed before effective collaboration will become possible in managing SANAPA. Such factors reflect limited capacity for the local communities to conserve biodiversity (Roe *et al*, 2000; Haukeland, 2011). Poverty is one of the main contributors to biodiversity degradation - often reflected in overdependence on natural resources for a living, low level of education implies limited knowledge on conservation issues to make significant contribution to the protected area, and a tradition of hunting can lead to species extinction or a decline in species population - thereby threatening wildlife conservation.

These highlight the need for comprehensive conservation programmes that would integrate conservation while addressing such issues. For example, programmes that aim to alleviate poverty at family level and improve access to formal education could reduce their dependence on natural resources for a living. Conservation education and consciousness-raising campaigns are needed among local communities to increase their capacity to conserve wildlife and change their cultural traditions related to the use of bush-meat. Also, the SANAPA management could consider allowing limited hunting access as another option for the bush-meat hunting people even if hunting in national parks is prohibited by law. This could be achieved by setting aside special hunting area(s) for these people such as in the dispersal areas or buffer zones. These are areas outside protected areas that animals use for a significant length of time, and are normally part of the village lands (Jones *et al*, 2009). Setting up community owned wildlife areas - commonly known as Wildlife Management Areas (WMAs) on village lands surrounding SANAPA, could generate income for the villages through tourism activities while serving for the bush-meat hunting people as well.

Second, crop damage is a very important issue to the livelihood of local residents. SANAPA's responsive measures do not sufficiently minimise wildlife damage in the study area. The park management, donors and other conservation organisations with an interest in wildlife conservation should support local communities in acquiring sophisticated wildlife damage control equipment and materials (e.g. fencing wires, animal repellent, firecrackers, and chili peppers), which are generally more effective than the traditional means currently used by communities. In the absence of adequate preventive or responsive measures, crop damage can result into food insecurity.

Third, opening limited access to park resources is an important consideration in park management. The managers of SANAPA should consider allowing limited collection of firewood for local communities living in Saadani village, given the limited amount of firewood nearby. Livestock keeping is an integral part of Barabaig life and is heavily intertwined into their culture and value systems, but pastoralism as they practice it is damaging the conservation area and surrounding communities. Education programmes and consciousness-raising campaigns are needed to change their way of life and their mindset toward free-range pastoralism. These should aim to convince them to adopt environmentally friendly models of keeping livestock such as zero-grazing, and transform these into more profitable ventures. In the end, this could be a stepping stone towards allowing limited collection of animal fodder from SANAPA, especially during drought periods, and building infrastructures for livestock keeping, such as dips and dams.

Pastoralists seem to be unwanted in the study area due to increasing crop damage and soil degradation by livestock (they make the soil compact and hard to dig with hand hoe) attributed to uncontrolled entry of herds of cattle in the area. If left unchecked, this could spur conflicts between pastoralists and farmers. A space should be set aside for local pastoralists, but many villages in the study area have no land-use plans. The influx of other pastoralists from other regions should also be controlled.

Fourth, although the focus of park managers in Tanzania has been predominantly on the benefit-sharing approach, a larger group of people still do not benefit from the conservation of these PAs. The approach has limited funding allocation to allow all villages surrounding SANAPA to benefit from the park. There is, therefore, the need to increase the budget allocation for this approach (the park's CCS budget) to enable larger group of people to benefit from the park. This is important since we conserve biodiversity for the betterment of people – for economic gain, poverty reduction, improvement of quality of life, and social well-being (Collins, 2013; Homewood *et al*, 2012).

This case study of SANAPA has revealed important aspects of PA-people relationships in one of Tanzania's PAs. Similar studies in various PAs of Tanzania and in other countries of the Global South still need to be done. This is important for the consideration of specific PAs and country-

level differences in terms of PA-people relationships. Such studies would provide the basis for comparison and contextualizing the findings for a particular country or region. Indeed, such case studies are useful in the sense that understanding PA – people relationships from a particular protected area provides specificity, allows comparison, and capture the heterogeneity that exists across protected areas - given cultural and geographical differences between and within countries and varying levels of conservation status (Allendorf, 2010; Allendorf *et al*, 2012; Dearden *et al*, 2005). This is fundamental to park managers for gauging, improving and furthering research into such relations to achieve objectives of biodiversity conservation (Allendorf *et al*, 2012; Bobo and Weladji, 2011; Mcshane and Wells, 2006). Such case studies can provide guidance for policy and management decisions and a baseline for assessing PA-people relationships in other PAs in Tanzania and elsewhere.

