# Taboo based governance of sacred forests in the Boé, Guinea Bissau

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MSc thesis – 2017

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## Declaration

I declare that I have developed and written the enclosed Master Thesis completely by myself, and have not used sources or means without declaration in the text. Any thoughts from others or literal quotations are clearly marked.

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Cover photo – Pre-wedding ceremony in the village of Beli. Copyright – Gautham Ramachandra

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# Summary

Sacred natural sites represent one of the oldest forms of conservation and as such are important bio-cultural areas. This has led to a steady growth in efforts to record, study and offer formal recognition and protection to these areas along with their associated ecological, cultural and social values. However, many sacred sites remain undocumented with little or no information on their social-ecological values or functioning. The knowledge of the circumstances that have led to their creation and continued existence is essential if they are to be conserved. The objective of this comparative case study was to document and study the institutional arrangements governing sacred sites in the Boé area of Guinea Bissau. Additionally, it analyzed stakeholder relationships and examined modes of knowledge transmission and adherence to taboo based governance arrangements in the context of social-ecological systems. In drawing a comparison between two villages with differences in population size, the influence of associated factors such as rural urban migrations, traditional medicine use and connectivity can be explored. This helps sheds light on changes in current practices related to the use and management of sacred forests. 51 semi-structured interviews and 6 focus groups and two participatory mapping exercises were conducted over four months as part of the study. It also provides recommendations for management by comparing suggested guidelines for sacred sites with the current practices in the area.

A total of 33 sacred sites were recorded for both villages along with their uses and governance arrangements. The study found four resource and habitat taboos (RHTs) that have ecological implications for the management of these sites. Thirteen stakeholder categories were recorded and investigated for their interest in and influence on sacred site governance. Two types of sacred sites were identified, one for private use and the other for use by the community. Narratives and ceremonies were identified as key modes of knowledge transmission. Governance arrangements were customary with the monitoring and

enforcement mechanisms being self-imposed through a belief in supernatural sanctions. A comparison of the two sites reveal a decline in ceremonies in both cases. Data also reveal that the reliance on sacred forests for NTFPs, water and prayer is on a gradual decline in the village of Beli. Interviews and mapping also show an increase in land use for cashew plantations and a perceived decrease in animal abundances for both sites. The study recommends the creation of a platform using a participatory approach involving influential stakeholders at a local level. The dissemination of knowledge pertaining to the ecological importance of sacred sites to all categories of stakeholders, encouraging autonomous protection by custodians, supporting cultural revitalization and mediating between local and national /international entities are crucial to further conservation effort in the area.

# Overview of figures and tables

# Introduction

The past few decades have seen an increase in importance given to Sacred Natural Sites (SNS) (Verschuuren, 2010). This has largely been attributed to the recognition of these areas as reservoirs of biodiversity and its associated socio-cultural significance. In some areas, such as the Kaya forests of Kenya, they are akin to a time capsule of natural history; islands in a sea of rampant deforestation. These sites are spread across the globe and the list continues to grow, with estimates ranging from the hundreds to the thousands (UNESCO, 2003). (Oviedo and Jeanrenaud, 2007) defined such sites as '*areas of land or water that have a spiritual significance to certain peoples and communities'*. This is the definition that shall be used for the purposes of this research, specifically as it is broad and allows for further articulation as suggested by (Verschuuren, 2010).

These sites not only act as refuges for plant and animal species but can also provide resources such as water, medicine as well as other ecosystem services. The Millennium Ecosystem Assessment (MEA, 2005) officially recognized their link to livelihoods as well as their association to cultural services and human well-being. The importance of integrating cultural concerns into conservation and ecology at an institutional level was addressed by UNESCO in 1998 (Lee and Schaaf, 2003).

Following this convention, international conservation organizations such as the IUCN in collaboration with indigenous groups began exploring ways to address and integrate SNS into their conservation programs. Further progress was made by the IUCN with the integration of sacred sites into the formal protected areas agenda at the Fifth World's parks congress in South Africa (Harmon & Putney, 2003). Additionally, the work on non-material values of protected areas progressed under the auspices of the IUCN (Harmon & Putney, 2003). The IUCN also set up its specialist group on the Cultural and Spiritual Values of Protected areas (CSVPA) in 1998 which continued to work on guidelines for the management of SNS. Another important landmark on the political front was achieved with the adoption of the United Nations Declaration on the Rights of Indigenous peoples (UNDRIP). The call to protect these sites was also echoed by the Convention on Biological Diversity (CBD), with the adoption of the Akwe Kon voluntary guidelines for the social, cultural and environmental impact assessments regarding proposed developments affecting sacred sites (Secretariat of

the Convention on Biological Diversity, 2004).

The link between cultural diversity and biological diversity has been well established. (Skutnabb-Kangas et al. 2003; Sutherland 2003). Both converge on several levels that include livelihoods, knowledge, values, beliefs and norms (Turner & Berkes 2006; Berkes, 2008). Natural environments provide a platform for activities, belief systems and cultural processes and as a result landscapes represent a cultural archive of human activities (Berkes, 2008). Due to these interconnections, there are feedbacks between social and ecological systems where a shift in one system can lead to a change in the other (Berkes & Folke, 2002).

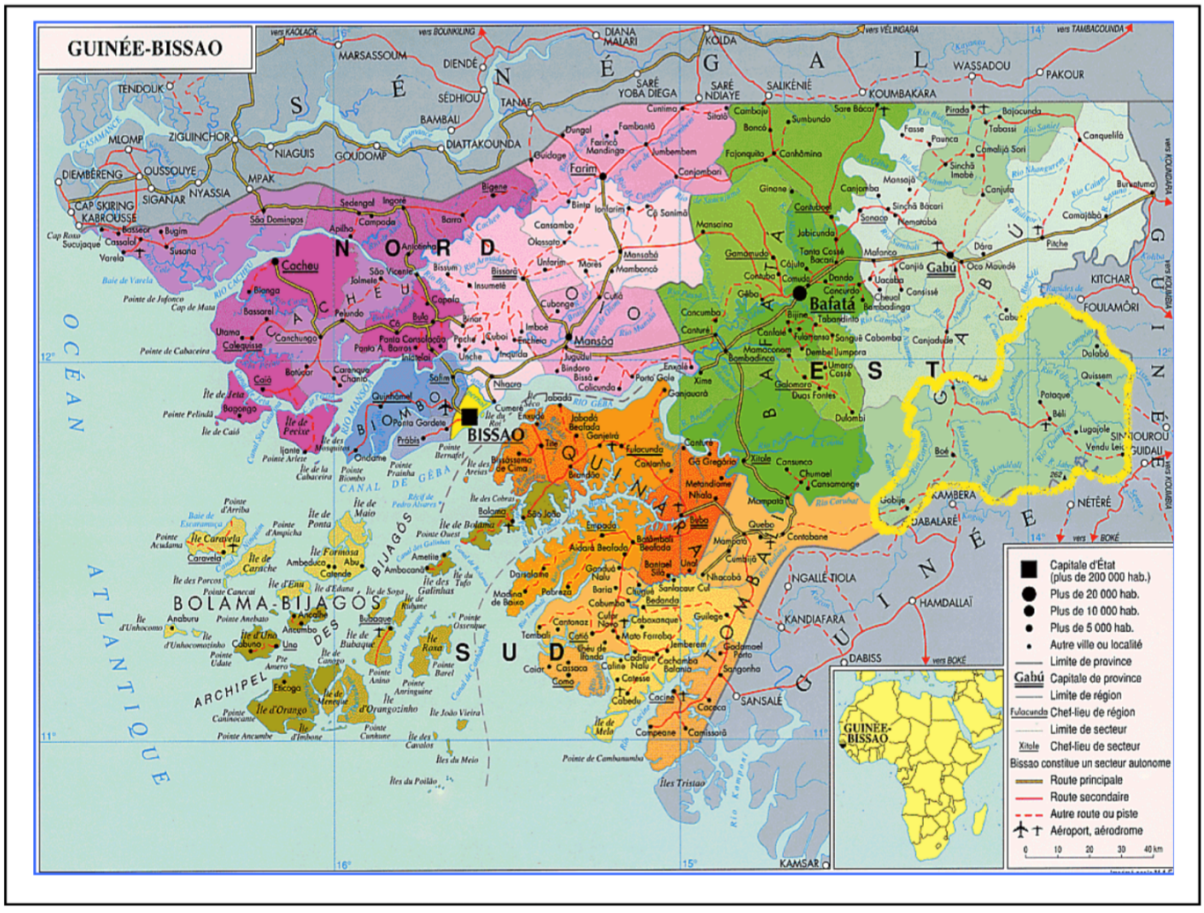
Although community based conservation initiatives have their share of criticism (Brooks et al, 2013), the approach has a lot to offer in terms of gains for both conservation and sustainable development combined (Ingram, 2014). There is also an increasing interest in the role and subsequent integration of Traditional Ecological knowledge (TEK), along with local communities and institutions, in the management of ecosystems and natural resources (Colding et al, 2003). One of the fundamental problems often encountered in such initiatives, is the cross-disciplinary work required to fully understand and explain complex social-ecological systems (SES). Sacred forests as a SES, represents one of the oldest forms of traditional management and requires examination from a cross-disciplinary perspective to fully understand its dynamics. However, progress has been made in rectifying disciplinary issues, such as the general framework for analyzing sustainability of social-ecological systems by Ostrom (2009), encouraging knowledge sharing through multi-disciplinary framework, which is explained in further detail in the theoretical frameworks section.

Africa has its share of sacred sites, while some have been documented in the East, with a handful in the South and the West, it would be a fair assumption that there are several that remain undocumented. Some of these sacred sites such as the church forests of Ethiopia (Bongers et al, 2006, Aerts et al, 2006, Klepeis et al, 2016) and the sacred forests in Benin (Juhé-Beaulaton, 2006) have been studied from a social-ecological perspective. This research project aims to do the same in West-Africa, focusing on the sacred forests situated in the Boé region of Gabú province in Guinea-Bissau. The measures taken to conserve and maintain a natural resource are largely governed by how the resource is viewed by people, in terms of its perceived abundance and worth (Princen, 2010). Hence, the value of the ecology of an area is a reflection of the underlying cultural and social values that determine its use and management as a resource (Jones, 2013).

The Boé is a remote region in the south-eastern corner of Guinea-Bissau (13o56'W 11o50'N). It is spread across an area of 3,000 km$^2$ between the Guinean border with Guinea Conakry and the Corubal river. It is ecologically important as it is home to healthy populations of Chimpanzees as well as several species of primates, mammals, bird, reptile and amphibian species (Limoge, 1989).

Chimbo an environmental NGO based in the Netherlands along with its local partner Daridibo (in Guinea Bissau) has been working in the Boé since 2007. They follow a Community Based Conservation (CBC) approach using the Chimpanzee as the flagship species. Their primary focus is to conserve the social-ecological system of the Boé at a landscape level, as critical habitat for the Chimpanzee as well as the source of livelihoods for the approximately 12,000 inhabitants of the region. Sacred forests in the area are an important component of the landscape as anecdotal evidence (Chimbo annual report, 2014) suggests that they provide critical refuge for biodiversity as well as important ecosystem services to the people there.

**Fig 1** – Map of Guinea-Bissau showing the Boé region (circled in yellow)




**Source – Google images**

The sacred forests of the Boé are a result of ecosystems intersecting with multi-scale cultural and social values. These values can manifest themselves in the form of social taboos that can act as an informal, customary institution that governs resource use, monitoring and restrictions (Berkes et al, 2000, 2001). Understanding the characteristics of the governance system and the stakeholders involved, methods of knowledge transmission from one generation to the next and the adherence to this institution are crucial to monitoring the robustness of the social-ecological system.

## Problem statement

Some of the threats to the area are deforestation, hunting, mining, expanding agriculture (cashew farms) and population growth (CBD national report, 2014). Other possible drivers reported by (Pretty et al, 2009) could include urban migrations, loss of traditional ecological knowledge (TEK), formal education and language erosion. It is important to note that some of these drivers or threats affect biodiversity while others affect cultural diversity and in most cases they affect the social-ecological system (SES) as a whole (Pretty et al, 2009). So far, no research has been conducted in the Boé regarding sacred forest governance and its associated mechanisms such as monitoring and enforcement. Additionally, no data is available on the social and ecological implications of sacred forest governance, including the role of traditional ecological knowledge (TEK) and the processes involved in its transmission. Considering the threats prevalent in the area, data on institutional arrangements and adherence is important when evaluating the effects of these threats on the social-ecological system of the Boé. This information can then be used to inform management decisions at different scales.

Traditional ecological knowledge or TEK can be defined as "a cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment" (Berkes & Folke 1998; Gadgil *et al.* 1993). This definition has been drawn from studies of other TEK systems and points out that there are *knowledge, practice* and *belief* components embedded within TEK systems (Minnis & Elisens 2000; Nabhan *et al.* 1991). It is important to focus on TEK as conventional management practices have failed in several places to maintain biological diversity as well as resources (Holling & Meffe 1996). The characteristics of TEK are such that it could take the form of common knowledge or expert knowledge vested in for example, village chiefs, stewards or elders. TEK can also be embedded in indigenous taxonomies, social institutions

and management practices (Birkes et al, 2000; Colding et al, 2003). They sometimes also take the form of myths and oral stories (Turner et al, 2000). The Boé is home to many villages with several hundred sacred forests associated with them (pers.com A Goedmakers), forming a large network of interlinked Social Ecological Systems. The specific taboos related to these sites are yet to be documented. Anecdotal information from the staff of NGO Chimbo suggests that the taboos in the area have similar underpinnings and might be homogenous. However, this requires further investigation.

Parts of the Boé were recently decreed as a national park and have been divided into the Boé and the Dulombi national parks. This could possibly affect local institutions and stakeholders by shifting power dynamics in terms of governance and access to resources for the local communities. As NGOs (Chimbo and Daridibo) and the government are keen on promoting Community Based Conservation, it is essential that local management practices and institutions related to the sacred forests be understood and documented as this has yet to be done in the Boé area. While the scope of this research is limited to a small fraction of the villages and sacred forests, it hopes to serve as a basis for further research on the topic in the area and to assist NGO Chimbo in the further development of its conservation program.

# Research Objectives

The objectives of this study are three-fold: the primary objective is to document the Resource and Habitat taboos (RHTs) that govern the sacred forests associated with individual villages in the Boé and to code them in a format suggested by Colding & Folke (2001). This would help decipher how taboos function in terms of governance and resource conservation. The second objective is to verify the adherence to these taboos and understand enforcement mechanisms. The third objective is to check for transmission of traditional ecological knowledge (TEK) between generations to understand and examine the processes involved.

## Research Questions

The overarching research question for this study is as follows:

> **What are the characteristics of the taboo based governance system in the sacred forests of the Boé and do they vary between villages?**
>
> In order to gain a better understanding of the social-ecological system and to facilitate data collection and analyses, the following sub questions are addressed:

1. What are the prevailing narratives, rules and enforcement mechanisms of the Resource and habitat taboos (RHTs) related to the sacred forests?
2. Who are the stakeholders associated with the sacred forests?
3. Are the RHTs homogenous between various stakeholders and if not, what are the differences?
4. Is there a decrease in adherence to the RHTs between generations? and if so what are the reasons?
5. How is traditional knowledge transmitted between generations?

# Conceptual framework

This research employed multiple theoretical concepts to gain a better understanding of the role of taboos as a governance regime within a social-ecological system. This helped in building up the methodology as well as in analysis and interpretation of the data. Additionally, using different frameworks provided context and perspective at varying scales - local, national and international, allowing for a more complete understanding of the linkages within and between interlinked social-ecological systems. Some are applied more than others, as explained in further detail below.

## Framework for conservation of sacred sites – (Verschuuren, 2010)

This framework proposed by (Verschuuren, 2010) in the book 'sacred natural sites' is based upon central value domains of human well-being with sacred natural sites as the confluence of all three - spiritual, cultural and religious. It provides an overview of the different areas for applying interdisciplinary approaches related to Sacred Natural Sites and their conservation. The conceptual framework (Fig 2) is adapted from (Verschuuren, 2010) and has been used here to illustrate the context of the theoretical concepts and questions used in this study, in relation to the conservation paradigms it touches upon (Fig 2).

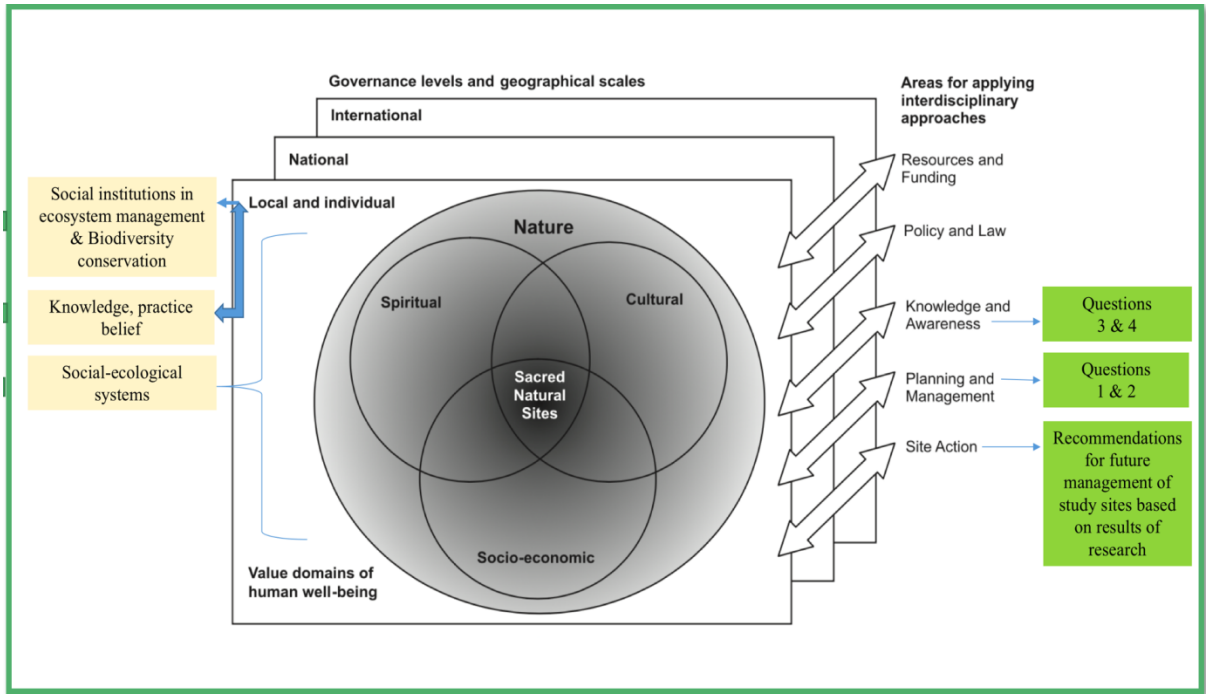



**Fig 2 –** Conceptual framework used in this thesis to give meaning to the research questions (right) & theoretical frameworks (left) within the framework for conservation of sacred sites formulated by (Verschuuren, 2010). The theoretical frameworks are applied at the local & individual levels. The questions are aimed at addressing topics involving knowledge & awareness, planning & management and site action.

