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THE CORNERSTONE OF A CONSPIRACY:

THE ROLE OF HUMAN-WILDLIFE PERCEPTIONS IN THE MASS DISBELIEF IN THE EBOLA VIRUS, NORTHERN SIERRA LEONE

Thesis submitted in partial fulfilment of the requirements of Oxford Brookes University for the degree of Doctor of Philosophy

JUNE 2023

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ABSTRACT

I have now seen the country come through two large-scale disease outbreaks, and have been in Sierra Leone at the outset of both. However, the scope of this thesis goes beyond the few years of my experiences there, and presents the country in the context of it's years as a hub for both the export of human beings and wildlife.

Through four trips to Sierra Leone between 2017 and 2020 lasting between 5 weeks and four months, dives into private libraries and historical sources in multiple countries, and analysis of the digital media output around the Ebola epidemic I explore how the role of centuries of external forces in Sierra Leone, as well as the international attitudes of disgust towards Sierra Leonean culture, shaped the response to the 2014 Ebola outbreak. I began this thesis hoping to understand if the Ebola outbreak had shaped rural Sierra Leoneans reliance on 'bushmeat' after hearing how the closing of trade routes had led to reported widespread food insecurity in the country, but my questions quickly began to revolve around the all encompassing idea in Sierra Leone that the Ebola outbreak was fabricated.

In this thesis I explore how sensitisation was both presented to and interpreted by people from a variety of backgrounds. This led me deep into the ethnographically rich world of conspiracy theories, which I attempted to trace back to large-scale missteps and colonial threads that still deeply affect the country today. My ethnographic data collection included 21 focus group interviews, and in-depth individual interviews with 17 people from both rural and urban environments. I also used tools like camera traps and photo flashcards of animals to not only learn more about the wildlife in the north of Sierra Leone, but also to build relationships with community people, and start conversations about specific species.

Through all of this work I was able to see how the validity of the Ebola outbreak was more readily accepted the less official sensitisation a person had been exposed to. I was also able to see repeated examples of how people in urban environments, no matter how far disconnected from the lifestyles, valued the experiences of rural subsistence farms in the country. This was important in seeing how the 'us' versus 'them' narrative around this

epidemic that was developed largely by the international media, was integrated and shaped the responses of, not only all, Sierra Leoneans to the narrative and corresponding sensitisation, but in the way that the government and international aid organisations responded to the epidemic. I argue that an integration of pre-existing cultural beliefs and a recognition of the specific lived experiences of peoples must inform disease communication for it to be effective, because the alternatives are that the sensitisation is at best, not believed, and at worse fuels conspiracy theories and actively creates distrust and disbelief.

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This thesis is dedicated to the memory of Dr. Geza Teleki, who shared my love of Outamba, even if decades apart, and Dr. Erdi, who saved my life. May you both rest in peace, thank you for everything.

FOREWORD

The following thesis in an amalgamation of my own education background, interests, and that of the people who supported me through this process. This work is neither completely a social anthropological study, nor completely biological, as represents the nature of zoonotic disease outbreaks. I felt that the story could not be accurately told without support from both disciplines, which I also think highlights the way that sensitisation programmes for future disease outbreaks should be structured for maximum efficacy.

I would like to thank my wonderful and supportive supervisory team: Professor Vincent Nijman, Dr. Jennifer Diggins, and Dr. Magdalena Svensson for opening my eyes to so many new ways to look at data and experiences, and supporting my interdisciplinary choices in this thesis and helping shape it. I would also like to thank the National Protected Areas Authority of Sierra Leone for their support of my work in Outamba Kilimi National Park, and in particular Alhassan Sillah, Pa Saidu Bah Bangura, Mohammed Mansaray, and Mohammed 'Waterwell', and Ibrahim 'Checkday', without whom this research would not be what it is. I am endlessly grateful to have had your company and expertise for the many miles hiked, cameras placed, and interviews held.

I would like to thank the entirety of Tambakha Chiefdom, in particular Kortor village and Osman Kamara and Morlai Kamara. Thank you for your friendship and continued support of conservation activities in Outamba.

A special thank you must be extended to Heather Teleki for opening her heart and home and sharing Dr. Geza Teleki's documents, journals, and photographs regarding the formation of Outamba Kilimi National Park and the state of wildlife trade in Sierra Leone through the 80s and 90s. Thank you for sharing your stories about the park and wonderful Geza.

Thank you to Chloe, Zoe, and Joe for going on the wild ride that was our 2018 field season, and to Mangui and Blue for making me finally decide that monkeys are pretty cool after all.