CHAPTER SEVEN: General Conclusions

7.1 Introduction

The main objective of this research was to examine conservation conflicts in Tanzania's National Parks, using the case study of Saadani National Park (SANAPA). To achieve this systematically, the research was guided by four inter-related research questions: what are the dynamics of conservation conflicts in and around SANAPA; what are the pressures of development on biodiversity conservation in and around SANAPA; what are the pastoral- conservation conflicts in and around SANAPA; and what extent SANAPA has considered the models of PA-people relationships. These questions are inspired by four main theoretical debates in which I situated my research, namely the debates over: the 'place' of people in protected areas; the creation of positive relationships between protected areas and stakeholders; the integration of development concerns into biodiversity conservation; and the forging of linkages between biodiversity conservation and other sectors of the economy. The findings of each of the questions have been separately presented and discussed in details in the previous four empirical chapters.

This chapter now brings together the key findings from those multiple research questions. The idea is to draw out major arguments of the study, to show how the findings are linked to each other, and to demonstrate their relationships with the wider research. The chapter starts by bringing together (in summary) the key findings on each of the research question, highlighting key issues raised in the empirical chapters. It then, follows a discussion of the research findings in line with the major theoretical arguments that informed this study (see section 1.10) before it points out the conclusions and future perspectives. The chapter finishes with the recommendations and policy implications, key lessons learnt and avenues for future research.

7.2 Conservation conflicts in Saadani National Park: key research findings

Overall, the findings of this research indicate that the management of SANAPA, adjacent communities, investors, and migrating pastoralists are confronted with enormous conservation conflicts. These include boundary conflicts – manifested in disputed boundary lay outs; resource-use conflicts – reflected in demands for more land and poaching; human-wildlife conflicts – that involve damages inflicted by wildlife; and conflicts related to encroachment and blockage of wildlife corridors - resulting from human settlements and agriculture. There are pressures of development, mainly from transport infrastructure development in and around the park, the

proposed sugarcane plantation adjacent to the park, as well as sea salt works in and around the park. In addition, there is the pastoral - conservation conflict demonstrated by the encroachment into SANAPA by livestock. Furthermore, the focus of the SANAPA management has been predominantly on benefit-sharing as the approach to foster positive relationships with adjacent communities.

The research presents four major arguments in relation to these conservation conflicts. First, the root causes of conservation conflicts in and around SANAPA revolve around a combination of factors arising from the park itself, local communities, investors as well as government agencies and institutions, and are reinforced by the media. Second, the pressures of development to SANAPA are mostly the outcome of the government's struggle to balance between biodiversity conservation and social-economic development. Third, the pastoral-conservation conflict happening in this particular case study is prompted by the way conservation and agriculture are prioritized in the country, a mobile form of livestock keeping, and reinforced by issues of governance and corruption. And fourth, the focus of SANAPA managers to foster positive PA-people relationships has been predominantly on benefit-sharing approach. They have not fully exploited other approaches widely applied: mitigating human-wildlife conflicts, opening limited access to PA resources, and managing PAs in collaboration with local communities.

7.3 Major arguments regarding conservation conflicts in SANAPA

While the impact of land dispossession might sound fairly little in the study area due to the degree of consultation with the local communities when part of their land was annexed into SANAPA, still their responses (demand for land from the park and resurvey of the boundary layout) could suggest that they are now feeling the consequence. Although they were not forcibly evicted from their land, it is obviously dispossession has excluded them from access to that particular land, which they depended for agriculture, forest, wildlife, settlement etc. This reinforces the argument by Hunt & Balfe (2015) that the true impact of dispossession, regardless of the degree of consultation, is normally realized after some time (Hunt & Balfe, 2015).

The pastoral related conflicts (not necessarily pastoral - conservation conflicts) in Tanzania are complex. The complexity lies on the fact that key actors often involved in such conflicts (the government, conservationists, pastoralists and agriculturalists) are rigid and want to maintain their status-quo on what they believe about pastoral conflicts.

While the government, conservationists and agriculturalists believe that sedentarization and destocking are the best sustainable solutions towards pastoral related conflicts (e.g. loss of substantial quantities of crops due to damage caused by livestock, degradation of soil in farmlands by livestock, encroachment into PAs by livestock), the pastoralists themselves see these solutions as being restrictive and detrimental to pastoralism development in the country. According to pastoralists, herd mobility is the ‘heart’ of pastoralism since it offers them with flexibility of getting pasture and water elsewhere for their herds while large herd expresses personal wealth and an insurance to survive through periods of stress such as drought and disease epidemics. Furthermore, they argue that assertions that blame pastoralists for environmental degradation have no scientific basis, are mere stories about the supposed effects of pastoralism on the environment influenced by national and international environmental agenda. The root cause of pastoral related conflicts, according to pastoralists, is the diversion of their traditional grazing land for other uses (e.g. agricultural expansion, establishment of PAs, mining etc.).