**Context within study –** The conceptual framework for this study has been adapted from Verschuuren's framework and accommodates the three theoretical frameworks used in this study. This conceptual framework shows the level at which the other frameworks are applied (Local, national, international) as well as the areas within sacred natural sites conservation that the questions seek to answer (knowledge and awareness, planning and management and recommendations)

## Social institutions in ecosystem management and biodiversity conservation – (Colding, Folke & Berkes, 2003)

The authors focus on the role of local institutions and their associated management practices in relation to ecosystem dynamics and the conservation of natural resources. Additionally, they emphasize on traditional ecological knowledge systems in the context of these practices. In their synthesis, they use the framework for ecosystem resilience and the adaptive renewal cycle proposed by Holling (1986), which argues that 'badly adopted nature-society interdependencies can make an ecosystem brittle, by making it lose the capacity to buffer and incorporate natural disturbances' (essential to ecological resilience). In their adapted version of the cycle, they place certain traditional management practices and institutions (RHTs) in the exploitation and conservation phases of the renewal cycle (Fig 3) and some others RHTs in the release and reorganization phases of the cycle (Fig 4).

**Context within study –** Sacred forests in the Boé are possibly under taboo governance regimes that serve to protect and manage key ecosystem services such as water springs, productive landscape features where NTFPs are collected. The extent of RHTs in restricting use, type of resource withdrawal and segment taboos; taboos that apply to certain segments of society, can all have specific functions based on TEK accumulated through observations over long periods of time. When applied in the context of the adaptive renewal cycle, taboos function as the social mechanism behind these management practices, that allow for an exploitation and conservation strategy. In the back loop, they can put the brakes on release and nurture sources of renewal (Fig 4). This system would allow for tighter feedback loops and incorporate small disturbances (natural and manmade) that encourage renewal and reorganization, thus ensuring a healthy ecosystem. In this research, sacred sites in the Boé will be coded according to the typology suggested by Ylhäisi (2006) , which divides sacred sites based on their purpose (strictly ritual use or functional use) and the RHTs will be further coded based on (Colding et al, 2000) for each site. The data can then be interpreted to

examine the specific social mechanisms and their role in ecosystem management and resource conservation in the context of the adaptive renewal cycle framework.

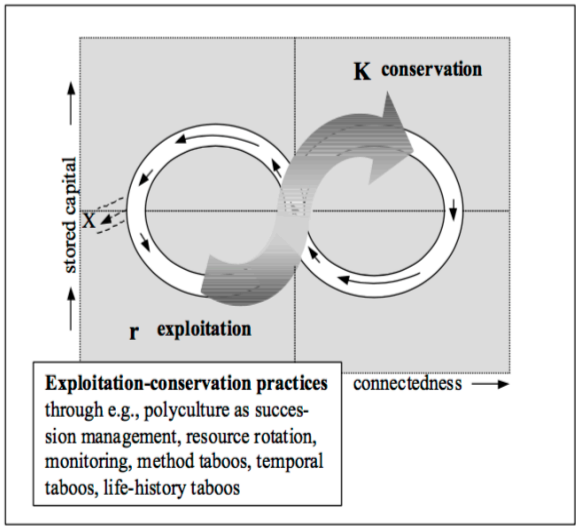



**Fig 3**–RHTs in the exploitation and conservation phase (S Phase). Here they could take the form of method taboos or temporal taboos; the former allowing resource extraction through certain methods (eg - traditional hunting) or restricting resource extraction to certain seasons. **(Colding, Folke & Berkes, 2003)**

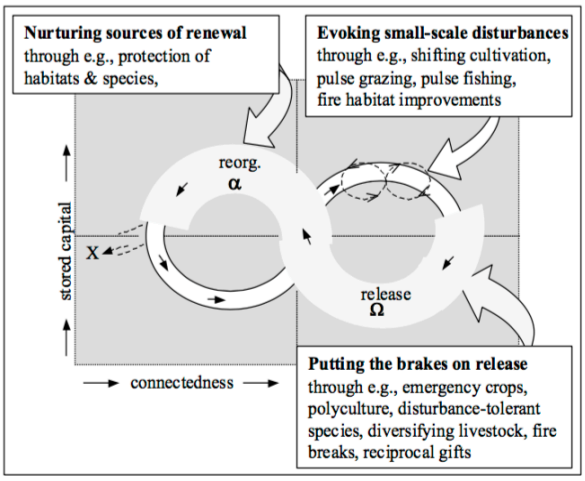



**Fig 4** – RHTs in back-loop management, creating small-scale disturbances and controlling the release and nurturing the renewal of nutrients in to the system. Examples of these RHTs are species specific taboos or spatial taboos that restrict access to certain areas. **(Colding, Folke & Berkes, 2003)**

## Knowledge, practice, belief – (Birkes et al, 2000)

Systems built on traditional ecological knowledge (TEK) have been defined as knowledge-practice-belief complexes (Berkes, 1999; Minnis & Elisens 2000). One of the key differences between TEK and scientific ecological knowledge is that the former is largely dependent on local social mechanisms (Birkes et al, 2000). These mechanisms may be interpreted as a hierarchy that moves from local ecological knowledge to social institutions (RHTs in this case), on to methods for cultural internalization (rituals & ceremonies) and finally to world

views (Berkes, 1999). Institutions, expressed as rules in use, provide a medium for societies to act on local knowledge to produce livelihoods from the environment (Berkes, 1989)

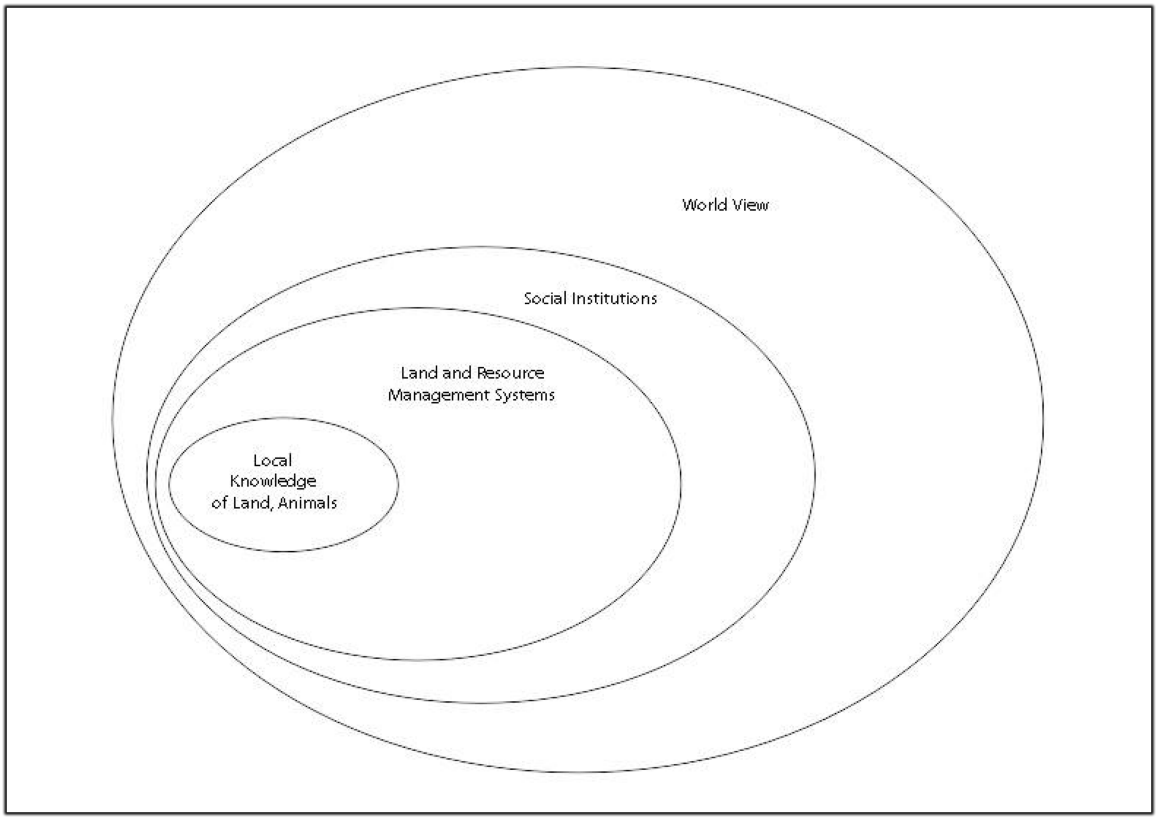



**Fig 5** – Illustrates the idea of Traditional Ecological Knowledge as a knowledge-practice belief complex. Local observational knowledge pertaining to the land, the RHT based management system, governance institution (rules in use) & the world view can be represented as a hierarchy. While it fails to show the feedback loops between the ellipses as well as the coupling of certain parts (E.g. social institutions & management systems), it conveys the idea that local knowledge & rules/norms are embedded in the world view of certain cultures (adapted from Birkes et al, 1999)

**Context within study –** As illustrated above, TEK can be expressed as a knowledge-belief-practice complex. However, this type of representation, does not convey the feedbacks among the ellipses as well as the coupling of some of some parts of the system (Berkes et al, 2000). As one of the components of this particular study involves checking for inter-generational transmission of knowledge of RHTs, which in turn could affect its efficacy as a governance regime, it would be useful to use this framework to interpret the data in light of this hierarchy. In doing so, possible feedbacks can be identified between ellipses that could help identify strengths and weaknesses of taboos as an institution in the current scenario in the Boé.

*Social-ecological systems – (Elinor Ostrom, 2000)*

The general framework for analyzing Social-ecological systems (SES) was proposed by Elinor Ostrom in 2007, allowing different scientific disciplines to combine their findings. Without the use of a general framework, isolated knowledge from disciplines using their own concepts and languages do not cumulate and cannot be used (Ostrom, 2007). Several well intentioned conservation strategies have failed to achieve their desired positive outcomes (Palomo et al, 2014). The need for conservation planning that uses inter-disciplinary analyses that examine both ecological and social systems together to produce integrative strategies has been well established (Berkes, 2004; 2007; Palomo, 2014). An integration of social and

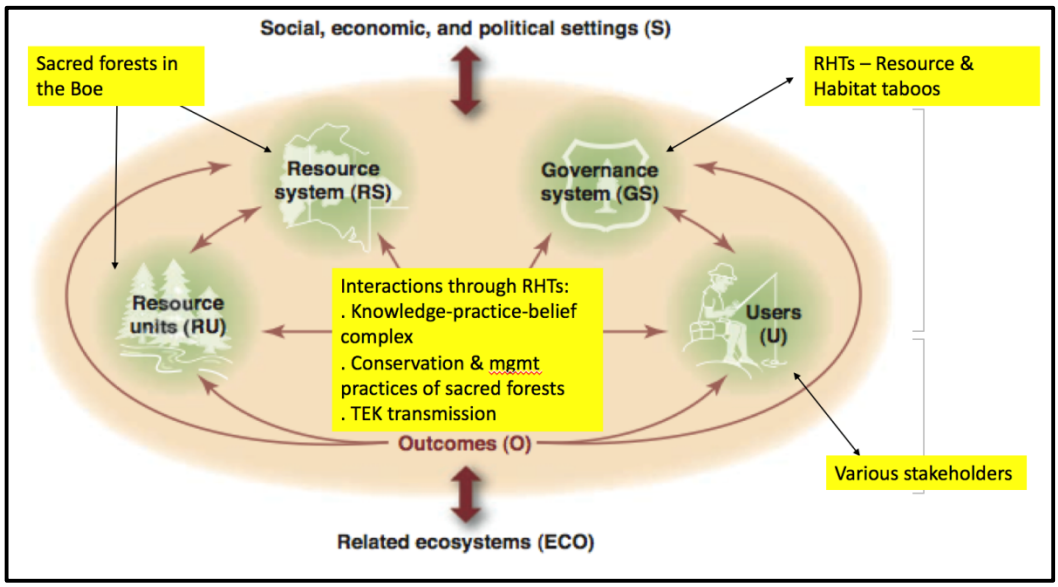



**Fig 6 –** Interactions between resource users (stakeholders in the Boé), resource units (E.G sacred forests, rivers, savannah) and the governance system (RHT based) social institution within the social-ecological system of the Boé at the landscape level

## IUCN-CEM Guidelines for protected area managers

The management guidelines (Appendix 2) formulated by the IUCN-CEM committee suggests 6 principles and 44 guidelines for managers of sacred sites within national parks (Appendix 2). The proposed guidelines will be reviewed in light of the current management policies of NGO Chimbo in the Boé

# Methodology

## Research characteristics

The nature of this study is largely exploratory, with some descriptive elements. Sacred forests are inherently idiosyncratic, being a product of local institutions, actions and beliefs. Keeping this in mind, an inductive strategy was adopted as it was best suited to achieve the desired outcomes of the study. While this approach can be challenging due to the sensitive nature of the topic and the short time span, the results obtained offer invaluable insight into a dynamic social-ecological system. Qualitative data on local governance arrangements and its related mechanisms allowed for an in-depth analysis that reveals possible drivers of change. Additionally, it complements data from a companion study carried out in the area during the same period (Wabeke, 2017). Multiple methods (stakeholder analysis, interviews, participatory mapping) were used to triangulate data and the principle of data saturation was applied to determine the course of data collection.

## Research design

This study is interested in examining the characteristics of RHTs as a governance system and comparing it between villages. As such, a comparative case study design was selected as it allowed for an examination of beliefs, opinions and thoughts in a real-life context. As stated by (Yin, 2009) case studies can be used to 'investigate a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident.

It also facilitates comparison between two or more cases in parallel. This method would allow plenty of scope for analyses and interpretation of the data and also help generate questions of interest for future research (Newing, 2011).

## Site selection

The site selection process involved a collaboration with the NGO Chimbo (Based in the Netherlands) and its sister organization NGO Daridibo (Based in Guinea-Bissau). The study

was conducted in the Boé sector, belonging to the Gabu region of Guniea-Bissau (Fig 1). There are more than ~80 villages in the area spread over an area of 3200 $Km^2$. All the villages so far contacted by NGO Chimbo have had sacred forests associated with them. It is most likely that sacred forests are a common feature with the other villages in the area as well (Pers com. Bucari Camara).

During the proposal stage of the project, the study hoped to cover a minimum of two to a maximum of three villages in the Boé area. The villages proposed were Beli (Where NGO Daridibo is based), Dingurai and Capebondé.

A second round of planning was carried out prior to the start of fieldwork with the research coordinator (Katharina Kuhnert) and the logistics in-charge (Bucari Camara). It was suggested that two villages would be feasible given the time allotted for fieldwork. An important factor that was considered was the issue of building trust with the locals, given the sensitive nature of the research topic. They recommended the villages Beli and Capebondé, based on the groundwork already carried out by Chimbo. This included an initial questionnaire survey (Appendix 1) and GIS mapping of some sacred forests associated with these villages. Beli is the largest village in the Boé with a population of ~1300 while Capebondé has a population of ~400. The former is also the only village in the Boé with a hospital and a relatively reliable telecommunications network. These factors made for an interesting comparative case study between the two villages. Additionally, Chimbo had set up village vigilance committees (CVVs) as part of its program. These committees were in charge of patrolling the areas surrounding their respective villages to monitor Chimpanzee movements, record any instances of human-animal conflict and to maintain records of the same. The CVVs were a vital entry point in terms of finding participants and key informants for this study. Criterion for site selection included: willingness to participate in the research, similarities/dissimilarities between villages, relationship with the NGO and logistical feasibility.

## Respondent population

The population of Guinea-Bissau is dominated by more than 20 African ethnicities including the Balante (the largest), the Fulani and their sub-groups, the Diola and the Nalu to name a few. There are around 20 languages and dialects spoken in Guinea-Bissau that are classified under the Atlantic and Mande branches of Niger-Congo languages. While Portuguese is the

official language, it is **Crioulo** (creole emerged during the slave trade) that is largely spoken. In the Boé, people generally use a local dialect called **Pular** as well as **Criolu** in some parts. The dominant religion in the Boé is Islam. Animism is still practiced and exists in parallel with mainstream religious beliefs. The overall population is quite young, with around two-fifths of the population under the age of 15.

## Data collection

Fieldwork for this thesis was conducted over a four-month period (October 2016-February 2017). This included three months of data collection and a month of coding and analysis. Initial preparation prior to the start of fieldwork included a review of data collected by NGO Chimbo. Questionnaires (Appendix 1) and maps were thoroughly studied, followed by discussions with the local research coordinator (Katharina Kuhnert) and logistics in charge (Bucari Camara). These discussions were also useful in finding potential key informants and points of contact for carrying out the research.

Another important part of preparing for fieldwork was developing a working relationship with the local translator (Balu), also an employee of NGO Chimbo. This included familiarizing ourselves with the required vocabulary in English and Pular to conduct interviews as part of the study. The research methods were also explained in detail along with a working time schedule for the two villages. The schedule also included some time to participate in local village life and to allow the inhabitants to get used to my presence in the village. This time was also used to explain my research, its objectives and asking for feedback regarding the same. This was a crucial step without which the quality of data obtained would have been less than desirable.

A preliminary list of categories of respondents was also formulated in order to develop specific questionnaire guides (Appendix 3) for the different categories of stakeholders (See results). This was done over the course of two weeks with the help of local Chimbo staff and the translator. These categories were then reformulated following the stakeholder analysis, described in detail below. Themes were also formulated to guide questioning and allow for detailed analyses. They included knowledge, awareness and transmission; adherence to taboos; transgressions of taboos and views on the past, present and future of sacred forests.