My time in Makeni was made possible from the support of Richard Edmond, who believed in what I was doing enough to help me make the Pan Verus Project a reality.

With regards to the Pan Verus Project, the ultimate product of this thesis, there are mountains of people to thank. Thank you to Richard and Pa Kalie Kamara, charity trustees, for believing in my vision of a research and community focused conservation organisation that could be founded on the backs of the wonderful researchers I worked with over the years in Outamba Kilimi National Park. My heart is endlessly lifted by the tireless work Pa Kalie, Mohammed 'Ramadan' Bah, Osman Kamara, Morlai Bangura, Alhassan Sillah, Abu Bakar Sumah, and Two Marley have put in to create a successful conservation project led by community members. I am so proud of all of you.

And finally thank you to my parents who have tolerated their only daughter moving an ocean away to fulfil her childhood dreams. I was able to do that because of you, thank you. Thank you to Karen, who kept me laughing through all of the most difficult days and reminding me to always value my own happiness. And to my friends who kept me sane and supported me along the way: Helen, Chloe, Kim, and Alex. You, and my amazing therapist, Anne, who should get a full page of thanks, helped me make it through some of the toughest and darkest days after my injury mid-way through this whole experience, and you all gave me the support to finish this when I needed it most.

CHAPTER ONE: INTRODUCTION

"The thing is, Sierra Leone is a very, very small country, and it has gone through a lot of struggles. Like, you know, during the intervention, the revolution, the Ebola, mudslide. We have learned a lot through our deaths." — Freetonian Business Owner, 2020

1.1 THE RISE OF ZOONOSES

In the early days of 2020, I was spending my time in Outamba Kilimi National Park in Northern Sierra Leone, reading "Contagious: Cultures, carriers, and the outbreak narrative" by Priscilla Wald (2008) and thinking about how interesting it was to be reading about the relative near-miss of the SARS outbreak in 2013 as a similar narrative was unfolding out of a town in China at that very moment. Like many people, I gave little thought to the coronavirus, a common cold after all, spreading on the other side of the world. However, as the weeks went on, I watched with closer and closer attention, especially as stories of *corona* (so faithfully called in Sierra Leone) began reaching the national park staff and residents of the nearby village.

One morning, as I was walking back up from the river, two young men, Abu Bakar and Osman, arrived on a motorbike outside of my small wooden home. They had come for GPS training to learn how to help monitor crop loss due to wildlife, but as had become the habit, we first shared any news we had of the evolving global situation. This morning Abu Bakar had brought a video for me to watch on his smartphone which had been sent to him via WhatsApp. It was a news clip from somewhere in Australia which depicted a news anchor talking about the supposed role of bats as vector of COVID-19. Osman, having been one of my first interviews in the village in 2018, was well aware of my interest in zoonotic diseases, and so they decided to bring it to me to discuss. I was upfront with them about not knowing much more about COVID than they did, but we were able to use this as a point to discuss bats being asymptomatic when carrying sicknesses like Ebola. While I will discuss the COVID pandemic very little in this thesis overall, I think it is important to highlight the role of international media and the global response to diseases outbreaks, in particular Ebola, and the impact that has on sensitisation and the dissemination of accurate and useful information. And, as these things go, COVID has now become an easy point of reference when discussing disease outbreaks.

The world has changed so drastically since I began writing this thesis in 2017. Language previously only used by epidemiologists, or anthropology PhD candidates, has become

commonplace as the world was faced with a health crisis like never before. Since 2020 we've seen social, political and economic change sweep the planet. As we are now nearing the start of our third year in a global pandemic, the messaging around COVID-19 has shifted somewhat. At the start of the COVID-19 pandemic, the media focused on images of livestock living in urban areas of China and each outlet had their own spin on the markets where people purchased food, and theorised what species of wild animal the virus originated from, with little scientific backing. Global news headlines and every social media newsfeed you can name are no longer filled with racially-charged buzzwords like 'bat soup' or 'wet market'(which could also be called a 'farmers market'), however, the media surrounding the pandemic for the first year is entirely reminiscent of the global response to the West African Ebola outbreak.