These arguments from both parties suggest that so far there is no common understanding of the causes and solutions for pastoral conflicts in Tanzania. In the absence of common understanding, each side lives and acts strategically to maintain their status-quo. The government tends to use more of law to restrict pastoral movements so maintaining its stand on what it believes about pastoral conflicts. On the other hand, the pastoralists use all they can, particularly money as ‘weapon’ to ensure they maintain their traditional way of keeping livestock - free range mode of grazing and the big numbers of livestock. For instance, they bribe whoever responsible (such as park staff) to get access to PAs for pasture and water for their livestock. With these debates, my argument is that in the absence of common understanding, conflicts between pastoralism and other forms of livelihoods (not necessarily conservation) are likely to continue for unforeseeable future.

To win local communities’ participation and support of biodiversity conservation, the literature emphasize the need to involve them right during the establishment of the PA in question (Niezgoda & Czernek, 2008; Sanoff, 2000). The local communities are likely to be happy with a particular PA if it has been established with prior consultation or dialogue with them regarding the reasons for and benefits of the area (Lewis, 1996). However, my argument is that local communities can be fully involved in the establishing of the PA or they can be the initiator of the

idea of establishing that particular PA, but still be unhappy with that particular PA after its establishment. According to my observation, there are two factors most considered by the local communities. First, whether their interests are being considered - often their dependence on resources in PAs for a living (Sifuna, 2011; Thapa, 2010; Kideghesho, 2007; Madden, 2004; Lewis, 1996). While it is clear that the conservation often entails depriving people of access to resources, the denial of access is perceived to ignore the dependence of the local communities on such resources for a living and for their spiritual affairs as sacred sites (Norgrove, 2003; Ali, 2007; Thapa, 2010). Second, whether biodiversity conservation is perceived to threaten the livelihoods of the local communities (Madden, 2004; Sifuna, 2011; Lewis, 1996). This often comes from wildlife damage, particularly crop raids that lead to food insecurity, increased workload associated with removing or replanting damaged crops and diminishing wellbeing (Ogra, 2008).

For the case of SANAPA, local communities were involved in the decision-making process when the park was established in 2005. Even some villages contributed part of their lands into the newly established park - to include potential areas for biodiversity conservation and eventually, increase the size of the park area. However, despite this involvement still their relationship with the park management appears uncertain due to a number of conflicts between the two sides. Local communities had the feeling that their interests and livelihoods were threatened by SANAPA. The findings revealed that the management of SANAPA and adjacent communities are confronted with enormous conservation conflicts, mainly: boundary conflict – due to the inconsistencies in the annexing process; resource-use conflict – manifested in new demands for land from local communities and poaching - illegal hunting of wild animals for trophy and bush-meat, and tree-cutting for firewood, charcoal, and building materials; human-wildlife conflict expressed by damages inflicted by wildlife; and conflicts related to encroachment and blockage of wildlife corridors – resulting from human settlement and farming. These conservation conflicts have ecological, social, and economic costs to the parties involved (Madden, 2004; FAO, 2008; Distefano, 2005; Muruthi, 2005; WWF, 2008). Thus, it is important to address such conflicts not only to make the local communities happy with the PAs and eventually participate in biodiversity conservation, but also to attain the respective goals of conservation and human development (Lewis, 1999; Madden, 2004; Distefano, 2005; Madden & McQuinn, 2014; WWF, 2008).

Some of the more widely solutions to conservation conflicts, according to the literature (see for example Hammill and Brown, 2006; Lewis, 1999; Madden, 2004; Warner, 2000; WWF, 2008), include: concerted efforts, land-use planning, community based natural resource management, compensation scheme or insurance, payment for environmental services, the promotion of wildlife friendly products, and a number of practical field based solutions that can limit the damage done both to humans and human property and to wildlife. These solutions can be applied on a case-by-case basis - depending on the conflict in question. In addition, it is important to regularly evaluate the effectiveness of such solutions within a particular context, modify them to suit local environment, and develop new solutions on a case-by-case basis - to suit a particular conservation context since what works fine in one place, might not work effectively in another place. However, a well-designed conflict resolution process is crucial to manage conservation conflicts.