## Focus groups

A total of six focus groups were conducted in both villages (Beli – 2 and Capebondé – 4) respectively. As Capebondé was the first village to be sampled, more focus groups were conducted there to collect and analyze data that provided general information on various topics related to the research. This data helped to better understand certain themes that were relevant to both study sites, reducing the need to cover the same topics again in Beli. In order to triangulate data, the data from focus groups in Capebondé were verified during interviews in both places. The categories included were owners of sacred sites, village elders (men and women), young people (boys and girls) and CVV members. On average, a group consisted of 5-8 participants. This method was used prior to the start of individual semi-structured interviews for two main reasons. First, as part of the stakeholder analysis and second to generate group discussions about various themes covering the research questions. This proved useful as participants were initially more comfortable answering questions as a group setting rather than be interviewed individually. We found that once the focus groups were conducted, themes were discussed among other people in the villages and this helped in allaying any fears or doubts that they might have had regarding the intention of the study. Focus groups were also useful in identifying people with contrasting views on certain questions, that could later be explored in individual interviews. Key informants were also picked based on the level of knowledge and opinions expressed during the sessions.

Question guides were produced for each focus group category based on the relevant themes such as stakeholders, knowledge & awareness regarding sacred forests and transmission of knowledge as well as adherence to taboos. On an average, a focus group session lasted from 45 minutes up to two hours. Focus groups were pre-arranged (in some cases a week before) as it was the rice harvesting season and people were occupied in working on their fields. Prior to the start of each focus group, some basic rules were explained in order to allow everyone a chance to be heard. The research objectives as well as conditions of anonymity were also explained and oral consent was sought from each participant. The rules regarding anonymity were also explained in detail, as a translator was being used, participants were told to speak at a pace to allow for effective translation. Notes were taken during each group interview along with relevant details of each participant. Recording of audio/video during the session was abandoned as it was observed that the participants were fixated on the presence of a camera

and were hesitant in answering questions. Besides, the use of a translator allowed ample time for taking down notes during the session.

## Semi-structured and semi-direct interviews

Interviewing can be a powerful method to understand the thoughts, feelings and opinions regarding a specific subject (Hammersley & Atkinson, 2007). A total of 51 interviews were conducted in both study sites; 32 in Beli and 18 in Capebondé and one additional interview with a representative of IBAP for the Boé area. More interviews were conducted in Beli as the population is 3-4 times larger than that of Capebondé, resulting in more categories such as quarter chiefs, Immigrants and pastoralists. Interview guides (Appendix 3) were prepared for each respondent category prior to interviews. These guides were based on the prescribed themes formulated to cover all research questions. Prior to each interview, the research objectives were explained, followed by the conditions of anonymity and consent. Interviews were only conducted when respondents understood the terms of the interview and granted oral consent. The questions were open-ended to encourage participants to give detailed, meaningful answers to questions. Questions were also further developed, supplemented or modified based on the preliminary interviews and the reaction and responses of interviewees in order to get clearer answers. This was especially the case when asking questions regarding sensitive matters such as core beliefs, transgressions etc. Semi-direct interviewing was adopted in certain cases, which allowed questioning based on the answers expressed during the interview. This allowed questioning based on the respondent's train of thought and encouraged greater dialogue similar to a normal conversation. Questions asked at the start of the interview were kept broad and became more specific as the interview proceeded, in order to ease the respondent into giving in-depth answers.

Interviews generally lasted from 20 minutes up to two hours in some cases and covered all of the research themes mentioned above. As the research employed a snowball-sampling technique, interviewees were also asked for the names of other relevant people who would be willing to participate in the study. In some cases, the respondents themselves would contact willing participants while in other cases, they had to be contacted by myself and the translator. Again, recording interviews was abandoned in favor of writing down the answers and making notes with the help of the translator.

## Participatory mapping

Participatory mapping is a technique that helps gather information about natural resources, special sites and local perceptions using a shared geographical framework (Puri, 2011). This study employed this method to supplement data gathered through focus groups and interviews and to aid in data triangulation. It proved useful in understanding how the inhabitants of the two villages perceived the landscape around them. It also provides a visual representation of the social-ecological system in both villages. This activity was conducted at the end of interviewing in both villages and comprised of several sessions (~3-4 sessions per mapping activity in each village). Each session included ~10-15 participants with 3-4 key informants. Categories of people used in the interviews and focus groups were invited to participate in the activity. This method worked well as more people than were initially invited joined in. Once the mapping was completed, it was shown to inhabitants at various gathering spots in the village to obtain feedback and any additional information.

Initial preparations for the mapping exercise involved consulting with key informants and village elders to find the appropriate participants for the activity. The purpose of the exercise was explained in detail and oral consent was obtained from participants. The next step involved creating a base map using satellite images and GPS coordinates (Appendix 4) with important landmarks such as rivers, lakes and roads. This helped the participants orient themselves and enabled them to understand the scale at which they were drawing. This was understandably important, as most participants had never come across a satellite image based map. The base map was then copied and given to participants to draw on. A final copy was then created using the input of various participants.

## Stakeholder analysis

Stakeholder analysis has been defined by (Reed et al, 2009) as ‘a process that i) defines aspects of a social and natural phenomenon affected by a decision or action; ii) identifies individuals, groups and organizations who are affected by or can affect those parts of the phenomenon (this may include non- human and non-living entities and future generations); and iii) prioritizes these individuals and groups for involvement in the decision-making process’. For the purposes of this study, a stakeholder analysis was deemed necessary to identify people, organizations and groups who could have an affect or be affected by sacred

forests in the Boé, to describe relationships among them and to sacred forests and lastly to prioritize individuals and groups for involvement in the management and conservation of sacred forests. As such, stakeholders were defined as '**people in the Boé associated with sacred forests, either directly through management and use or indirectly through their social and cultural circumstances'**. The following stages were part of the stakeholder analysis (Fig) and are described in further detail below.

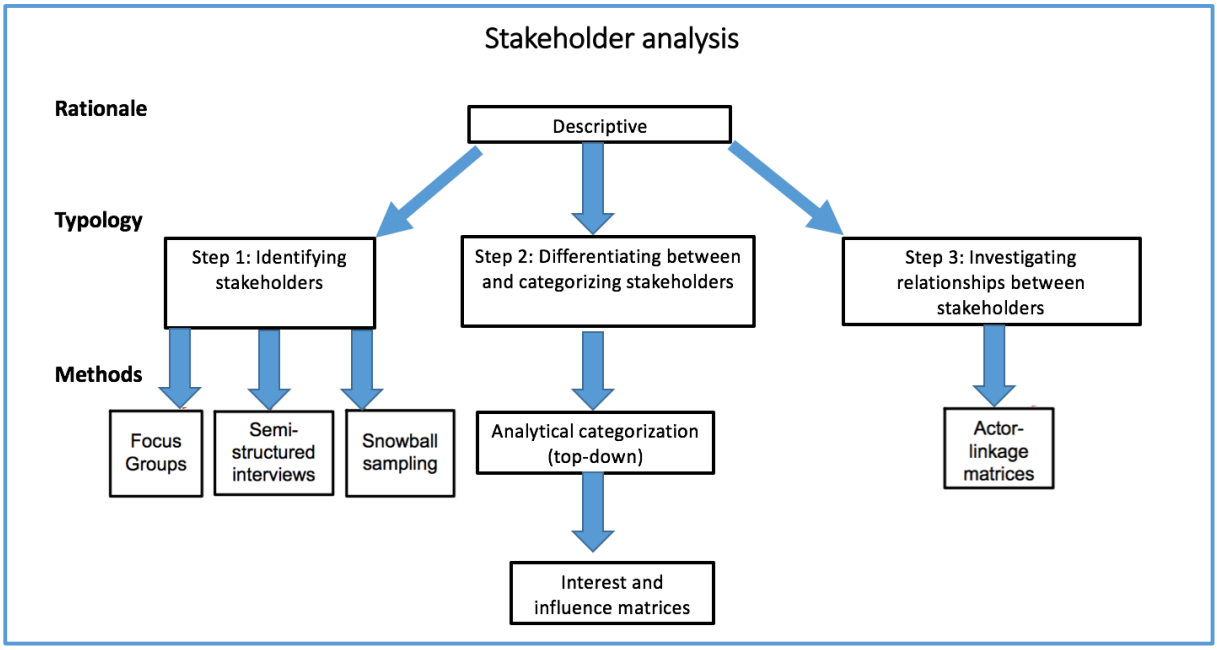



**Fig 7 – schematic representation of the rationale, typology & methods used for stakeholder analysis (adapted from Reed et al, 2009).**

A descriptive rationale for the stakeholder analysis was the appropriate choice as the study is largely exploratory and no baseline information regarding stakeholders was available at the beginning of fieldwork. Consequently, the purpose of the stakeholder analysis in this study was to first document who was involved with sacred forests and then to examine their relationships with each other as well as to various aspects of the management and use of sacred forests. The data recorded as part of this research could be used to support further research and analyses using a normative or instrumental approach.

Identification of stakeholders was an iterative process, with additional stakeholders added as analysis continued. A combination of expert opinion, focus groups, semi-structured interviews using a snowball sampling technique were used to identify various stakeholders.

Using the sacred forests associated with each village as the phenomenon under investigation within the larger setting of the Boé allowed for a clearly defined boundary within which to identify stakeholders. Organizations, groups and people based outside the Boé but with an active presence in the area were also included as part of the analysis.

In order to differentiate between various categories of stakeholders, a top-down analytical approach was used so as to be able to recognize the different roles and level of involvement of the stakeholder categories. Focus groups and follow up questions in interviews helped determine the final categories of stakeholders. This was then followed by an interest and influence matrix (see results) where various stakeholders were given scores from 1-10 for influence and interest, based on data from focus groups, semi-structured interviews and expert opinion. This allowed for grouping of categories in to key players, context setters, subjects and crowd (De lopez, 2001). This data could be used to specify how stakeholders can be engaged to achieve instrumental ends. The final phase of the analysis was to investigate the relationships between various stakeholders. Again, focus groups and follow up question in semi-structured interviews were used to establish linkages between various actors in a matrix (see results), displaying the strength of relationships between various stakeholders.

## Data Analysis

As mentioned earlier, transcribing recorded interviews was replaced by note taking as i) it was observed that participants were more comfortable and forthcoming in the absence of recording equipment ii) the use of a translator provided ample time to take down notes and make clarifications. Participants were instructed to answer in a manner where adequate time for translation was allowed, along with time for any clarifications and follow up questions that arose. Notes and transcripts were thoroughly reviewed at the end of the interviews and were subsequently organized into preliminary themes and concepts based on the research questions (Themes such as knowledge of sacred forests, awareness of taboos, transmission of knowledge, perceptions on changes etc). This ongoing analysis also helped to determine the course of the research in terms of questioning and direction. A second round of a finer-grained analysis involved reviewing all data and organizing earlier themes in to a more precise format. All coding was done manually and then discussed with the translator. Narratives were coded by reading through excerpts and picking out any similarities that were

found between the various stories. Broader themes were then created and cross-checked for any historical similarities by reviewing literature on folklore related to sacred forests.

Resource and habitat taboos (RHTs) were coded using the template provided by (Colding et al, 2009), which organizes various taboos according to their relevant ecological function. At the end of fieldwork, preliminary results and some themes and concepts were reported back to participants and staff of Chimbo followed by discussions where the information was verified and corrections if any, were made.

## Limitations

Documenting sacred forests – As part of its Community Based Conservation program, NGO Chimbo are in the process of documenting sacred forests for the whole of the Boé region. However, this process has been far from easy, due to the sensitive nature of the subject as well as the lack of clarity in understanding the motives of the NGO by the local population. Sacred forests in the region are places of special cultural and spiritual importance to their respective communities and as such information regarding their location and significance is largely inside knowledge. Suspicion towards outsiders seeking this information is understandable, given the colonial history of the region. Some villages and individuals were more forthcoming than others, sometimes within the same village itself, making the documentation process slower than expected. Out of the two villages investigated in this study, Capebondé had been contacted earlier by Chimbo staff and some sites had been documented (13) along with a questionnaire (see appendix 1) to record data on the socio-cultural and ecological characteristics of the sites. Beli on the other hand, had been more challenging and the NGO staff at the time were working towards building a relationship with important stakeholders such as the village Chief and members of the founding families (descendents of the founders of the village) associated with sacred forests. A total of 12 sacred sites had been documented for Beli at the time. Towards the end of the research, this study managed to document an additional seven sites for Capebondé and one for Beli, bringing the total to 20 and 13 respectively. During the course of interviewing respondents, information that there were more sites in Capebondé (~3-5) and Beli (~1-2) and that some of the owners were reluctant to come forward as they were unsure about the reason to do so, was revealed. Given the time constraints, the matter could not be investigated further. However, based on discussions with key informants and expert opinion, this information should be revealed sooner than later.

**Establishing causality** – as this research involves a comparative case study, it reports on any trends that have been revealed during the investigation. While the analysis is based on interview data regarding local perceptions and current practices, it cannot attempt to establish causality. The data collected is qualitative (soft data) and was intended for a thematic analysis. However, by reviewing literature from other studies on the same topic, the study stipulates on some plausible drivers for these trends. In some cases, it also offers opinions of respondents on the phenomena under investigation and should be treated as such.

**Researcher bias –** integration into the study area in order to observe the phenomena under investigation in a natural setting is a critical step in qualitative research. However, this brings the researchers subjective influences into the research process. Being aware and acknowledging this fact is an integral part of qualitative research. The role of the researcher and the intentions of the study were made clear to participants during the course of the study. In doing so, one has to also accept the risk that people may bias their answers to reflect what they think they should say or what they think the researcher wants to hear (Puri, 2011). Participants were also aware of my affiliation with NGO Chimbo, which meant that they viewed me as being –pro-conservation. In order to counteract this issue, the purposes of the research were clarified prior to each interview and questions were intentionally formulated in an open-end format to avoid bias. Effort was also taken to ensure that respondents understood that they were not obliged to answer questions. My background and nationality also played a part as many people in the area had had prior encounters with cashew traders from India and viewed them favorably. While all foreigners were collectively called '*Portos*' (meaning foreigner, possibly a short form for Portuguese nationals), they did distinguish between 'whites' and non-whites in conversation

# Results

## Resource and Habitat Taboos (RHTs)

The data recorded revealed four categories out of a possible six (Table 1) namely 'habitat' taboos, 'segment' taboos, 'temporal' taboos and 'method taboos'. The latter was included as the **ceremonies that are a pre-requisite for resource withdrawal can be considered a method of resource extraction**, as stipulated in the analysis by (Colding & Folke, 2009). This possibility is further explored in the RHTs section in the discussion chapter. This study did not find any life-history taboos or species-specific taboos.

The habitat taboo common to all sacred sites was **a prohibition against hunting of any game and the felling of trees.** This study found one segment taboo in the village of Capebondé which prevented pregnant women from entering a specific sacred site (Genyéri). A temporal taboo was recorded for the community sacred site (Bundugada) in Beli, which restricted resource use to specific days of the week. Such specific taboos did not exist in other sites revealed during the study.

**Table 1 -** Resource and habitat taboos (RHTs) and their associated nature conservation and resource management functions. This study identified four categories of taboos (in bold) out of the six categories proposed by (Colding & Folke, 2001). Habitat taboos & method taboos were found in both study sites for all sacred forests. Temporal taboo was found only in Beli & a segment taboos was found only in Capebondé

| Category | Ecological management function | Beli (13 sacred sites) | Capebondé (20 sacred sites) |
|---|---|---|---|
| **Temporal taboos** | Regulate access to resources in time | Yes (1 sacred site - Bundugada) | No |
| **Habitat taboos** | Restrict access and use of resources in time and space | Yes (all sacred sites) | Yes (all sacred sites) |
| **Method taboos** | Regulate methods to resource withdrawal | Yes (all sacred sites) | Yes (all sacred sites) |

| | | | |
|---|---|---|---|
| Life history taboos | Regulate withdrawal of vulnerable life history stages of species | No | No |
| **Segment taboos** | Regulate resource withdrawal | No | Yes (1 sacred site - Genyeri) |
| Species-specific taboos | Total protection to species in time and space | No | No |

## Typology of sacred sites

The sacred sites of Beli and Capebondé can broadly be categorized into **'community'** sacred sites and **'private'** sacred sites. As the names suggest, ownership is the key difference between the two types of sacred sites. Land rights in the Boé are customary and as such 'owners' do not have a formalized land title. Recognition of land tenure is informal and land is typically inherited from members of the family. Community sacred sites were maintained by 'caretakers' – generally elders who were entrusted with the responsibility of maintaining the sites, either by being affiliated to the founding families or by being an important person in the village with knowledge of ceremonial functions related to the site.

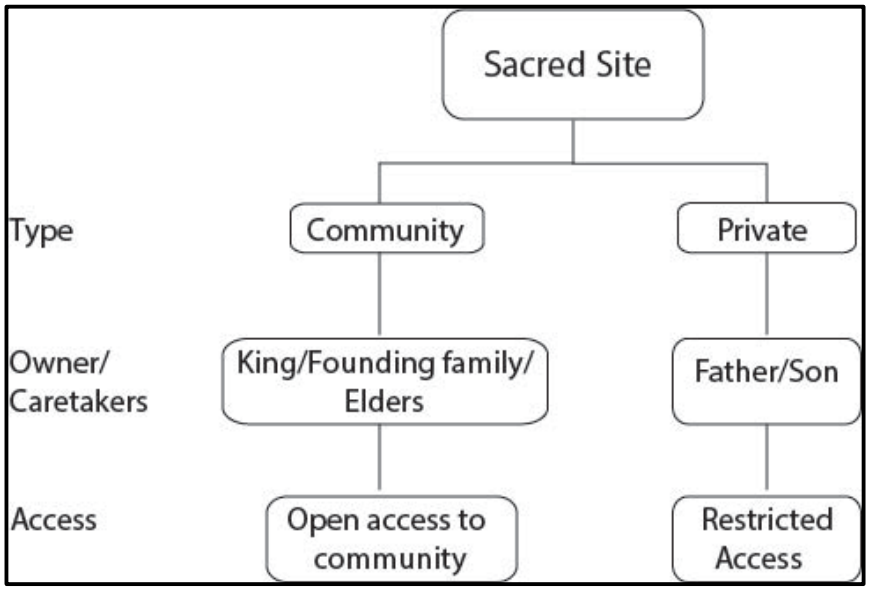


**Fig 8 –** Sacred sites can be divided into community sites & private sites. The former is for use by members of the community and are managed by caretakers (king, founding families/elders). Private sites (informal customary ownership) are for use by the family it belongs to and other users must seek permission from the owners to access these sites.

Additionally, there are key differences in responsibilities, rights and access (Fig 8). In both cases, the community sites were the primary sources of water when the villages were first established. Consequently, they were designated as being 'sacred' by the founding families (Interviewees reported that the relatively recent installation of bore-wells by the government has reduced the reliance on these sites for water significantly). When questioned about the reason for the 'sacredness' of these sites, respondents usually attributed it to the wisdom of their ancestors in recognizing the importance of the site to the settlement; either as the primary source of water and medicine or as the abode of a certain spirit or both.