Lewis (1996) and Madden (2004) outline three general principles that should be observed when designing the conflict resolution process for protected areas conflicts. Principle one is that the focus should be on underlying interests. This means that people's fundamental needs and concerns should be addressed to create a win-win outcome. Principle two is that involve all significantly affected stakeholders in a fair and respectful process. Stakeholders are those individuals or social groups which are directly involved in the conflict or who may be affected by how the conflict is resolved. People want to be involved in decisions when their interests are at stake, they want to have their opinions and ideas heard and valued, and they want to be respected as individuals. Principle three is that understand the power that various stakeholders have, and take that into account when trying to resolve a conflict. Power is a critical element in conflict resolution. Individual or social groups' perception to conflict resolution will in most cases depend on how they view their power to influence decisions in relation to other stakeholders. Therefore, it is important to understand the relative power of the stakeholders involved in the conflict, and note that a group that feels powerless to influence an outcome may engage in or may not refrain from illegal activities affecting biodiversity.

As mentioned, the literature recognizes the inclusion of local communities in the management of PAs as crucial for the sustainability of these areas (Walpole & Goodwin, 2001). It helps to

cultivate a sense of ownership and responsibility, foster positive PA – people relationships and win local communities’ support to conservation needed to achieve effective and sustainable conservation (Bobo and Weladji, 2011; Mcshane and Wells, 2006). However, in this context, my argument is that sometimes managing PAs in collaboration with local communities is not possible, even if conservation management officials are willing to involve them. Sometimes local communities have no capacity for the collaboration due to certain inherent factors (such as poverty, low level of education and cultural practices), and have learnt to accept their exclusion.

For the case of SANAPA, the findings revealed that local communities are not directly involved in managing the park. They have remained ‘observers’ and ‘recipients’ or ‘listeners’ of what is being decided by the park managers. Local communities, however, seem to have learnt to accept such exclusion because they consider themselves unable to contribute in managing SANAPA. They point out hindrances such as their poverty, low level of education (reflecting limited expertise), and some of their livelihood strategies (e.g. a tradition of hunting for bush-meat) that threatened wildlife conservation. This somehow reinforces the argument by Haukeland (2011) that local communities do not have the capacity to conserve biodiversity, hence the need for capacity building to enable them participate in managing PAs and biodiversity conservation in general. On the other hand, it could pinpoint to the lack of conservation programmes that suit poor and illiterate people. In addition, it gives an impression that there are problems within the involvement process. This suggests the need to reflect and distinguish the different roles of the actors involved, given the magnitude of actors (local communities and conservationists) in terms of knowledge, and the need to structure the involvement process. A well-designed involvement process is therefore inevitable, as we saw for the conflict resolution process, if we want to involve local communities in managing PAs. However, the designing of the involvement process needs to take into account two important elements (the equitable distribution of conservation benefits and the process by which decisions regarding biodiversity conservation are made) that Rogge *et al* (2013) call distributive justice and procedural justice respectively. These elements are crucial for active participation of local communities in managing PAs. While the first element aims to ensure local communities equally benefit from biodiversity conservation, the second one ensures their voices are heard and taken care when making decisions regarding biodiversity conservation. Similarly, these elements reflect the three principles (discussed above) for designing the conflict resolution process by Lewis (1996) and Madden (2004).

The literature recognize the need to integrate development concerns into biodiversity conservation (Bobo and Weladji, 2011; Sayer, 2009; Singh, 2008; Seely *et al*, 2003; Shahnawaz, 2002). However, there is limited evidence to suggest how the two (conservation and development) should practically be integrated. A general conclusion has been ‘ a way must be found to achieve both conservation and development objectives’ with general realizations that to conserve all biodiversity is often not a realistic objective, and development is inevitably associated with some losses of biodiversity (Sayer, 2009; Singh, 2008). In the absence of practical evidence, I argue that governments struggle to balance between biodiversity conservation and social-economic development while the management of PAs is under pressures of development, trying to minimize losses of biodiversity that result from such development. For the case of SANAPA for example, the park has an area of 1100 km² only but has eight public transport networks (seven roads networks and one railway line) that pass through the park at various points (Figure 7). These are overwhelmingly too much given the size of the park and the fact that there are other several road networks within the park used for game viewing and for management purposes. In addition, there are sea salt works in and around the park and the proposed sugarcane plantation adjacent to the park, apart from human settlement and farming. The management of SANAPA is worried of the potential effects of such development to the ecology of the park since they make the area fragmented, interfere with wildlife movements and migration routes, and increase uncontrolled human influx in the park that increases pressure on park resource-use, among other effects.

The findings indicate that all four major approaches to foster positive PA-people relationships widely applied by PA managers (benefit-sharing, mitigating human-wildlife conflicts, managing PAs in collaboration with communities, and opening limited access to park resources) are important in shaping relationships between SANAPA and adjacent communities. However, SANAPA managers do not use all of them equally, and the opening limited access has not been considered at all. But since the dynamics and drivers of conservation conflicts can be very different depending on where they occur - given the difficulty, complexity, and variety of conflict situations that occur in PAs, the literature suggest that such PA-people approaches be applied on a case-by-case basis (Thapa, 2010; Madden, 2004; Lewis, 1996). This is because what works fine in one place, might not work well in another place (FAO, 2008; Distefano, 2005; Muruthi, 2005; WWF, 2008). For the case of SANAPA however, the approach of opening

limited access of collection of firewood from the park is not particularly important to most local communities around it. Most villages have plenty of firewood at their disposal from their village forest resources available within daily walking distance. The approach is important only for the people of Saadani village because their village forest is a long distance away. Since the park is closer by and borders their village, they would minimize transportation time and expense if allowed to collect firewood from the park.

7.4 Conclusion

Using this case study, the research has made an important contribution to understanding conservation conflicts beyond the common focus on human-wildlife conflicts (see for example, Distefano, 2005; FAO, 2008; Madden, 2004; Muruthi, 2005; Ogra, 2008; Shemwetta and Kideghesho, 2000; Thapa, 2010; Warner, 2000). It has looked at conservation conflicts in Tanzania in a more wide approach to include conflicts between conservation and other forms of livelihoods (such as pastoralism) and between various social actors (adjacent communities, migrating pastoralists and investors). More specifically, the study has examined conservation conflicts in relations to four key concepts discussed in detail in this research: the dynamics of conservation conflicts in Tanzania; the pressures of development on biodiversity conservation; the pastoral - conservation conflicts; and the PA– people relationships.

The research findings have established that factors such widespread poverty, low level of education, and some traditional livelihood strategies hinder local communities' involvement and participation in biodiversity conservation. Similarly, wildlife damage reduces their support for biodiversity conservation and engenders resentment and opposition to it.

The mobile form of livestock keeping embraced by pastoralists in Tanzania, the way conservation and agriculture are prioritized in the country, and issues of governance and corruption are to blame for the pastoral-conservation conflict between the managers of PAs and pastoralists in the country. On the other hand, government policies and practices on social-economic development are responsible for the pressures of development on biodiversity conservation in and around PAs in the country.

The complexity of the pastoral related conflicts in Tanzania, not necessarily the pastoral – conservation conflicts, lies in the fact that key actors involved in such conflicts want to maintain

their status-quo. While the government, conservationists and agriculturalists believe that sedentarization and destocking are the best sustainable solutions towards pastoral related conflicts, the pastoralists themselves see these solutions as being restrictive and detrimental to pastoralism development in the country. According to them, herd mobility is the ‘heart’ of pastoralism since it offers them with flexibility of getting pasture and water elsewhere for their herds while large herd expresses personal wealth and an insurance to survive through periods of stress such as drought and disease epidemics. These arguments from both parties suggest that so far there is no common understand of pastoral conflicts and their solutions in Tanzania. In the absence of such the common understanding, conflicts related with pastoralism are likely to continue for unforeseeable future.

Although the PA managers in the country tend to focus more on the benefit-sharing approach, the findings have revealed that even the three other approaches widely applied by PA managers to foster positive relationships (mitigating human-wildlife conflicts, opening limited access to park resources, and managing PAs in collaboration with communities) are important in shaping relationships between the managers of PAs and adjacent communities in Tanzania. But it is a good idea to regularly evaluate the effectiveness of these approaches within a particular context, modify them to suit local environment, and develop new approaches on a case-by-case basis. This is important since conflicts occur within a particular cultural, political, and social context, and so they must be addressed within the same context (Madden, 2004).

The findings of this research provide guidance for policy and management decisions and are expected to be useful to policy-makers, academicians, PA managers and other key players in the conservation sector and livestock industry.

7.5 Key lessons learnt from the research work

The research findings from this case study highlight key lessons learnt and establish important implications for policy-and decision-makers, conservation specialists and other stakeholders:

- The pastoral-conservation conflict between the management of SANAPA and migrating pastoralists in Tanzania is more than a resource – use conflict driven by access denial. It is prompted by a mobile form of livestock keeping, the way conservation and agriculture are prioritized in the country, and is reinforced by issues of governance and corruption.