The community sacred sites act as a common pool resource and are available to members of the community for water and NTFPs. However, they are still governed by RHTs and one is expected to have a **valid reason to enter the site and must seek permission from the caretakers as a sign of respect**. This is especially true in instances where medicinal plants are being extracted, as the right 'offering' must be made for the medicine to have the desired effect. They also perform an important function as a place of gathering to conduct ceremonies for the benefit of the entire village. Examples of these types of events are ceremonies that are conducted to ensure a good harvest or to foster greater harmony among the villagers.

Private sacred sites on the other hand belong to individuals and their families. They act as private goods although they can be accessed and used provided the user seeks permission and explains the reasons for doing so. The owners, kown as '*Jiomas*' (in Pular) have specialist knowledge pertaining to the site - knowledge of the particular ceremony that needs to be performed at the site and would normally accompany the person to oversee resource extraction (medicinal plants, bark, tree etc, for details on species used refer to companion study by Wabeke, 2017).

**Knowledge of ceremonies is a closely guarded secret as it acts as a key to unlocking the spiritual powers of the site**. These ceremonies vary from site to site and are specific to the particular spirit residing at the said site. In the case of private sites, knowledge of ceremonies is traditionally passed on from father to son. In the case of community sites, knowledge is passed on by the elders in the family (male and female), who then transfer knowledge to male heirs and in some cases (no male heir) to female heirs as well.

**Ceremonies** conducted in community sites are generally conducted for the wellbeing of the entire village and as such are open to members of the community to attend. Historically, this involved sacrificing an animal (goat, cow, chicken) that was then consumed by the people present at the ceremony. Interviews revealed that as per tradition, the remains of the animal after consumption including bones, skin Etc. were buried at the site once the ceremony was complete. All interviewees (50/50) stated that there has been a gradual reduction in ceremonies performed at community sites in both villages. Reasons attributed to this phenomenon by respondents included:

- Population growth and the associated increase in expenditure related to procuring sacrificial animals (Beli & Capebondé)
- Organizational issues (Beli)
- Loss of traditional knowledge regarding ceremonies due to the death of elders (Beli)
- Lack of interest in continuing traditions by the current generation (Beli)

Based on the findings of this study, the primary uses of sacred sites are for water, NTFP collection and prayer (Table 2 & 3).

## The sacred forests of Beli

A total of thirteen sacred sites were documented in the village of Beli (Table 1). Out of the these, two sites were designated for the community while the rest were for use by the descendants of the two founding families – the Kissi and the Tomas. Another probable type of sacred site is as a community burial ground. Both the villages where the research was conducted had designated forest patches that acted as **cemeteries.** These places also have strict taboos attached to them and could be similar to other sacred sites from an ecological perspective. However, this study was unable to explore the topic further as discussions about the sites in itself is considered taboo, especially to outsiders.

**Table 2 –** List of sacred sites with associated typologies, taboos and their uses in Beli**.** 13 sites were documented in total, all were covered by habitat taboos with only two currently being used.

| No | Name of site | Typology of site | Taboo | Type of taboo | Use |
|---|---|---|---|---|---|
| **1.** | Bundu Gada | Community | Hunting, Cutting, specific days for collection | Temporal/ habitat | Water, NTFP |
| **2.** | Corossi | Community | Hunting, Cutting | Habitat | Water, NTFP |
| **3.** | Hore Bantadjam | Private | Hunting, Cutting | Habitat | ** |
| **4.** | DacaCoba | Private | Hunting, Cutting | Habitat | ** |
| **5.** | Beli'un | Private | Hunting, Cutting | Habitat | ** |
| **6.** | Hore Gudum | Private | Hunting, Cutting | Habitat | ** |
| **7.** | Tuntedje Dabum | Private | Hunting, Cutting | Habitat | ** |
| **8.** | PetiBeli | Private | Hunting, Cutting | Habitat | ** |
| **9.** | Bundututu* | Community* | Hunting, Cutting | Habitat | ** |
| **10.** | Hore Petunquecu | Private | Hunting, Cutting | Habitat | ** |
| **11.** | Bundun'djuri | Private | Hunting, Cutting | Habitat | ** |
| **12.** | Hore Bonorum | Private | Hunting, Cutting | Habitat | ** |
| **13.** | Queues | Private | Hunting, Cutting | Habitat | ** |

*Partially cut down – Explained in detail in the Transgressions section of the discussion chapter

** Currently not in use

## The sacred forests of Capebondé

A total of twenty sacred sites were documented in the village of Capebondé. Out of the twenty, one site was designated for use by the community. The rest were owned by individuals and their families.

**Table 3 –** List of sacred sites with associated typologies, taboos and uses in Capebondé. 20 sites were documented in total with four currently not in use. Habitat taboos were present in all sites

| No | Name of site | Typology of site | Taboo | Type of taboo | Use |
|---|---|---|---|---|---|
| **1.** | Bundu Capebondé | Community | Cutting, Hunting | Habitat taboo | Water, ceremony |
| **2.** | Horé Barqueré | Private | Cutting, Hunting | Habitat taboo | Water |
| **3.** | Capebondé un | Private | Cutting, Hunting | Habitat taboo | Water, ceremony, medicine |
| **4.** | Buloi Sori | Private | Cutting, Hunting | Habitat taboo | Water |
| **5.** | Horé Cansijé | Private | Cutting, Hunting | Habitat taboo | Water; medicine |
| **6.** | Horé Ngenjaaru | Private | Cutting, Hunting | Habitat taboo | Medicine; water |
| **7.** | Horé Sala | Private | Cutting, Hunting | Habitat taboo | Water; ceremony; prayer |
| **8.** | Vendu Kewe | Private | Cutting, Hunting | Habitat taboo | ** |
| **9.** | Hore Tchabéjé | Private | Cutting, Hunting | Habitat taboo | Water |
| **10.** | Bundu Yurmedé | Private | Cutting, Hunting | Habitat taboo | Water, ceremony, medicine |
| **11.** | Tchancum djabéré | Private | Cutting, | Habitat | ** |

| | | | | | |
|---|---|---|---|---|---|
| | | | Hunting | taboo | |
| **12.** | Diolol Adama | Private | Cutting, Hunting | Habitat taboo | Water, medicine |
| **13.** | Diolol Bananadjé | Private | Cutting, Hunting | Habitat taboo | ** |
| **14.** | Baquere Dabu | Private | Cutting, Hunting | Habitat taboo | Ceremony, Medicine |
| **15.** | Hasimisu | Private | Cutting, Hunting | Habitat taboo | Water, medicine |
| **16.** | Ojjaledé | Private | Cutting, Hunting | Habitat taboo | Prayer; ceremony |
| **17.** | Genyéri | Private | Cutting, Hunting, Pregnant women | Habitat taboo/ segment taboo | Water, medicine |
| **18.** | Hunsiné Curadjé | Private | Cutting, Hunting | Habitat taboo | ** |
| **19.** | Bundu Mala | Private | Cutting, Hunting | Habitat taboo | Water (seasonal); medicine |
| **20.** | Bundu Rondé | Private | Cutting, Hunting | Habitat taboo | Medicine; ceremony |

** Currently not in use

## Narratives

Questions and discussions regarding the 'sacredness' of forests almost always descended upon the presence of 'Djinnas' or 'Iras'– words in Pular (the local dialect of the Fulani) for spirits or beings of the forest. This study found only two instances where sources of water were stated as the reason for the site to be considered sacred in the first place (both the community sites from Beli & Capebondé). However, even these sites were considered to be the abode of 'good' spirits. While there were slight variations between stories depending on who was asked, the broader narratives behind them followed a common premise.

Stories regarding the origins of sacred forests in both study sites can broadly be categorized under the following narrative themes.

**Contact and contracts–** This narrative usually involves some form of contact with a spirit in the forest. It can happen when a person is either sleeping or awake. The spirit appears and has a conversation with the person, following which the person is aware of the intention of the spirit – **good, bad or angry**. Following the encounter and depending on the 'nature' of the spirit and what was told or discussed, the spirit is either appeased, avoided or feared. All of these are considered 'contracts' with the spirit. The contract entails keeping the spirits pleased either through performing specific ceremonies in return for blessings and good fortune or in some cases by leaving the spirit alone in order to avoid angering it.
The spirits inhabiting the sacred forests of Beli and Capebondé are known to the villagers through their 'personalities' and temperament. They may belong to either gender and are considered as 'old' beings. Attempts to procure a definition for a spirit always ended in one of three ways – laughter, confusion and silence.

*"We can drink the water, eat the fruits and collect medicine because the spirits there are good to us"*

(Male elder from the village of Beli, 28th December, 2016)

The ability to access or use a sacred site without any problems (disease, death etc) is considered to be a sign of the presence of a good spirit. Good spirits are considered helpful to people and must be respected and treated well.

*"His father knew the ceremony and would do it regularly. After his father died, the man failed to renew his contract and now he is scared to enter the forest"*

(Woman elder from the village of Beli, 20th January, 2017)

The responsible person shows his or her gratitude by making a ceremonial offering to the spirit. The ceremonies themselves are known only to a few people and are particular to each spirit (explained further below). However, the contract usually entails regular worship and ceremonial offerings (Kola nuts, animal sacrifice etc ) and helps to 'maintain' a sacred site.

*"At first, I did not know what ceremony to perform to keep the spirits happy. One day I found a book in which my father had written down the ceremony. Ever since then, I have not had any problems"*

(Owner of a sacred site, Capebondé, 25th November 2016)

Knowledge regarding ceremonies are a closely guarded secret and usually known only to the King/Caretakers of community sacred sites and to the owners of sacred sites. This knowledge is normally passed on from father to son and in some cases to the daughter or wife (such as a dying man with no male heir).

*"a woman appeared to him in the forest and showed him her bare feet, explaining to him that she was poor and needed the forest; asking him not to cut it down. He did not listen to her and now him and his family are just as poor as her"*

(Young man, heir to a sacred site, Capebondé 26th November 2016)

Although only a few examples of transgressions (breaking taboos) were reported, they always involved an account where a contract had been dishonored or when a taboo had been ignored. All examples of such transgressions included the punishment that was handed out. This would often either be a form of sickness, an accident or financial misfortune to the transgressor. Stories of transgressions were widely circulated and all interviewees were aware of the consequences of breaking taboos. Forests with big trees are also associated with spirits as it is believed that the spirits like them. In many cases, a person first encounters a spirit when cutting down the forest for cultivation.

**The mythology of the serpent** – This narrative was a recurring concept in relation to several sites that acted as sources of water. Such sites are 'maintained' regularly by performing the appropriate ceremony, thereby allowing unhindered access to the resource. The spirits recounted to be in these places were not necessarily bad, but needed to be pleased in order to grant the user permission to use the water from the forest.

*"The women would not enter the forest to fetch water. There were snakes all over the place and they were scared to go anywhere near them"*

(Woman, elder, Capebondé 18th November, 2016)

Prior to the installation of bore wells by the government, the only source of water was from sacred forests. It was reported that women would have to walk with pots in hand to the nearest perennial source of water (mostly found in springs in sacred forests). The dry season made this chore part of the daily routine. In some cases, the women would be accompanied by men as they were too scared to enter the forest on their own.

*"There is a spirit that appears as a snake. It is big and black and lives near the spring and guards it from outsiders, you can still see it even now if you go there"*

(Young man, Beli, 16th January, 2017)

In some cases, the prevalence of these narratives were justified by sightings of the 'same' individual snake in the exact same location over several generations. The excerpt above was taken from an interview where the respondent stated that this snake was first seen by his grandfather decades ago. He then showed his son, the boy's father, who then showed it to him. Stories that were associated with the serpent narrative are taken more seriously as most of the people in the area are terrified of being bitten.

**Narratives of greed and temptation –** stories based on this narrative typically involved tales where a person chanced upon some form of treasure in the forest (eg a gold ring). This stirred up feelings of greed in the person who then desired the treasure and took it away from the forest. Consequently, some form of misfortune would befall the greedy person until he realized his mistake and returned the treasure to the forest.

*"While walking in the forest, he saw a golden ring in a stream. He was ecstatic and brought it back home to show it to his wife. A week later, the man was suddenly taken ill and his limbs began to swell. Medicine had no effect and the*

*illness could not be explained. It was only then that the man realized that he had upset the spirits by being greedy and then proceeded to return the ring to the stream where he had found it. He was back in good health soon after"*

(Male elder, Capebondé, 11th November, 2016)

## Governance

All respondents that were interviewed were aware of the presence of sacred sites around their villages. While specific information on all the taboos surrounding all sacred sites were known only to some elders (Male and female), all respondents reported that they would know if a site was sacred based purely on its physical characteristics such as the presence of big trees and leaf litter. Some respondents reported incidents where they had accidently wandered into a sacred site and immediately realized where they were. The majority of respondents in the categories 'elder men' (>50yrs) and men (30-50yrs) reported that their first experiences (as children aged ~15) with a sacred forest was either when working in the bush (cultivating, collecting NTFPs) in close proximity to a sacred forest or when they had attended a ceremony in the community sacred forest. Interviewees whose families owned sacred forests were informed by their fathers or brothers, who then took them to the site and explained the specific ceremonies to be performed at the site.

The majority of respondents from the categories Elder women (>50) and women (30-50) reported that they had first heard about sacred forests either when ceremonies were being discussed in the village or by attending a ceremony in the community sacred forest.

All respondents reported that they believed in the existence of Iras and that it was best keep them happy rather than make them angry.

*"Just like we have homes in the village, the Iras have homes in the forest. Like people, some are good and some are bad. As long as you understand what they want and you respect their wishes there cannot be any problems"*

(Young boy, 12th November, Capebondé)

All respondents stated that they did not wish to upset the Iras. Stories of transgressions were well known along with the consequences for the transgressor, which were always bad. This

belief in the supernatural along with spiritual sanctions for any transgressions is the basis for the enforcement mechanism in relation to sacred forests in both cases. One respondent stated that if a person were to enter a private sacred forest and extract resources without permission, he would not only suffer spiritual sanctions but would have to make twice the offering to the owner to redeem himself. **This was the only account of a monetary fine used as a sanction reported during the research.**

## Stakeholder Analysis

For the purposes of this research, stakeholders are defined as **'people in the study area associated with sacred forests, either directly through management and use or indirectly through their social and cultural circumstances'**. Stakeholders were identified using expert opinion (key informants, NGO staff) and data from focus groups as well as interviews. **Thirteen stakeholder categories were identified** and then placed on an interest and influence matrix (Fig 2 & 3). Using a top down analysis, stakeholders were then ranked and placed on the matrix in one of four categories namely: key players, context setters, subjects and crowd (De lopez, 2001).

### Categories of stakeholders

1. **Village chief (VC) (Beli & Capebondé) –** The 'Jarga' (Pular dialect) is an important stakeholder with a high degree of interest and influence. In relation to the sacred forests, the chief is responsible for the management of the community sacred forest and in charge of organizing ceremonies for the well-being of the community. In both villages, the village chief was reported as the coordinator of ceremonies along with the other important figures such as the imams and owners of sacred sites.

2. **Quarter chief (QC) (Beli)** – Beli has more than three times the population of Capebondé and is divided into four quarters, each having its own chief. The quarter chiefs are in charge of management and handling grievances within their areas. They also consult with each other regarding issues in the villages and answer to the chief of the village. As such they are highly influential and have an interest in the well-being of the community.

3. **Owners/Heirs (O/H) (Beli and Capebondé) –** The Jiomas can either be individuals owning sacred sites (Capebondé) or be part of a family descended from the founding families. They are also highly influential and play an important role in the management of sacred forests. As knowledge of ceremonies and responsibility of ownership is passed down from father to son, the heirs to sacred forests also have a high interest in the maintenance of sacred sites.

4. **Founding families/caretakers (FF) (Beli)** – Families descended from the original settlers of the village, broadly divided into the 'Kissis' and the 'Tomas' (family names). Several families in Beli and Capebondé derive their lineage from these two families. The responsibilities for caring for the community sacred sites as well as some family owned sacred sites lie with the heads of the current generation of descendants. They are influential but have varying degrees of interest in the management of the sacred forests. They are meant to carry on the tradition of ceremonies and site maintenance but few do so currently.

5. **Imam (I) (Beli & Capebondé)** – The imams are the religious heads of the village and are highly influential as well as respected within their respective communities. They are consulted by the chiefs and the elders and play an important role in village life. They are interested in the spiritual role of sacred forests and see it as an important connection to the wellbeing of the community.

6. **Village elders (VE) (Beli & Capebondé) –** Important voices in the village and possess traditional ecological knowledge pertaining to sacred forests. They are influential as well as interested in passing on knowledge to the next generation. More elders in Beli were skeptical about the future of sacred forests than in Capebondé.

7. **Purveyors of traditional medicine (TM) (Beli & Capebondé) –** These people have specialist knowledge regarding medicinal plants in the study area. They recognize the importance of sacred sites for traditional medicine (Explained in the discussion chapter) and are interested in their conservation and continued use. They have some influence but are respected for their knowledge.

8. **Hunters (Beli & Capebondé) (H)** – This group is influential as they are connected with the bush relatively more than the other groups. They recognize that sacred forests are important for animal populations and their actions have important consequences for the health of sacred forests. In interviews they reported that they refrained from hunting in sacred forests and did not wish to break taboos.

9. **Users of NTFPs and springs (U) (Beli & Capebondé) –** This group consists of members of the community that rely on sacred forests for collecting NTFPs and use the water from springs. They have low influence but high interest in the conservation of sacred forests.

10. **Young men and women (YMW)** (17-30yrs) – This group has a vested interest in sacred forests but little influence. They may play a key role in the future as they will be in charge of continuing traditions and caring for their environment. The majority of young men interviewed in this study reported that they were interested in continuing traditions (Beli & Capebondé) and that they were willing to learn from the elders (Beli & Capebondé). However, respondents in Beli complained about the lack of knowledge being passed on to them, largely due to the demise of several elders in the village.

11. **Pastoralists (P) –** Nomadic cattle herders that move around the area. They typically set up temporary camps close to water bodies in the bush. They also allow their cattle to roam free and may use water from sacred forests for their cattle. As such they do use sacred forests if they happen to be close to one (especially in the dry season). When they arrive at a new location, they approach the village chief to seek permission, following which they are informed about sacred forests in the area and instructed on the appropriate protocols attached to them.