Implicitly, these factors could have a bearing on conflicts between pastoralists and other land users, particularly farmers. For the case of Tanzania, where pastoralists view PAs as emergency grazing areas for their livestock during dry seasons (when there is no pasture in their usual grazing areas), livestock encroachment into PAs is likely. In fact, during dry seasons, pastoralists would prefer being allowed to graze into PAs to serve the lives of their livestock. As such, any restrictive measure to livestock entry into PAs, particularly during poor seasons, is perceived by pastoralists as being detrimental to livestock development in the country. Conservation often focuses on protecting biodiversity against external threats. This threat-based conservation approach places conservationists in a permanently defensive mode of operation, which is difficult to reconcile with the pursuit of the pastoralism agenda since it conflicts with management objectives for the PAs. It is better to take an outcome-based approach and work towards sets of outcomes that will provide an optimal balance between conservation and pastoralism by, say, allowing limited livestock grazing in certain areas of a particular PA during dry seasons. There is a strong body of opinion that: seeking to conserve all biodiversity is often not a realistic objective; not all biodiversity has equal value and not all can be maintained; and pastoralism is one of the perceived threats to biodiversity conservation. However, sacrificing some biodiversity for pastoralism will do far more to lift pastoral societies out of widespread poverty than conservation benefits (often through community projects) they would receive from PAs through benefits-sharing schemes, for instance.

- The management of SANAPA and adjacent communities are confronted with enormous conservation conflicts (boundary conflict, resource-use conflict, human-wildlife conflict, and conflicts related to encroachment and blockage of wildlife corridors) that present challenges and threats to biodiversity conservation in and around the park. Similar conflicts could occur in other PAs in Tanzania and elsewhere. This calls for the need to prevent and mitigate these conflicts to reduce the ecological, social, and economic costs associated with these kind of conflicts. One way to address them could be by facilitating collaborative learning, innovation, scientific analysis and development of best practices towards improved prevention and mitigation of such conflicts. Apart from reducing the

economic and social costs to local communities who coexist with wildlife, the improved prevention and mitigation of conflicts would improve their quality of life and foster greater tolerance of wildlife and eventually win their support for biodiversity conservation.

- A set of conservation conflicts between SANAPA and investors happening in the study area is more of the integration of conservation and development. While obviously all parties involved in such conflicts are affected by the tension or consequences arising from the conflicts, a consideration of the full spectrum of the conflict is not captured, thereby leading to an over-emphasis on the social-economic factors impacting conservation. This emphasis relies on the notion that SANAPA is overwhelmed by development pressures (infrastructure development in and around the park, the proposed sugarcane plantation adjacent to the park, and sea salt works) in and around the park. This provides some indication of the availability of the same or other development pressures in other PAs since these pressures are mostly the outcome of the government's struggle to balance between biodiversity conservation and social-economic development. However, it is important to note that significant improvement in livelihoods often comes from the new opportunities created by external investment, new infrastructure and access to markets, but rarely comes from marginal improvement to existing livelihood practices (Sayer, 2009). This implies that sacrificing some natural habitat of the PA for an agro-industrial plantation (like the proposed sugarcane plantation adjacent to SANAPA) will do far more to alleviate poverty than marginal improvement in agro-forest or non-timber forest product systems for the local communities around that particular PA. Understanding the potential routes out of poverty is an essential consideration when integrating conservation and development. Plans for conservation-development programmes must be set in the context that recognizes the real aspirations of people. Setting realistic, measurable and locally relevant biodiversity objectives will provide a sound basis for negotiation when integrating conservation and development. An outcome-based conservation approach will provide an optimal balance between conservation and development benefits.