12. **IBAP –** The institute of biodiversity and protected areas is a national institute that works in the Boé. Its primary function is to establish national parks in the area and to protect biodiversity. As a government body, they do have influence in the Boé. An interview with its representative for the Boé revealed that sacred forests are recognized as an important part of the landscape. However, an official plan for sites within park boundaries is yet to be formulated. This uncertainty has also given rise to

a certain amount of fear and confusion regarding customary access and rights regarding the future use of sacred forests in the area.

13. **NGO –** NGO Daridibo (NGO Chimbo's sister concern) is currently the only environmental NGO working directly with sacred forests in the Boé. Having been in the area for the past decade, they have adopted a community based conservation strategy. They helped set up the only radio station in the Boé and also work on education and awareness in various schools in the Boé. The participatory village CVVs set up by Chimbo are working towards Chimpanzee conservation as well as protecting sacred sites from fire. The organization has a high level of interest in the conservation of sacred forests and its associated cultural factors. It also has a growing influence in the area due to its involvement with community development as well as conservation program.

**Interest and influence matrix**

Categories are graphically represented through an analysis of their relative influence and interest in the management of sacred forests (Fig 9 & 10). A separate graph has been made for each case study to point out differences revealed during data analysis.

**Fig 9 –** Stakeholder analysis for Beli using an interest & influence matrix categorize various stakeholders into subjects (high interest & low influence), key players (high interest & high influence), context setters (high influence & low interest) and crowd (low interest & low influence). The Imam, quarter chief, village chief, founding families/caretakers and owners are the key players in the village of Beli.

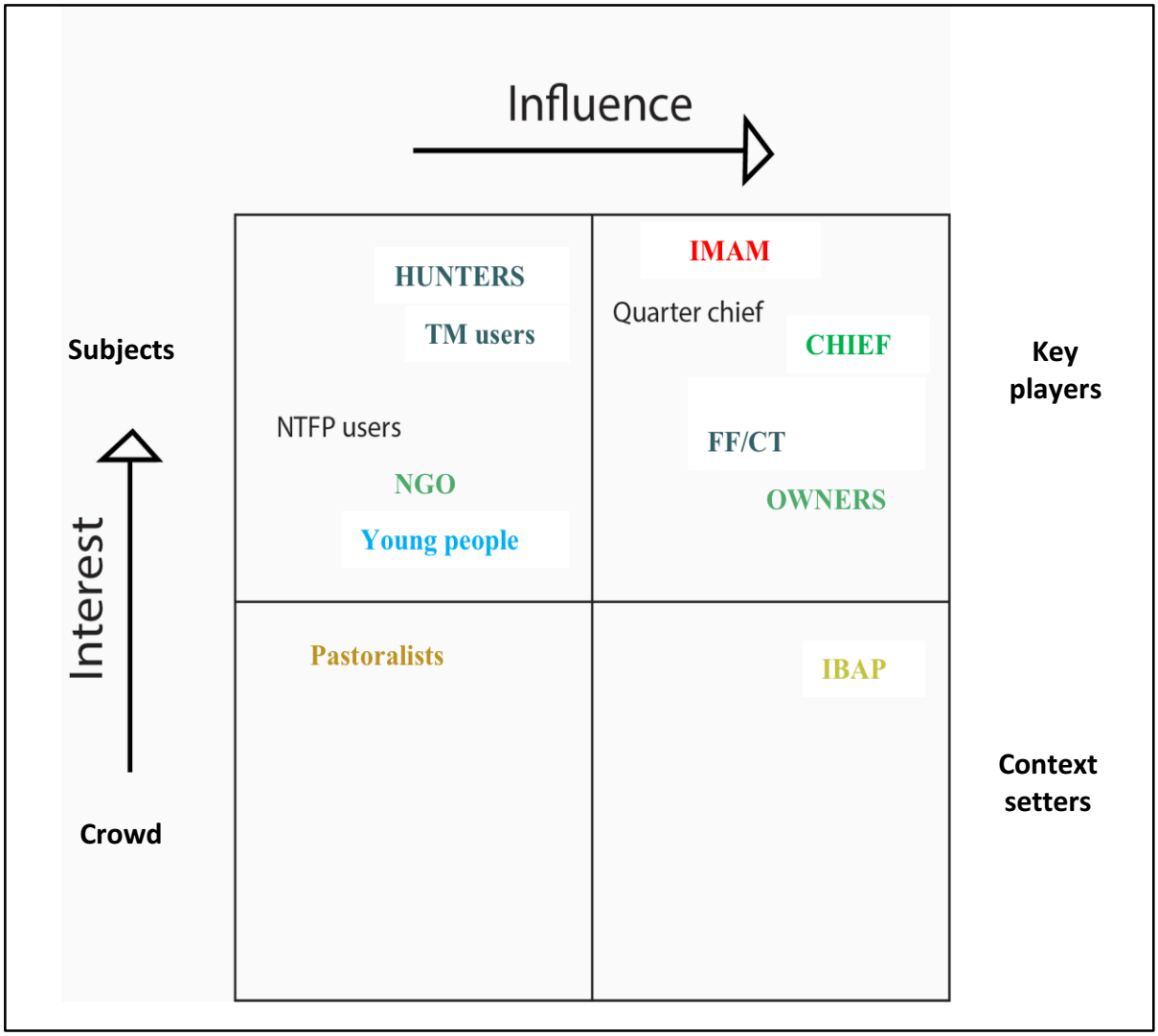


**Fig 10 -** Stakeholder analysis for Capebondé using an interest & influence matrix categorize various stakeholders into subjects (high interest & low influence), key players (high interest & high influence), context setters (high influence & low interest) and crowd (low interest & low influence). The Imam, purveyors of traditional medicine, owners, village chief and elders are the key players in Capebondé. Being smaller in size compared to Beli, quarter chiefs are not applicable here.

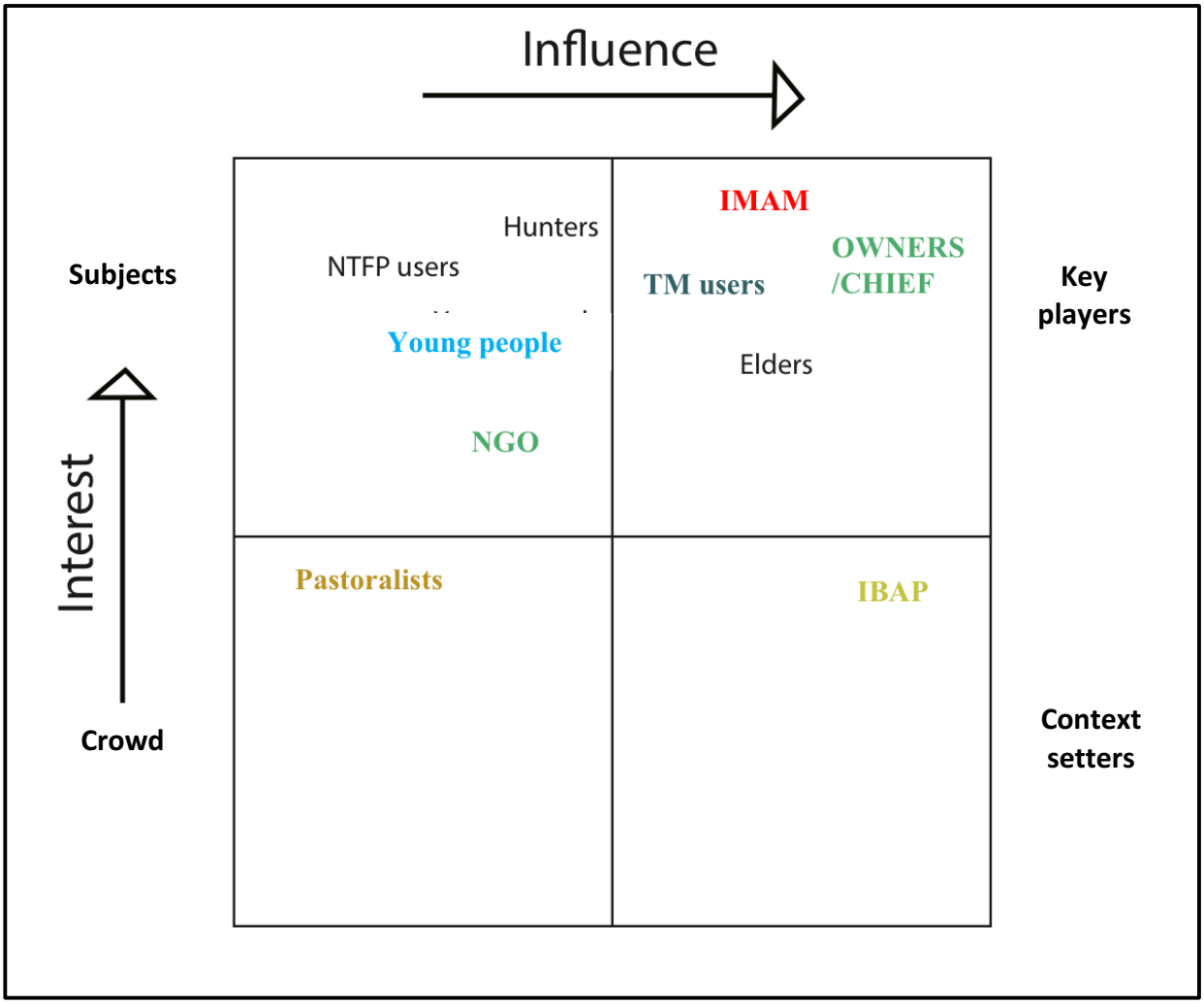


**Table 4 –** Stakeholder categories for Beli and Capebondé. Differences in key players between the two villages include quarter chiefs and founding families for Beli and purveyors of traditional medicine & elders as key players in Capebondé.

| Stakeholder category | Beli | Capebondé |
|---|---|---|
| **Key players** (High Interest & influence) | Imam, **village chief**, quarter chief, **founding families**, owners | Village chief, Imam, owners, elders, purveyors of traditional medicine |
| **Context setters** (High influence, low interest) | IBAP | IBAP |
| **Subjects** (High interest & low influence) | Hunters, TM users, NTFP users, NGO, young people | Hunters, NTFP users, young people, NGO |
| **Crowd** (Low interest & influence) | pastoralists | pastoralists |

Comparing the interest and influence matrices for both cases (Table 4) shows us that the key players among the stakeholders, with high interest and influence are similar in both cases, with the exception of elders and traditional medicine users as key players in the village of Capebondé. One possible explanation offered by some respondents (elders in Capebondé and Beli including the Chief of Capebondé) for this could be the greater reliance on traditional medicine (usually traditional knowledge held by the elderly) in the absence of an easily accessible hospital in Capebondé. Governmental agencies such as IBAP are context setters for both places as they could dictate how sacred forests are accessed and used when they are included within national park boundaries. Data from the DGFF (Directorate of forests) was unavailable at the time of the study as a new forest law is currently being formulated. While subjects in both study villages are subject to similar circumstances and lack influence, they could potentially form alliances and increase their sphere of influence.

**Actor linkage matrix (ALM)**

The final stage of the stakeholder analysis involved an examination of the relationships between various stakeholder groups using an Actor Linkage Matrix (ALM) (Tables 5 & 6).

The strength of linkages between various stakeholder groups was analyzed through data from interviews, focus groups and expert opinion and placed on a matrix for each village respectively. Capebondé as a smaller village does not have a quarter chief and so has one less stakeholder group as shown in the ALM.

**Table 5 –** Actor linkage matrix showing the strength of relationships between stakeholders based on interview and focus group data in Beli (S – strong; M-medium; W-weak). Key players in red, context setters in green. Subjects in Blue, crowd in black. The strength of relationships between the key players varied in Beli. Notably, the founding families did not have a strong relationship with the village chief and the owners/heirs of sacred sites.

| | VC | QC | O/H | FF | I | VE | TM | H | U | YMW | P | IBAP | NGO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VC | S | S | M | M | S | M | M | M | W | W | M | M | M |
| QC | S | S | S | S | S | S | M | M | M | M | M | M | M |
| O/H | M | S | S | W | S | M | S | M | M | M | M | W | W |
| FF | M | S | W | W | S | S | M | M | M | W | M | W | W |
| I | S | S | S | S | S | S | S | M | M | M | M | M | S |
| VE | M | S | M | S | S | S | M | M | M | W | M | M | M |
| TM | M | M | S | M | S | M | S | M | M | M | M | M | S |
| H | M | M | M | M | M | M | M | M | S | S | M | W | W |
| U | W | M | M | M | M | M | M | W | M | M | M | W | W |
| YMW | W | M | M | W | M | W | M | S | M | S | M | W | M |
| P | M | M | M | M | M | M | M | M | M | M | S | W | W |
| IBAP | M | M | W | W | M | M | W | W | W | W | W | S | S |
| NGO | M | M | W | W | S | M | S | W | W | M | W | S | S |

**Table 6 –** Actor linkage matrix showing the strength of relationships between stakeholders based on interview and focus group data in Capebondé (S – strong; M-medium; W-weak). Key players in red, context setters in green. Subjects in blue. All key players share a strong relationship/

| | VC | O/H | I | VE | TM | H | U | YMW | P | IBAP | NGO |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VC | S | S | S | S | S | S | S | S | M | M | M |
| O/H | S | S | S | S | S | S | M | M | M | W | W |
| I | S | S | S | S | S | S | M | M | M | M | S |
| VE | S | S | S | S | S | S | M | W | M | M | M |
| TM | S | S | S | S | S | S | M | M | M | M | S |
| H | S | S | S | S | S | S | S | S | M | W | W |
| U | S | S | S | S | S | S | M | M | M | W | W |
| YMW | W | M | M | W | M | S | M | S | M | W | M |
| P | M | M | M | M | M | M | M | M | S | W | W |
| IBAP | M | W | M | M | W | W | W | W | W | S | S |
| NGO | M | W | S | M | S | W | W | M | W | S | S |

Heterogeneity in use of and access to RHTs – The data reveal that there are some differences in the applicability of certain taboos between stakeholder groups (Table 3). Segment taboos were applicable only to pregnant women in one site in Capebondé. In both villages, owners of sacred sites and their heirs could enter their sacred sites without any restrictions. In some cases, they were also permitted to extract resources from their sites without making an offering every time as they conducted different ceremonies for the maintenance of the site (Table 7). Similarly founder families and caretakers could enter sites without seeking permission and were allowed extraction of resources using ceremonies that were different to an outside user (Table 7). It was also reported that in case of a special requirement, owners and founding families could extract timber from a site provided they had

a valid necessity and conducted the appropriate ceremony. This was done at their discretion as they were responsible for the site. However, this was more an exception than the rule (see discussion chapter).

**Table 7** – Showing the heterogeneity of RHTs between stakeholder groups. Land owners/heirs, founding fathers/caretakers have special privileges and can enter a sacred site and extract resources under special circumstances despite the habitat, temporal and method taboo.

* Exceptions are made under special circumstances

| Stakeholder categories | Habitat taboo | Temporal taboo | Method taboo | Segment taboo |
|---|---|---|---|---|
| V.Chief / QuarterChief | Yes | Yes | Yes | No |
| Pastoralists | Yes | Yes | Yes | No |
| Land owners/heirs | Yes* | Yes* | Yes* | No |
| FF*/Caretakers | Yes* | Yes* | Yes* | No |
| Imam | Yes | Yes | Yes | No |
| Village elders (M&F) | Yes | Yes | Yes | No |
| TMP* | Yes | Yes | Yes | No |
| Hunters | Yes | Yes | Yes | No |
| NTFP users | Yes | Yes | Yes | Yes if pregnant |
| Young people (M&F) | Yes | Yes | Yes | Yes if pregnant |
| IBAP/NGOs | Yes | No | No | No |

## Adherence to RHTs

To check for adherence to RHTs, interview and focus group data were analyzed to include themes such as knowledge of sacred forests, current practices in a historical context, perceived adherence and transgressions of RHTs. The following results are a collection of excerpts and quotes from interviews followed by an explanation of the same.

*"He said a bird came to him in his dream and asked him not to cut at the site but he did so anyway. Now his legs are swollen and he can't walk properly. If only he had listened to us when we told him not to do it"*

(Male elder, 24th December, Beli)

As mentioned earlier in this report, transgressions are few and far between. A strong belief in supernatural sanctions such as financial misfortune or illness is an integral part of the enforcement mechanism within the RHT based governance system. However, a comparative analysis between the two cases sheds light on some diverging trends.

*"When I was young, I was scared to go near the sacred forest. Now I see children going there to play"*

(Young man, 11th January, 2017)

**The majority of young men (17-30) in Capebondé reported that they had attended ceremonies and were aware of the rules surrounding sacred forests. In contrast none of the young people in Beli had attended a ceremony**. They did know of them but reported that they had never been to one as they had not been performed in a long time.

Elders interviewed in Capebondé reported that there had been a reduction in the ceremonies conducted at the community site but were confident that the tradition would continue. In Beli, elders often spoke of how things were changing and that people were not interested in following traditions anymore. Reasons stated included the demise of the older generation and a lack of interest from the younger generation in following traditions. The young men in Beli stated the opposite and explained that it was the remaining elders that had to take the initiative in passing on knowledge.

"It is the owners that must take responsibility for performing ceremonies and continuing traditions, but no one wants to take responsibility"

(Woman, Elder, 26th January 2017)

In Beli, organization was stated as the biggest hurdle to the management of sacred forests. There was confusion as to who was in charge of the maintenance of specific sites and this often led to a blame game where different stakeholder groups blamed each other. Elders were pessimistic about the future of sacred forests, although they did not wish to lose them as they were an integral part of their culture.

## Participatory mapping

As mentioned earlier in the report (see Methods), this study used participatory mapping as one of the methods to triangulate data and to reveal any additional information to supplement interview data. Additionally, it was used to further understanding of land use by various stakeholder groups and to gain insight into the characteristics of sacred forest governance, (Fig 11 & 12). It also allows for a visual comparison of the two villages in the context of social-ecological systems (See discussion).

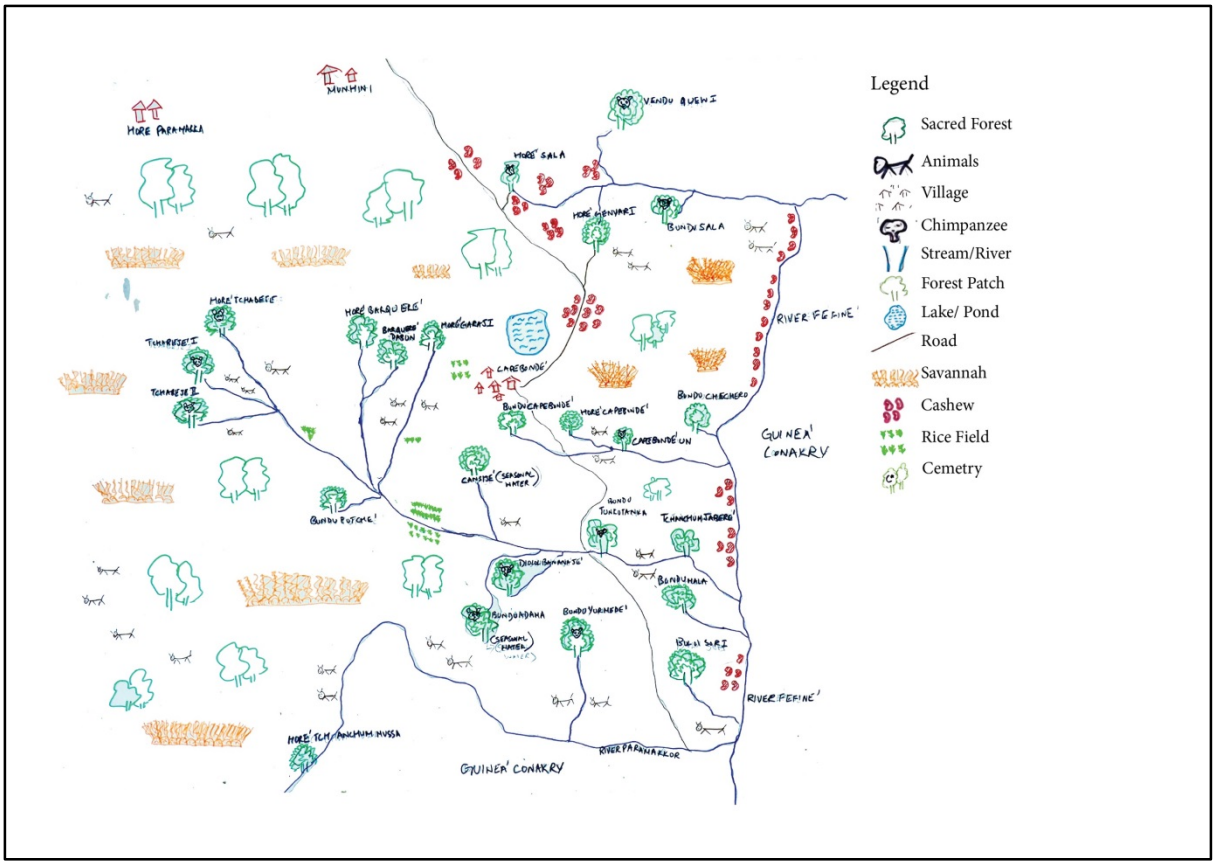



**Fig 11 – Map of Capebondé village (Scale 1:50000) (see Appendix 5 for bigger map)**

The map of Capebondé village (Fig 11) depicting sacred forests (trees in dark green), fields (bushes in light green), cashew plantations (cashews in red) and areas where various animals are usually observed. This visual representation of the village and its surrounding environs corroborates interview and focus group data on RHTs surrounding sacred forests (taboo on cutting of trees and hunting of game). It also shows that most of the sacred forests in the area are sources of water, some perennial while some others are seasonal. Animal observations around sacred forests are also greater than in the surrounding area when compared to the map of Beli (Fig 12). Whether there is a correlation between the taboo on hunting and animal abundances around and within sacred forests remains to be investigated. Interviewees also explicitly mentioned the gradual expansion of cashew plantations in the area (Especially along river banks and streams).

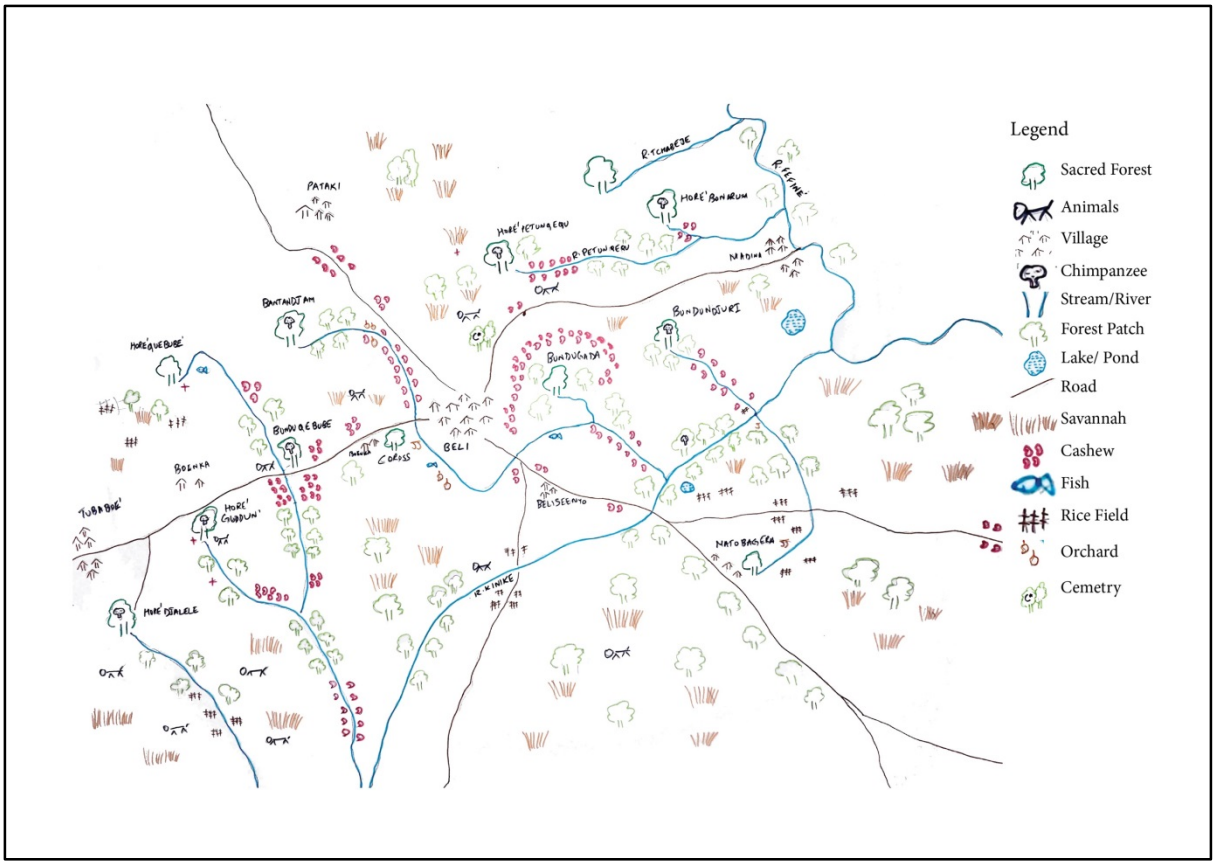



**Fig 12 – Map of Beli village (scale 1:50000) (See Appendix 5 for bigger map)**

The map (Fig 12) of Beli village depicting key features of the surrounding landscape including sacred forests (dark green trees), savannah (long grass in orange), gallery forests (trees in light green), swidden fields (black crosses) and cashew plantations (red). Other depictions include animal observations by locals (stick figures in black), streams and rivers (in light blue) fruit orchards (fruit symbols in orange and yellow) and fishing spots (stick figure in blue). Beli being a bigger village with a population three times greater than that of Capebondé has a higher proportion of land use surrounding the village. Some of the key differences between the two maps are listed in the Table below. It must be noted that the stipulated differences are based on interview data and as such are the opinions of respondents and must be treated as such.

**Table 8 –** Similarities and differences observed in participatory maps of study sites. Plausible reasons for the differences as stated by respondents are given.

| Land use feature | Beli | Capebondé | Similar(S) /Different(D) | Plausible reasons (based on interview data) |
|---|---|---|---|---|
| **Sacred forests** | 13 | 20 | D | Proximity to other villages, greater area of 'Bush' |
| **Swidden fields** | >Capebondé | <Beli | D | Bigger population in Beli leading to more intensive land use, higher rate of immigration in Beli |
| **Cashew plantations** | >Capebondé | <Beli | D | Population bigger in Beli, better connectivity to local towns for transporting cashew |
| **Animal observations (other than Chimpanzees)** | Further away from human habitation | Closer to human habitation | D | Hunting present in both places. Higher hunting intensity around Beli owing to larger population and more fields |
| **Chimpanzee sightings** | - | - | S | Generally sighted in and around sacred forests but may sometimes be seen in plantations (cashew, fruit) |

| | | | | |
|---|---|---|---|---|
| **Proximity to other settlements** | Several villages in the neighborhood | Last village before the frontier with Guinea Conakry | D | Capebondé is surrounded by more bush and is relatively isolated in comparison to Beli |
| **Pastoralists** | - | - | S | Both places have nomadic pastoralists in the area |
| **Presence of undocumented sacred forests** | ~2 | ~5 | D | The map indicates that Capebondé has more possible locations for sacred forests than Beli. Interview data supports the idea. |

# Discussion

## Resource and habitat taboos (RHTs)

Colding and Folke, 2001, describe a 'method' taboo as a restriction in the type of method used to extract the resource. While this usually implies a restriction on the technique and tools used to capture or extract a resource, the ecological management implication is to limit the quantity of resources extracted. Similarly, it could be said that ceremonies have the same implication for resource extraction as it dictates the method of resource withdrawal and thereby ensures that only a limited quantity is removed.

### Conceptual framework

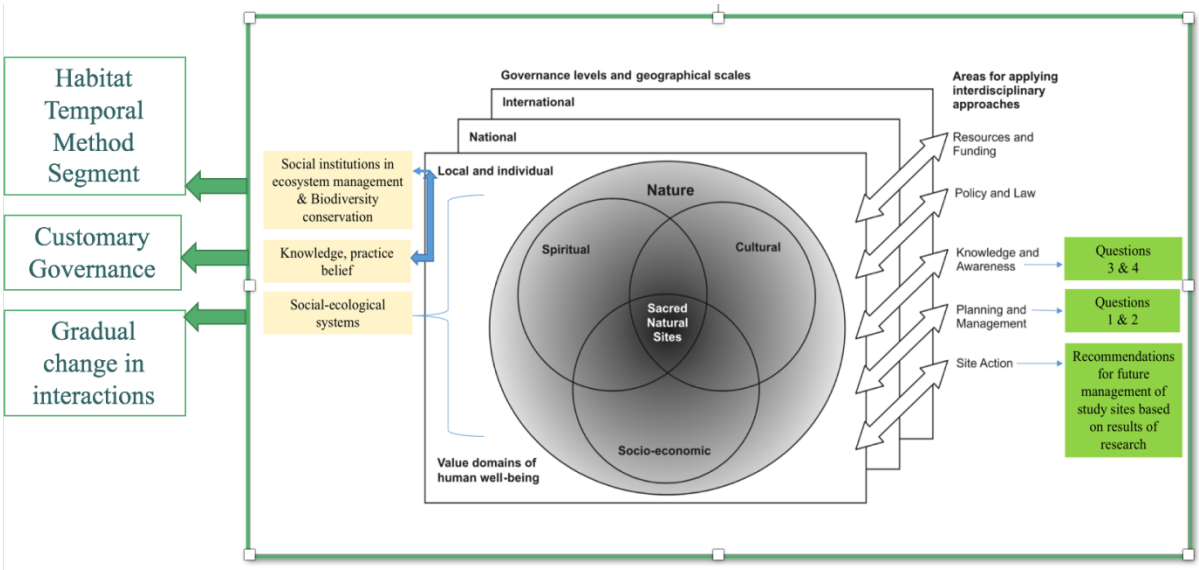



**Fig 13–** Results of the study (left of image) in context of the conceptual framework. Types of RHTs & their role in customary governance viewed as a social institution within the knowledge, Practice, belief complex (Berkes, 1999; 2000). The gradual change in interactions within the social ecological system (Ostrom, 2000) at the local landscape level.

RHTs can act as a social institution playing a role in ecosystem management and biodiversity conservation as proposed by (Colding, Folkes and Berkes, 2003). When examined in this context, method taboos and temporal taboos allow for a conservation-exploitation strategy. However, it is also possible that there is no intentional attempt at conservation and that it is only incidental. Using the same framework, it can also be stated that the habitat taboos that protect sacred forests can act in a capacity that ensures the recovery of systems affected by natural or manmade disturbances such as fires; a common feature in the Boé (Personal observation).

Systems that incorporate traditional knowledge in management have been defined as knowledge, practice, belief complexes (Berkes, 1999; Minnis & Elisens 2000). Within this hierarchy, narratives and ceremonies act as methods for cultural internalization which in turn affect the world view of the community (Berkes, 1999). The persistence of narratives in the study area is a good sign while the reduction in ceremonies is not. Without cultural internalization through ceremonies and narratives, knowledge transmission from one generation to the next is hampered. Consequently, world views become subject to change and this in turn could have detrimental consequences, given that the people in the study area rely on local knowledge to produce livelihoods from their environment (Berkes et al, 2000).

## Governance and social-ecological system

The people of Beli and Capebondé depend on the natural resources available to them in order to sustain livelihoods including timber for fuel and construction, NTFPs for medicine, food as well as for ceremonial purposes (for a detailed list of species, refer to the companion study by Wabeke, 2017). Using the framework proposed by (Ostrom, 1990), the sacred forests of Beli and Capebondé can be labelled as resource units within the larger resource system of the Boé. **The RHT based customary governance system controls how these resources are exploited**. The resulting interactions within the social-ecological system can therefore be complex and dynamic, dictating several possible outcomes (Fig 14). In order to test such a system for robustness, it would be prudent to first determine what the desired outcomes should be. In the case of the Boé, this would be the prerogative of important stakeholders responsible for the welfare of its inhabitants. One such outcome could be stated as **'the continued use of resources within the system without disruptions that push the system beyond its adaptive capabilities that can be detrimental to the desired outcome'**.

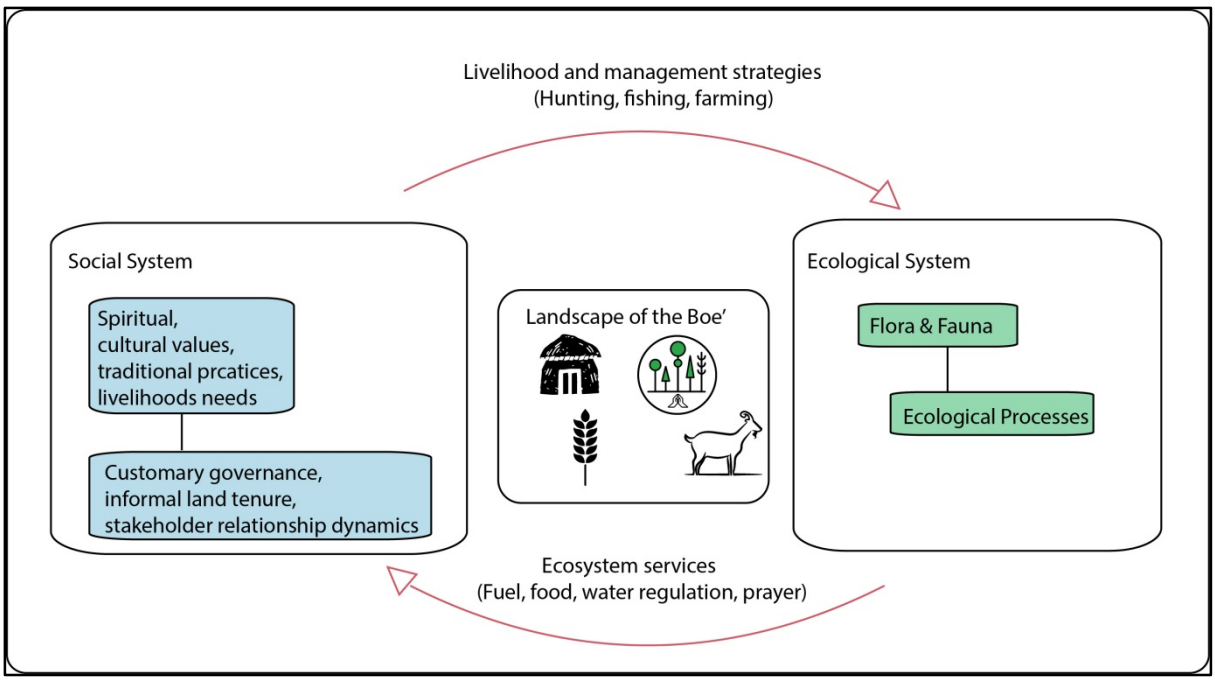



**Fig 14 –** The interactions between the ecological system (in green) & the social system (in blue) through livelihood and management strategies and ecosystem services within the social-ecological system of the Boé.

In a system with many moving parts, instability in one part can have a significant effect on the other - the governance system of the sacred forests in the Boé is an important part of the social-ecological system. Studies have shown that sacred forests provide important ecosystem services such as preserving species diversity by providing habitats for forest dwelling species in an otherwise open landscape (Bhagwat and Rutte, 2006); supporting services including sources of water and recharging aquifers downstream (Salles-Reese, 1997); provisioning services that include species used in traditional medicine (Anderson et al, 2005; Wabeke, 2017) as well as cultural services that are significant to communities that maintain them (IUCN, 2008; Verchuuren, 2010). The robustness of the RHT based governance system in the study area could be crucial in determining the adaptability of the social-ecological system in the Boé. In examining sacred forest governance from an institutional perspective, we can evaluate the strengths and weaknesses of sacred sites as community based conservation sites. A study by (Rutte, 2011) showed that sacred sites in most cases act as common pool resources. The same study evaluated governance and management arrangements of sacred sites in light of some design principles (DP) that are associated with long-enduring common pool resources (Poteete et al, 2010). The following (Table 9) is a set of criteria to assess institutions that manage sacred sites proposed by (Rutte, 2011).

Criteria to assess institutions that manage sacred natural sites. The list in not comprehensive and aims to serve as an initial step to develop valid and practically feasible evaluation criteria.

| | Ecological criteria | Social criteria | Spiritual/cultural criteria |
|---|---|---|---|
| Success | Low rate of human disturbance | Effective rules | Powerful deity/spirit |
| | High percentage of vegetation cover | Equitable rules | Regular ceremonies |
| | High biodiversity compared to sample sites in same habitat | Old age (long-term survival) | |
| | Viable populations of selected species (e.g. threatened, endangered species) | Adaptive capacity to changes | |
| | Maintaining livelihood resources for local people (e.g. medicinal plants, firewood) | Few conflicts | |
| Failure | High rate of human disturbance | Ineffective rules | Neglect of site (e.g. stopped ceremonies) |
| | Low percentage of vegetation cover | Inequitable rules | |
| | Low biodiversity compared to sample sites in same habitat | Many conflicts | |
| | Overexploitation of livelihood resources | | |

**Table 9 –** Sacred sites in the study area meet the social & spiritual/cultural criteria for successful management. Changes in current practices such as a reduction in ceremonies can eventually lead to the neglect of sites - adapted from (Rutte, 2011)

The results from this study indicate that the customary governance system in Beli and Capebondé correspond to the social and spiritual criteria stated for successful management of sacred sites. However, it must be noted that regular ceremonies are currently in decline in both cases and must be considered as an important indicator that can influence the status of sacred forests in the study area.