- Evidence from SANAPA demonstrates that the focus of park managers in Tanzania has been predominantly on the benefit-sharing as an approach to foster positive relationships between the park and its neighbouring communities. Other approaches (e.g. mitigating human-wildlife conflicts, opening limited access to PA resources, and managing PAs in collaboration with communities) have either not been considered at all or their applications remain partial, despite their relevance. Since SANAPA as a national park follows the policy and practices of TANAPA, this implies that other national parks in the country do the same. And it is most likely that the same is happening in other PAs in the country such as Game Reserves, NCA, Forest Reserves etc. It is, however, important to note that the challenges we are facing regarding biodiversity conservation require more than ever that local communities be integrated into PAs (Ali, 2007; Madden, 2004; Madden & McQuinn, 2014; Songorwa, 2004; Lewis, 1996; Thapa, 2010). The reality is that management decisions for the majority of PAs in Tanzania and elsewhere in the Global South are made by protected areas staff with little or no involvement of local communities (Allendorf, 2010). One of the reasons is that there has been little focus to understand PA-people relationships and the models of PA-people relationships have partially been considered. Understanding the context-specific relationships that local communities have with neighbouring PAs can be used by management as a starting point to improve PA-people relationships and to understand interventions that are meaningful to local communities and their relationships with PAs. As part of the process towards a practical way of engaging with local communities and building constructive relationships between them and PA management, conservationists could start with understanding local communities' perceptions about a particular PA. Peoples' negative perceptions of conservation conflicts decrease as their positive perceptions of biodiversity conservation increase (Allendorf, 2010). In addition, conservation outcomes often depend on whether or not the needs and conflicts of a community are addressed (Madden & McQuinn, 2014).

7.6 Recommendations and policy implications

Using the findings, this research has established that there are policy issues that need to be addressed towards sustainable solutions for conservation conflicts in and around PAs in Tanzania:

- Key factors (widespread poverty, low level of education, and cultural practices) that hinder the involvement of local communities and their participation in conserving biodiversity need to be addressed before effective collaboration becomes possible in managing PAs. These highlight the need for comprehensive conservation programmes that would integrate conservation while addressing such issues. For instance, programmes that aim to alleviate poverty at family level and improve access to formal education could reduce local communities' dependence on natural resources for a living. Such programmes could also aim at convincing the pastoralists to adopt environmentally friendly models of keeping livestock such as zero-grazing and transforming these to more profitable ventures.
- The managers of PAs, donors and other conservation organisations with an interest in wildlife conservation should support local communities in acquiring sophisticated wildlife damage control equipment and materials (e.g. fencing wires, animal repellent, firecrackers, and chili peppers), which are generally more effective than the traditional means currently used by communities.
- Opening limited access is an important consideration in park management. The managers of PAs could consider allowing limited collection of firewood for local communities living in Saadani village, given the limited amount of firewood nearby. They could also consider allowing limited collection of animal fodder from the PAs, especially during drought periods, particularly for those who practice zero-grazing.
- Government policies and practices on pastoralism need to be reviewed to strike a balance between biodiversity conservation, agriculture and pastoralism while preventing the detriment of neither. However, addressing conservation conflicts in and around PAs requires concerted efforts and greater interaction not only among conservation agencies and adjacent communities, but also with social-economic development planners, land use

planners, decision makers, and other key land users such as pastoralists. This suggests the need for actors involvement towards obtaining lasting solutions for conflicts between conservation, agriculture and pastoralism.

- Similarly, I suggest that the actors involved create a setting that allows a genuine dialogue. In such a setting the government with key actors in the pastoralism, conservation and agricultural sectors can work towards a common understanding on pastoralism related conflicts as well as sustainable solutions to such conflicts in the country. Otherwise, conflicts between pastoralism and other forms of livelihoods (not necessarily conservation) are likely to continue for unforeseeable future, and there is a danger that they may escalate even more.

7.7 Avenues for future research

Future research work arising from this case study could examine the following issues:

- Evidence from SANAPA illustrates serious conservation conflicts in and around Tanzania's National Parks. However, still there is a need to conduct similar studies in various protected areas of the country. Such studies would provide the basis for comparison and offer grounds for establishing the generality of the findings in the context of Tanzania.
- Although the findings of this case study gives an indication of pressures of development in Tanzania's national parks, still there is a need to conduct similar studies in various national parks and other protected areas of the country and other countries in the Global South. This is important given differences between countries in terms of priorities and ecological contexts. Such studies would provide the basis for comparison and offer grounds for establishing the generality of the findings in the context of a particular country or region.
- While the management of SANAPA maintains that there are already seen obvious threats of Sea salt works in and around the park, still there is no study so far conducted to investigate the impact of these to the park. It is high time for such research as, otherwise, such claims remain assertions that have no scientific basis.

- There are concerns from local communities that some workers from SANAPA allegedly cooperate with poachers to carry out the illegal practices (poaching activities) need to be taken seriously. There are corruption concerns from park rangers that sometimes police sideline with people accused of poaching and brought to police custody by park rangers for legal procedures, but were released without legal actions taken against them. All these claims require thoroughly investigations to substantiate them. This is important for strengthening agencies in the law enforcement chain and for identifying park staff linked with poaching for relevant legal action.