## Undocumented sacred sites in the study area

It would be safe to estimate that there are at least a few more sacred sites in both of the villages, that were not recorded during data collection, owing to apprehensions of some people in the two villages (see limitations in methods section). Discussions with the first wave of interviewees at the start of fieldwork revealed that some owners/caretakers of sacred sites in both villages were apprehensive about revealing information on sacred sites in the area. Additionally, they were also skeptical about the intent of the study and were suspected that there was a hidden agenda. Building trust by discussing the research and participating in daily village life (participant observation) proved extremely important and resulted in the addition of seven new sites to the initial list in the village of Capebondé and one new site to the village of Beli, by the end of data collection. Overall, Beli has fewer sites in comparison to Capebondé. When questioned about this, interviewees attributed the the close proximity of Beli to other villages in comparison to the relative isolation of Capebondé. Potential locations of sacred sites were revealed during the mapping activity and warrant further exploration.

## Typology of sacred sites

Research on sacred sites in other parts of the world reveal varying typologies based on the specific uses of sacred sites, local traditions and belief systems (Verschuuren, 2010). This study found that common link between both study sites was the belief in the presence of spirits. Sites were used mainly for water, NTFPs, medicine, ceremonies and prayer. The burial ground in the respective study sites could not be discussed as it was considered too sensitive a topic. In both villages, the cemeteries were located on the edge of the village. Initially, the burial site in Capebondé was chanced upon while walking through the area. The presence of large trees and a relatively undisturbed leaf litter bed prompted questions to the translator regarding the location. It was then that the existence of the burial site was revealed along with the suggestion that the topic be excluded from any further discussion (the research coordinator later confirmed that this was the right course of action to have taken based on her own experience).

## Narratives

In many cases, specific stories regarding the origins of sacred sites were either not known or had run through many variations over the many decades of their existence. As explained in the results, Coding narratives using a thematic approach helped in understanding origin stories better and to cover all the inherent variations found while documenting them. Storytelling is a vital part of traditional knowledge systems and is crucial to the continued practice of customs and traditions, especially in societies with no written history.

Ceremonies are a common feature in relation to sacred sites (Dafni, 2007; Verschuuren, 2010) and have been documented in various parts of the world (Verschuuren, 2010). It is uncommon for an outsider to be privy to the details of these closely guarded practices (inside knowledge), however, some general information was made available to outsiders upon questioning (outside knowledge). Ceremonies carried out in the sacred forests of the two study sites are also closely guarded secrets, even within the community. Previous attempts to gather details of these ceremonies by researchers had made the locals skeptical about the intentions of this study. It took several weeks to earn the trust of the villagers and in assuring them that this study did not require detailed information pertaining to specific ceremonies. This greatly helped to garner their participation in the study. All of the respondents

interviewed agreed that the number of ceremonies performed in sacred sites has been declining. Reasons attributed to this change as revealed by interviewees were:

- Population growth and the associated increase in expenditure related to procuring sacrificial animals (Beli & Capebondé)
- Organizational issues (Beli)
- Loss of traditional knowledge regarding ceremonies due to the death of elders (Beli)
- Lack of interest in continuing traditions by the current generation (Beli)

The reasons mentioned by respondents from both villages correspond with findings in other studies (Rutte, 2011; Chandrakanth et al., 2004; Chouin, 2002; Juhé-Beaulaton and Roussel, 2003) and point towards a change in sets of values where spiritual values compete with ecological values, economical values or both. 'Kids these days would rather spend money on mobile phones and motorbikes' and 'the younger generation don't care about the old ways' was a common response by the elders that were interviewed in both villages, when asked about the change in practice. Modernization can have a conflict potential with regards to values associated with sacred sites (Rutte, 2011). Between the two villages in this study, Beli can be considered as being relatively developed when compared to Capebondé in terms of its connectivity to larger townships and to a cellular network, facilities including a hospital, a school and a high rate of rural-urban migration. Data from this study reveal that there is a higher degree of perceived change in values due to modernization in Beli than in Capebondé as mentioned above. However, the change in current practices are similar in both cases. As a platform for knowledge transmission, cultural internalization and validation, ceremonies are crucial to the continued adherence to RHTs and are an important criterion for the evaluation of institutions that manage sacred sites.

## Drivers of change

As stated by Sheridan & Nyamweru (2008), traditional governance arrangements are not fixed entities and are subject to cultural and socio-economic influences. A literature review by (Rutte, 2011) attribute the following four underlying conflicts and processes that could have detrimental effects to the conservation of sacred sites namely- competition over natural resources, modernization versus tradition, spiritual versus ecological values and changing spiritual values. While this study does not intend to establish causality, it would be prudent to explore possible reasons for this phenomenon using research from other cases. (Pretty et al, 2009) examine possible threats and their consequences for biological and cultural diversity.

The data collected in this study point towards some possible drivers of change.

In the case of Beli, rural-urban migrations could be a factor due to its connections with towns and cities outside the Boé. Many of the young men interviewed had travelled to the city to either study or work. Some respondents were keen on coming back to their villages while others wanted to move to urban areas. Beli also has a floating population of people as well as settlers that come in from neighboring countries such as Guinea Conakry. Capebondé on the other hand is more isolated and does not have easy access to nearby towns.

The only hospital in the Boé is located in Beli. Respondents reported that people in the Boé use a combination of western and traditional medicines. The local 'medicine man' stated in his interview that people were beginning to rely more on western medicine, especially in Beli as it has a hospital providing access to western medicine. Modernization of healthcare can reduce pressure on wild species but in the long run can lead to the species being devalued or lost – through local extinctions or through the loss of local ecological knowledge (Pretty et al, 2009). Aspirations for consumer lifestyles could also be a factor as indicated by the trend towards economic incentives such as cashew plantations (Fig 5) replacing subsistence incentives such as traditional agriculture. It can be said that Capebondé is exposed to these threats to a lesser degree due to its relative isolation which offers more insulation to change.

## Islam and animism in the Boé

The process of animistic peoples being culturally assimilated into mainstream religions is a common phenomenon globally (Rutte, 2011). Sanskritisation, Christianization and Islamization are examples of processes that have resulted in a change of spiritual values globally. However, this process is not uniform and there are cases where people continue to practice animistic traditions while being assimilated into formal religions (Rutte, 2011). Respondents interviewed as part of this research including the Imams of both villages saw no conflict between Islam and traditional practices. While there are examples of religious assimilation in other parts of Guinea Bissau (IBAP, pers.com), animism and Islam coexist harmoniously in the Boé, at least for the time being.

### Heterogeneity in use of and access to RHTs

Results from this study indicate that there are differences in the applicability of RHTs between stakeholder categories (Table 7). Key players such as members of founding families, caretakers, owners and their heirs can access sites despite temporal taboos such as not entering sacred sites on specific days of the week. Another example would be the extraction

of resources such as NTFPs and under special circumstances extract timber, despite habitat and method taboos regarding felling of trees and performing ceremonies prior to NTFP extraction. However, this is provided they have a valid reason such as the need to construct a house. (Rutte, 2011) attempted to classify sacred sites using economic theory based on rivalry for goods. Under this scheme, the study states that 'Sacred natural sites where the underlying beliefs encompass the natural environment can be either private goods or common-pool resources' as opposed to 'Sacred natural sites where the spiritual beliefs refer to only a spiritual being are club goods or public goods' (Rutte, 2011). Considering that the spiritual beliefs surrounding sacred sites in the study area are connected to the place and its spiritual entity, it can be said that they fall under the private goods or common-pool resource category. The key distinction made by (Rutte, 2011) between these two rivalrous categories is in the ease of exclusion. Both private and community sites in the study area are under taboo based governance regimes. As such the 'rules in use' dictate that key players such as the owners, heirs and founding families share a special connection with the sacred site and its associated 'djinna' or spirit. This special relationship allows them to enter sites and in some cases extract resources at their discretion, under special circumstances (none of the respondents could recollect any such instances during their lifetimes). As one respondent replied when questioned about this exception to the norm "they are people who know things about the spirits – what makes them happy and what does not". Additionally, belief in spiritual sanctions for transgressions and fear of angering the spirit present in a site ensure that these privileges that are considered as blessings are not taken lightly. Segment taboos (Table 7) prevented pregnant women from entering sites and collecting NTFPs. People considered outsiders (IBAP, NGO) were expected seek permission before entering a site but were not considered to be under the same governance regime as the community (see recommendations).

## Actor linkage matrices

The term linkage is used here at a conceptual level to imply a good working relationship with effective communication among important stakeholders such as the key players (members of the founding families, owners, chiefs etc.), in order to sustain good governance of sacred sites. The key players vary between the two study sites (Table 4). The Actor Linkage Matrices (Tables 5 & 6) reveal some important differences, notably between the key players of the two villages. In the village of Beli, interviews revealed that the founding families,

owners and their heirs did not share a strong relationship with the chief of the village. When asked about causes, one respondent replied that the Chief was not powerful or that he was scared to do the right thing (referring to conducting ceremonies and bringing people together). Another story that was narrated multiple times during interviews was that the chief was scared to enter the sacred community forest in Beli as he was afraid the spirit there would kill him for not having continued his father's contract. Regardless of the exact reasons, there were differences in opinion that created some discord among the key players in Beli. This could possibly be one of the reasons that organizational difficulties were perceived as the main reason for a reduction in ceremonies in Beli. In contrast, The ALM for Capebondé (Table 6) show strong relationships between all key players. Key players here include village elders and purveyors of traditional medicine. Interview data revealed good communication between key players and subjects. Few conflicts and mechanisms to resolve conflicts are important criteria for successful management of sacred sites (Table 9). From a management intervention perspective, maintaining healthy relationships between key players and strengthening existing bonds between key players if required would be beneficial for sound management of sacred sites.

## A review of Chimbo's policy and practice in light of the IUCN principles and guidelines for protected area managers

The IUCN suggests six principles and 44 guidelines for managers of sacred sites within national parks (Appendix 2). While none of the sacred sites investigated in this particular study fall under the proposed national park, several other sacred sites in the Boé do. However, the guidelines can be beneficial as a general framework for organizations, NGOs and individuals working towards sacred site conservation in the area. It would be especially beneficial to NGO Chimbo as the organization currently works with IBAP to aid conservation effort in the area. A review of the current management plan (Table 10) of NGO Chimbo for the conservation of sacred sites in light of the framework is included in the review.

**Table 10 – showing current policy & practice of NGO Chimbo in light of IUCN framework for sacred sites in protected area**.

| **Prinicples & associated guidelines (Appendix 2)** | **Current policy of NGO Chimbo** | **Current practices in the Boé** |
|---|---|---|
| **1. Recognize sacred natural sites already located in protected areas** | To document and protect sacred sites within & outside national parks.<br><br>To collaborate with IBAP in assuring recognition of sites within park boundaries | Documenting the presence of sacred sites in villages across the Boé underway currently.<br><br>The NGO is also working with IBAP to share data on various sites in the area.<br><br>CBD program currently incorporates natural & cultural values. Initiated policy to formalize recognition of sacred sites & to include traditional governance arrangements such as custodians in management of sites.<br><br>Initiated workshops for key stakeholders to disseminate information on sacred forest conservation |
| **2. Integrate sacred natural sites located in protected areas into planning processes and management** | Use social-ecological approach in conservation plan.<br><br>Act as link for information between traditional custodians and government | Currently working with Govt agencies and local stakeholders using participatory approaches (workshops, discussions) |

| | | |
|---|---|---|
| **programs** | authorities (IBAP, DGFF) | |
| **3. Promote stakeholder consent, participation, inclusion and collaboration** | To identify and include sacred sites and their associated stakeholders on a voluntary basis.<br><br>To ascertain prior consent before sharing information with Govt agencies.<br><br>To include key stakeholders and marginalized parties in the decision making process | Voluntary documentation underway.<br><br>Workshops organized to disseminate knowledge on potential formalization under national law.<br><br>Further action based on prior consent and discussion with stakeholders |
| **4. Encourage improved knowledge and understanding of sacred natural sites** | To document cultural/natural histories of sacred sites specific to villages.<br><br>To disseminate knowledge to local populations | Current COMBAC project includes documentation of oral histories of sacred sites including mythologies and narratives.<br><br>Cultural histories broadcasted on local radio station by local staff to encourage cultural renewal. Workshop on Islam & conservation conducted to inform Imams on global trends in religion and conservation.<br><br>Current research includes using multidisciplinary approaches and integrated research on sacred forests. Emphasis on traditional |

| | | |
|---|---|---|
| | | knowledge for conservation. |
| **5. Protect sacred natural sites while providing appropriate management access and use** | To aid govt agencies in creating management plan for sites under protected areas based on participatory approach with local stakeholders.<br><br>To promote sustainable, well managed tourism to benefit local economy while keeping visitor pressure to a minimum.<br><br>To protect sites from disturbances such as fires and developmental pressures.<br><br>To ensure continued access and use by local stakeholders | Protocol for researchers/tourists entering sacred sites being developed, based on prior permission from custodians & following local traditions & customs.<br><br>Decision making powers regarding sacred site use and management with traditional custodians<br><br>Management plan for safety of sites against fires in place involving voluntary Village vigilance committees.<br><br>Sites being inventoried for fauna & flora as well as to check for threats such as pollution & climate change<br><br>Acquiring funding from international agencies/govts/individuals for sacred site conservation using community conservation approach. Efforts to aid livelihoods (rice banks, teacher training) |

| | | |
|---|---|---|
| **6. Respect the rights of sacred natural site custodians with an appropriate framework of national policy** | To understand traditional management, advocate for legal policy that protects sites as well as custodians' rights within national frameworks.<br><br>To ensure the continuation of tenure rights of custodians under national law.<br><br>To use rights based approach in management | Research underway to understand institutional arrangements (including this report)<br><br>Review of national forest law by legal team to ensure rights based approach in management<br><br>Informing key stakeholders through workshops about their rights to customary tenure under national law |

The current policy and practices of Chimbo are in general, in accordance with the framework of the IUCN. However, it is recommended that special attention be given to policy decisions and practices that involve formalization of sacred sites as this may lead to potential conflicts among stakeholders and may dilute traditional land rights (Ingram, 2014). It would also be useful to examine how formalization affects local perception of sacred sites. Further recommendations are given in the next section (see conclusions and recommendations).

# Conclusion and recommendations

As a largely explorative body of work, the results of this research contributes towards the understanding of four aspects of sacred forest governance and management in the Boé. First, it sheds light on customary governance arrangements and examines how taboos function as an integral part of sacred forest management by regulating access and use of natural resources. Coding RHTs revealed four categories of taboos that help in understanding their role in sustainable resource extraction. It looks at the monitoring and enforcement mechanisms which rely on a shared belief system – one where human behavior is watched over by spirits that inhabit sacred forests and where any transgressions of taboos are punished with supernatural sanctions. Origin stories related to various sacred sites in the two villages are documented and coded thematically to form broader narratives to understand their implications in forming and following beliefs. The three broad themes behind these stories have moral underpinnings and are considered to be ancient wisdom and are part of the cultural heritage of the people of the Boé.

Second, it documents sacred sites and their uses for both villages and formulates a typology based on the access and user rights of the associated stakeholders, making the distinction between community sites cared for by founding families, village chiefs and caretakers and private sites that are controlled by owners with informal land rights. By categorizing and ranking various stakeholders into groups based on their influence and interest, it differentiates between key players, context setters, subjects and crowd based on their relevance to sacred forest governance and management. Additionally, it examines the relationships between various stakeholder groups for both villages, pointing towards their strengths and weaknesses. Through comparison and contrast, it identifies some differences in the key players and subjects between the two villages. Similarly, with respect to RHTs it examines the heterogeneity between stakeholders and finds that key players such as the founding families, owners and caretakers have special access and user rights in both villages.

Third, it recognizes the role of narratives along with that of ceremonies as important mechanisms for knowledge transmission from one generation to the next. It points towards differences in current practices such as reduction in ceremonies, perceived differences in lifestyles and mindsets, shifts towards the use of western medicine and the effect of rural-urban migrations. Results are compared with those of other studies to stipulate on possible

drivers of change such as modernization, changing values and the role of socio-economic factors in both Beli and Capebondé.

While it can be stated that Islam is the primary religion in the Boé, animistic practices and beliefs continue to dominate socio-cultural values. The integration of animism and Islam in the Boé is unique as traditional systems elsewhere are diluted and eventually replaced by the mainstream faith. Sacred forests in the Boé continue to hold value as places of special importance, rising above the lives of men – into the domain of the supernatural. This sense of place that has evolved over centuries is an integral part of the history of the people of the region. Current management practices in the Boé are reflective of a conservation policy that prioritizes a social-ecological approach. This is indeed a step in the right direction as there are examples of misguided conservation policies where development is considered anti-conservation.

I recommend that further conservation efforts in the area continue to adopt a policy that takes into account livelihood influences while retaining core values and attributes that fostered the creation of sacred spaces in the region. Strengthening existing ties between people and the sacred forests in the Boé through cultural revitalization, and knowledge dissemination (to all stakeholders) about the ecological importance of sacred forests is key to the continued conservation of sacred forests. Discussions with influential stakeholders about the changes in current practices revealed through with study along with solutions to the perceived reasons would be a good starting point. Assisting the local population in organizing ceremonies financially (Capebondé) and logistically (Beli) would help in providing momentum to cultural revitalization. Continuing research on the socio-ecological significance of the sacred forests in the Boé and back reporting results to influential stakeholders would help in knowledge dissemination.

*'The white man has a contract with the devil'*

(village elder, Capebondé – Nov, 2016)

The quote above was mentioned a few times during interviews when discussing the anger of spirits towards people that did not adhere to local taboos (or in this case the lack of anger towards foreigners) with regards to sacred forests. It is recommended that developing a sound protocol for researchers and tourists entering sacred sites to ensure accordance with local

beliefs and traditions is necessary to avoid desecrating and de-sanctifying sites (Rutte, 2011). The continued use of workshops in the villages of the Boé to disseminate knowledge on national policies and customary rights using a participatory approach is recommended. Starting with influential stakeholders first and conveying the need to create awareness among other stakeholder groups to them, supporting any ideas they might have and providing the necessary information when required would help achieve long-term conservation goals in the region.