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APPENDIX 1

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INTERVIEW GUIDE FOR STUDY PARTICIPANTS

Introduction

This section is about the general questions regarding the agency/institution's history, activities, and roles in relation to biodiversity conservation

1. When was this agency established?
2. Why was this agency established?
3. What kind of activities does your agency deal with?
4. What role(s) does this agency undertake in relation to biodiversity conservation in and around SANAPA?
5. What role(s) do you undertake in this agency?

Conservation conflicts between SANAPA and local communities

This section includes questions about conflicts between SANAPA and adjacent communities/investors

6. From your experience, what kind of challenges do you experience in managing SANAPA?
7. What kind of actors are involved in such challenges?
8. What are the sources of such challenges?
9. What is the park management doing concerning these challenges?
10. Is there any improvement needed in the way of dealing with such challenges?
11. Are there specific conflicts that exist between SANAPA and surrounding communities?
12. Are there specific conflicts that exist between SANAPA and investors?
13. Are there conflicts between conservation and other forms of livelihoods?
14. In your opinion, what do you think should be done to resolve conflicts with local communities?

15. In your opinion, what do you think should be done to resolve conflicts with investors?
16. In your opinion, what do you think should be done to resolve conflicts with other forms of livelihoods?
17. In your opinion, what do you think is the best way of avoiding conflicts between conservation and other forms of livelihoods in future?

Opening limited access to park resources

The following section includes questions about opening limited access to resources in SANAPA

18. From your experience, what are the main sources of energy for cooking for local communities around SANAPA?
19. Where do people get such items from?
20. Do they use fuel wood as source of energy for cooking?
21. Where do people get fuel wood from?
22. Do you allow them to collect fuel wood from the park?
23. Do you have a special arrangement that allows limited collection of dead wood from the park for local communities?
24. What kind of building materials do people use to make their houses?
25. Where do they get such building materials from?
26. Do those materials also available in the park?
27. Do you allow them to get some of them from the park?
28. Do you have a specific policy/practice that allows people to collect limited amount of building materials from the park?
29. Are there livestock keepers among the local communities?
30. Where do they graze their livestock?
31. Do you allow some grazing of livestock in the park?
32. Do you allow limited grazing of livestock in the park? Say within specific sections of the park, especially during drought periods?

33. Do you allow pastoralists to collect animal fodder from the park, especially during dry seasons?

Benefit – sharing

This section includes questions about the distribution of conservation benefits from SANAPA

34. From your experience, could you comment on who generally has benefited from biodiversity conservation in and around SANAPA in the past five years?

35. Why do such people benefit from SANAPA?

36. How do you distribute such benefits among the target groups?

37. In what ways do local communities benefit from SANAPA activities?

38. Does SANAPA have a specific benefit distribution policy/practice?

39. Is there any improvement needed to make the benefit distribution system more successful?

Mitigating wildlife damages

The following section includes questions about mitigating wildlife damages by SANAPA

40. From your own experience, do local communities experience damages from wildlife?

41. What kind of damages do they encounter?

42. How do they manage those damages?

43. In what ways does SANAPA help out with such damages from wildlife?

44. Does SANAPA supply equipment to local communities for mitigating wildlife damages?

45. Is there a specific compensation policy/practice for damages caused by wildlife?

46. In your opinion, how could wildlife damages be managed?

Managing PAs in collaboration with communities

The following section includes questions regarding managing SANAPA in collaboration with local communities

47. Did you involve the local communities during the establishment of SANAPA?
48. At what stage(s) were local communities involved?
49. How did you involve them during that stage(s)?
50. How is SANAPA managed after been established?
51. Are local communities' part of the team that manage SANAPA?
52. How are local communities being involved in managing SANAPA?
53. What is their role(s) in managing SANAPA?
54. How could the management of SANAPA be improved?

Conflicts between pastoralism and conservation

The following section includes questions regarding pastoral – conservation conflicts in SANAPA

55. From your own experience, what kind of conflicts between pastoralism and conservation exist in SANAPA?
56. What are the sources of such conflicts?
57. What kind of actors are involved in such conflicts?
58. Where do possible compromises lie?
59. Do such conflicts sometimes turn into violence? Or just normal tensions
60. What is the park management doing concerning these conflicts?
61. Is there any programme that deals with such conflicts?
62. In your opinion, what are the sustainable solutions to such conflicts?
63. In your opinion, is pastoralism compatible with conservation?

Thank you for participating in this interview