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# Appendix

## Appendix 1

SACRED SITE IDENTIFICATION AND CHARACTERISATION FORM

*Author(s) of this form:*

*Date:*

***SITE***

| | |
|---|---|
| Locality/village territory | |
| Sacred Site (Pular) | |
| GPS coordinates (UTM) | |
| Field team | |

***CULTURAL CHARACTERIZATION***

***ECOLOGICAL CHARACTERIZATION***

| | |
|---|---|
| *Which animals are present at the site?* | |
| Which animal species disappeared? | |
| Is water present all year round? | |
| Is there any fire management? | |
| Who is responsible for fire management? | It is almost always the owner |

***FIELD OBSERVATIONS***

| | |
|---|---|
| Vegetation type | |
| Position in the landscape | |

| | |
|---|---|
| Qualitative description | |
| Tree species observed (Pular) | |
| Number of big trees | It is not possible to give any reliable estimation on that during the very short field visits. It should therefore better be left to a later stage. |
| Soils | |
| Presence of wild animals - signs & sightings | |
| Observed threats | |

***OTHERS***

| | |
|---|---|
| Presence of trap cameras | |
| Others | |

# Appendix 2

## 4.1 Principles

In their current form, the guidelines are relatively detailed and prescriptive. The 44 guidance points are grouped into six princi- ples. In terms of flow, they generally develop from the specific and local to the more general and national level. In relation to some of the guidelines at the regional or national scale, it is recommended that individual protected area managers advocate for appropriate, relevant policy changes that will improve management of sacred natural sites locally, nationally and globally.

**Principle 1 Principle 2**

**Principle 3 Principle 4 Principle 5 Principle 6**

Recognise sacred natural sites already located in protected areas.

Integrate sacred natural sites located in protected areas into planning processes and management programmes.

Promote stakeholder consent, participation, inclusion and collaboration. Encourage improved knowledge and understanding of sacred natural sites. Protect sacred natural sites while providing appropriate management access and use.

Respect the rights of sacred natural site custodians within an appropriate framework of national policy.

## 4.2 Guidelines

**Principle 1 Guideline 1.1**

**Guideline 1.2**

**Recognise sacred natural sites already located in protected areas.**
**Natural and cultural values:** Recognise that sacred natural sites are of vital importance to the

safeguarding of natural and cultural values for current and future generations.

**Ecosystem services and human well-being:** Recognise that sacred natural sites have great significance for the spiritual well-being of many people and that cultural and spiritual inspiration are part of the ecosystem services that nature provides.

[1]

UNESCO, 2006, pp. 326–331.

**Guideline 1.3**

**Guideline 1.4**

**Guideline 1.5**

**Principle 2 Guideline 2.1 Guideline 2.2**

**Guideline 2.3**

**Guideline 2.4**

**Guideline 2.5**

**Guideline 2.6**

**Guideline 2.7**

**Guideline 2.8**

**Guideline 2.9**

**Recognition:** Initiate policies that formally recognise the existence of sacred natural sites within or near government or private protected areas and affirm the rights of traditional custo- dians to access and play an appropriate, ideally key, role in managing sacred natural sites now located within formal protected areas.

**Consultation:** Include the appropriate traditional cultural custodians, practitioners and leaders in all discussions and seek their consent regarding the recognition and management of sacred natural sites within or near protected areas.

**Holistic models:** Recognise that sacred natural sites integrate social, cultural, environmental and economic values into holistic management models that are part of the tangible and intan- gible heritage of humankind.

### Integrate sacred natural sites located in protected areas into planning processes and management programmes.

**Park planning:** Initiate planning processes to revise management plans to include the management of sacred natural sites located inside protected area boundaries.

**Identify sacred natural sites:** Where secrecy is not an issue and in close collaboration and respecting the rights of traditional custodians, identify the location, nature, use and governance arrangements of sacred sites within and around protected areas as part of a participatory manage- ment planning process.

**Respect confidentiality:** Ensure that pressure is not exerted on custodians to reveal the loca- tion or other information about sacred natural sites and, whenever requested, establish mecha- nisms to safeguard confidential information shared with protected area agencies.

**Demarcate or conceal:** Where appropriate and to enhance protection, either clearly demar- cate specific sacred natural sites, or alternatively, to respect the need for secrecy, locate sacred natural sites within larger strictly protected zones so exact locations remain confidential.

**Zoning:** Establish support, buffer and transition zones around and near sacred sites, espe- cially those that are vulnerable to adverse external impacts.

**Linkages and restoration:** Create ecological corridors between sacred natural sites and other suitable areas of similar ecology for connectivity, and in degraded landscapes consider restoring sacred natural sites as an important initial step to reviving a wider area.

**Ecosystem approach**: Adopt the ecosystem approach as the key strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way and also includes cultural and spiritual values.

**Landscape approach**: Take a landscape approach to sacred natural sites, recognising their role in wider cultural landscapes, protected area systems, ecological corridors and other land uses.

**Support development planning recognition:** Development planning authorities are the main planners of land use in areas outside many protected area systems. Seek their and other stake-holders' support for the recognition of sacred natural sites in the wider countryside.

**Guideline 2.10 Protected area categories and governance**: Recognise that sacred natural sites exist in all of the IUCN protected area categories and governance types, and that those that fall outside formal protected area systems can be recognised and supported through different legal and



**Guideline 2.11**

**Principle 3 Guideline 3.1**

**Guideline 3.2**

**Guideline 3.3**

**Guideline 3.4**

**Guideline 3.5**

**Principle 4 Guideline 4.1**

**Guideline 4.2**

**Guideline 4.3**

**Guideline 4.4**

**Guideline 4.5**

traditional mechanisms according to the desires of their custodians, including as community conserved areas when appropriate.

**International dimension:** Recognise that some sacred natural sites, and the cultures that hold them sacred, cross international boundaries and that some may be within or may surround existing or potential transboundary peace parks.

**Promote stakeholder consent, participation, inclusion and collaboration.**

**Prior consent**: Ascertain the free, prior and informed consent of appropriate custodians before including sacred natural sites within new formal protected areas and protected area systems and when developing management policies affecting sacred places.

**Voluntary participation:** Ensure that state or other stakeholder involvement in the manage- ment of sacred natural sites is with the consent and voluntary participation of appropriate custodians.

**Inclusion:** Make all efforts to ensure the full inclusion of all relevant custodians and key stake- holders, including marginalized parties, in decision making about sacred natural sites, and carefully define the processes for such decision making, including those related to higher level and national level policies.

**Legitimacy**: Recognise that different individuals and groups have different levels of legitimacy and authority in decision making about sacred natural sites.

**Conflict management:** Where relevant and appropriate, use conflict management, mediation and resolution methods to promote mutual understanding between traditional custodians and more recent occupants, resource users and managers.

### Encourage improved knowledge and understanding of sacred natural sites.

**Multidisciplinary approach:** Promote a multidisciplinary and integrated approach to the management of sacred natural sites calling on, for example, local elders, religious and spiritual leaders, local communities, protected area managers, natural and social scientists, artists, non-governmental organizations, and the private sector.

**Integrated research:** Develop an integrated biological and social research programme that studies biodiversity values, assesses the contribution of sacred natural sites to biodiversity conservation, and understands the social dimension, especially how culturally rooted behav- iour has conserved biodiversity.

**Traditional knowledge:** Consistent with article 8(j) of the Convention on Biological Diversity (CBD), support the respect, preservation, maintenance and use of the traditional knowledge, innovations and practices of indigenous and local communities specifically regarding sacred natural sites.

**Networking:** Facilitate the meeting of, and sharing of information between, traditional custo- dians of sacred natural sites, their supporters, protected area managers and more recent occu- pants and users.

**Communication and public awareness:** Develop supportive communication, education and public awareness programmes and accommodate and integrate different ways of knowing,



**Guideline 4.6**

**Guideline 4.7**

**Guideline 4.8**

**Principle 5** **Guideline 5.1** **Guideline 5.2**

**Guideline 5.3**

**Guideline 5.4**

**Guideline 5.5**

**Guideline 5.6**

**Guideline 5.7**

expression and appreciation in the development of policies and educational materials regarding the protection and management of sacred natural sites.

**Inventories:** Subject to the free, prior and informed consent of custodians, especially of vulner- able sites and consistent with the need for secrecy in specific cases, carry out regional, national and international inventories of sacred natural sites and support the inclusion of relevant infor- mation in the UN World Database on Protected Areas. Develop mechanisms for safeguarding information intended for limited distribution.

**Cultural renewal:** Recognise the role of sacred natural sites in maintaining and revitalizing the tangible and intangible heritage of local cultures, their diverse cultural expressions and the environmental ethics of indigenous, local and mainstream spiritual traditions.

**Intercultural dialogue:** Promote intercultural dialogue through the medium of sacred natural sites in efforts to build mutual understanding, respect, tolerance, reconciliation and peace.

### Protect sacred natural sites while providing appropriate management access and use.

**Access and use:** Develop appropriate policies and practices that respect traditional custodian access and use, where sacred natural sites fall within formal protected areas.

**Visitor pressures:** Understand and manage visitor pressures and develop appropriate poli- cies, rules, codes of conduct, facilities and practices for visitor access to sacred sites, making special provisions for pressures brought about by pilgrimages and other seasonal variations in usage.

**Dialogue and respect:** Encourage ongoing dialogue among the relevant spiritual traditions, community leaders and recreational users to control inappropriate use of sacred natural sites through both protected area regulations and public education programmes that promote respect for diverse cultural values.

**Tourism:** Well managed, responsible tourism provides the potential for economic benefits to indigenous and local communities, but tourism activities must be culturally appropriate, respectful and guided by the value systems of custodian communities. Wherever possible, support tourism enterprises that are owned and operated by indigenous and local communi- ties, provided they have a proven record of environmental and cultural sensitivity.

**Decision-making control:** Strong efforts should be made to ensure that custodians of sacred natural sites retain decision-making control over tourist and other activities within such sites, and that checks and balances are instituted to reduce damaging economic and other pressures from protected area programmes.

**Cultural use:** While ensuring that use is sustainable, do not impose unnecessary controls on the careful harvest or use of culturally significant animals and plants from within sacred natural sites. Base decisions on joint resources assessments and consensus decision making.

**Protection:** Enhance the protection of sacred natural sites by identifying, researching, managing and mitigating overuse, sources of pollution, natural disasters, and the effects of climate change and other socially derived threats, such as vandalism and theft. Develop disaster management plans for unpredictable natural and human caused events.

**Guideline 5.8 Desecrations and re-sanctifying:** Safeguard against the unintended or deliberate desecra- tion of sacred natural sites and promote the recovery, regeneration and re-sanctifying of damaged sites where appropriate.

**Guideline 5.9 Development pressures:** Apply integrated environmental and social impact assessment procedures for developments affecting sacred natural sites and in the case of the land of indig- enous and local communities support the application of the Convention on Biological Diver- sity's Akwé: Kon Guidelines for minimizing the impacts of development actions.

**Guideline 5.10 Financing:** Where appropriate, pay due attention to the suitable financing of sacred natural site management and protection, and develop mechanisms for generating and sharing revenue that take into account considerations of transparency, ethics, equity and sustainability. Recog- nise that in many parts of the world poverty is a cause of the degradation of sacred natural sites.

**Principle 6 Guideline 6.1**

**Guideline 6.2**

**Guideline 6.3**

**Guideline 6.4**

**Guideline 6.5**

**Respect the rights of sacred natural site custodians within an appropriate frame- work of national policy.**

**Institutional analysis:** Understand traditional management institutions and enable and strengthen the continued management of sacred natural sites by these institutions. Make appropriate arrangements for the adoption and management of sacred natural sites that have no current custodians, for example by heritage agencies.

**Legal protection:** Advocate for legal, policy and management changes that reduce human and natural threats to sacred natural sites, especially those not protected within national protected areas and other land planning frameworks.

**Rights-based approach:** Root the management of sacred natural sites in a rights-based approach respecting basic human rights, rights to freedom of religion and worship, and to self- development, self-government and self-determination as appropriate.

**Confirm custodians' rights:** Support the recognition, within the overall national protected area framework, of the rights of custodians to their autonomous control and management of their sacred sites and guard against the imposition of conflicting dominant values.

**Tenure:** Where sacred natural sites have been incorporated within government or private protected areas in ways that have affected the tenure rights of their custodians, explore options for the devolution of such rights and for their long-term tenure security.

## Appendix 3

Example of focus group interview guide

**Place**
Cape Bonde
**Date**

**Interview type**
Focus group

**Interviewer/translator**
Gautham/Balu
**Group type**

**Topic**
Knowledge, awareness, transmission (KAT)
**No. of participants**

**Names**
-
**Comments**

**Guide**:

1. Do you know about any sacred forests in the area? (Modified from do you know how many sacred forests there are in the area?)
2. How did you learn about them?

   -Through a ceremony/walking in the area, stories?

   -From Parents (Father or mother), elders, other kids?
3. Do you go there usually? Men, women, children?

   -If so, for what reason?

   -If not, for what reason?
4. What are the rules around them? Are they the same for all sacred forests?

   -Do you take the rules seriously? If so, why? If not, why?

   -What do you think/feel about these rules?

-Why do you think there are rules?

5. Have any of you had any experiences you remember with these places?
6. Did you hear about anybody who broke the rules?
   -What happened to him/her?
7. Do you think it's important to follow these traditions?
   -Will you tell your kids these stories?

Example of interview guide

**Place**
Cape Bonde
**Date**

**Interview type**
Semi-structured/semi-direct

**Interviewer/translator**
Gautham/Balu
**category type**

**Topic**
Knowledge, awareness, transmission (KAT), perceptions and adherence
**No. of participants**

**Names**

**Comments**
Lively discussion, possible key informant

**Guide**:

1. Do you know about any sacred forests in the area? (Modified from do you know how many sacred forests there are in the area?)
2. How did you learn about them?
   -Through a ceremony/walking in the area, stories?
   -From Parents (Father or mother), elders, other kids?
3. Do you go there usually? Men, women, children?

-If so, for what reason?

-If not, for what reason?

4. What are the rules around them? Are they the same for all sacred forests?

   -Do you take the rules seriously? If so, why? If not, why?

   -What do you think/feel about these rules?

   -Why do you think there are rules?

5. Who has been to the city? how was life there compared to village life?
6. What do you think about the reduction in ceremonies?
7. Do you think it's important to follow these traditions?

   -Will you tell your kids these stories?

8. Do you prefer using traditional medicine?

9. Do they notice any changes?

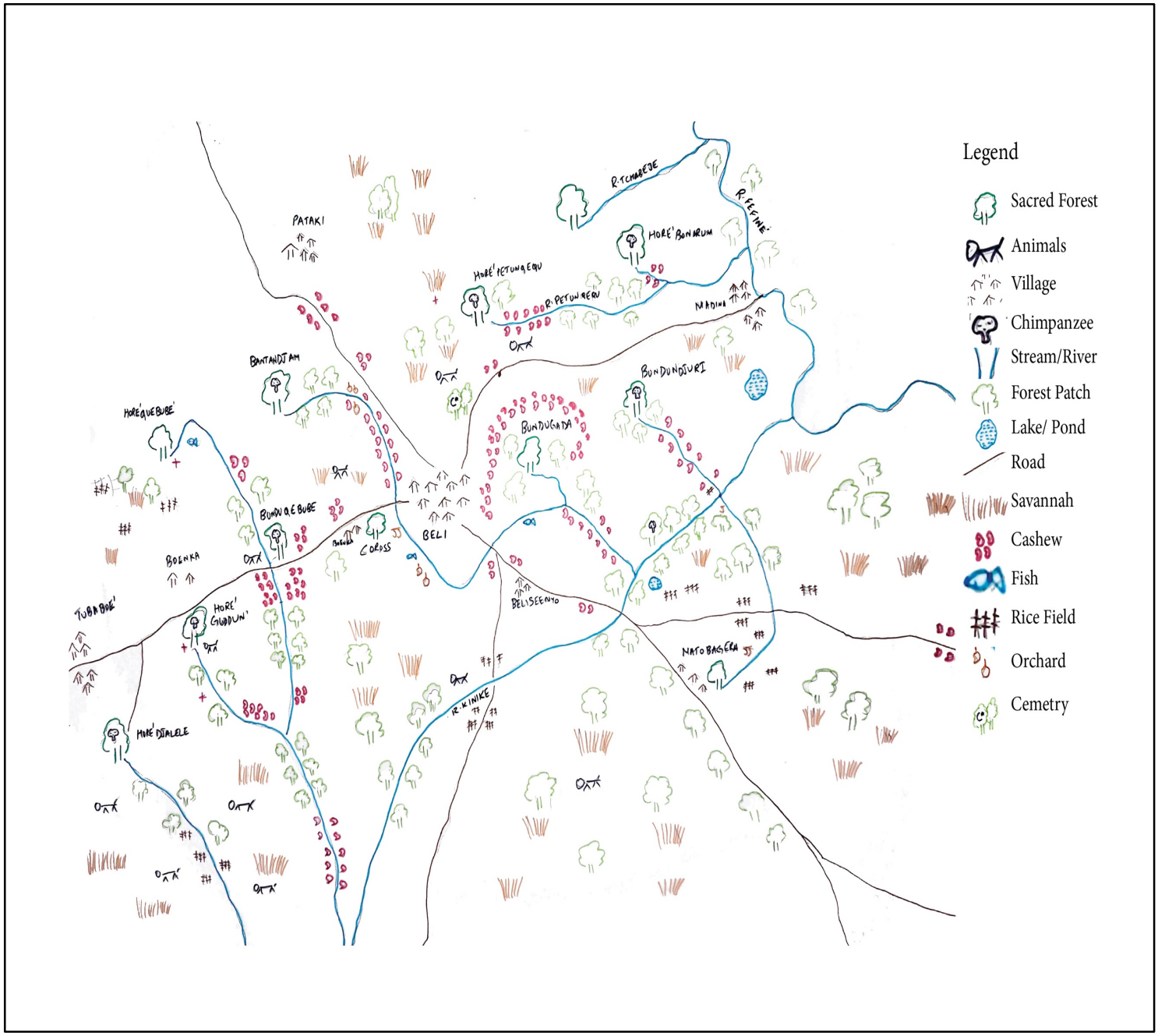
Do you think the forest is important?

## Appendix 4

Topography map of Beli (with GPS coordinates of some sacred sites) – used to create base map

# Appendix 5

## Participatory map – Beli



# Participatory map - Capebonde