> "Outbreak narratives and *the* outbreak narrative have consequences. As they disseminate information, they affect survival rates and contagion routes. They promote or mitigate the stigmatising of individuals, groups, populations, locales (regional and global), behaviours, and lifestyles, and they change economies." (3, Wald 2008)

Using sicknesses to stigmatise groups of people is not new, from the modern 'kung-flu' rhetoric around COVID which led to American-Asian hate crimes in the USA and the hyperbolic blame put on 'bushmeat eating Africans' during the Ebola outbreak, to poor Mary Mallon (Typhoid Mary) in the 1800s. Historian Alan Kraut coined the term "medicalised nativism" to describe how, historically during epidemics in the United States, foreign-born persons were stigmatised as disease carriers whose very presence endangered their hosts (Kraut 1994; 2010). Wald goes on to push the medicalised nativism theory one step further saying that "the disease is associated with dangerous practices and behaviours that allegedly mark intrinsic cultural difference, and it expresses the destructive transformative power of the group" (Wald 2008: 8).

We are a globalised society. With airplanes, high speed trains, and more, connecting people around the world, we are seeing changes to how rapidly diseases can spread across the

globe. With that globalisation comes the further stigmatisation of peoples who 'we' (whoever your chosen royal 'we' includes) see as fundamentally different from ourselves. With the rise of health conspiracy theories, as well as health crises, 'other' groups continue to be blamed and dehumanised through distorted disease narratives. The ways in which notable authors such Laurie Garrett (*The Coming Plague*, 1994) and Jax Preston (*The Hot Zone*, 1994) discuss the source of 'plagues' as being from primitive African landscapes was hungrily devoured by the media and regurgitated in the global disease narrative created for the West African Ebola epidemic. There is *one way* in which these vicious viruses travel: from the dirty forests of the backwards and poverty-stricken Africa-singular and towards the all-important centres of capitalism. When the world responds to a health crisis in West Africa, of a sickness that science never paid much attention to, what other response could be expected other than an attempt to contain and blame?

1.2 THE EBOLA OUTBREAK IN WEST AFRICA

On 28 December 2013 an 18-month-old boy in the small village of Meliandou, Guinea[1] died of an, at the time, unidentified illness after suffering for two days from fever, black stools, and vomiting. Meliandou is a village with only 31 households and is located in the forested Gueckedou District of Guinea (Richards et al. 2015). By mid-January 2014 several members of the young boy's family, as well as health care workers, and traditional healers who treated the members of this family, developed the same symptoms and died rapidly. By the end of January 2014 what had started as the death of one young child had led to the deaths of people in four sub-districts through contact with the sick and the recently deceased. The virus reached Guinea's capital city of Conakry by 1 February 2014 and had still not been identified. By March 2014 the virus had spread to the prefectures of Macenta, Baladou,

[1] Multiple theories of how the child contracted the disease exist, including that he may have been playing in a hollowed tree which was used as a sleeping site for bats, or that he may have handled or consumed bats which had been hunted for food, though exactly how he acquired the disease is unknown (Saéz et al. 2014).

Nzerekore, and Farako in Guinea. On 22 March, the virus was identified as the Zaire species of the Ebola virus, the Zaire species being the most lethal of the five identified species of the virus (Muyembe-Tamfum et al. 2012). The outbreak was officially announced by the World Health Organization (WHO) on 23 March 2014 at which point 49 cases had been reported, a number which jumped to 86 cases by the next day. The 2013-2016 Ebola epidemic in West Africa was by far the worst outbreak of the virus ever recorded (Alexander et al. 2015) It is theorised by the WHO that for every one case reported there are 1.5 unreported cases. The WHO also states that there was a high probability of unreported cases in areas called "shadow zones" where medics were unable to access during the epidemic (WHO 2015b). Between Liberia, Sierra Leone, and Guinea, the three worst affected countries, there were over 28,000 cases and 11,000 deaths when before the 2013-2016 Ebola outbreak in West Africa the last highest number of deaths associated with an Ebola outbreak was 280 deaths which occurred during the August 1979 outbreak in Yambuku, Democratic Republic of the Congo (Alexander et al. 2015).

These numbers are staggering when compared with the number of deaths related to all other known previous Ebola outbreaks. In a chronology of previous outbreaks compiled by the WHO[2], the previous highest number of deaths was from the first known outbreak of the virus in the Democratic Republic of the Congo in 1976 where 280 people died. The five previous outbreaks leading up to the 2014 West African outbreak had death tolls at 29, 4, 17, 1 and 14 respectively, and all occurred in either the DRC or Uganda (WHO 2016b).

The 2013-2016 outbreak is the worst Ebola outbreak ever recorded, and the entire epidemic can be linked back to a 2 year-old boy in the Republic of Guinea. The first case was thought to have been transmitted to him through the consumption of bushmeat (Richards et al. 2015). Despite the origin of the outbreak, zoonotic disease transfer from species like bats and primates had no discernible impact on the transmission of Ebola in Sierra Leone (Wilkinson & Leach 2014; Richards et al. 2015; Mufunda et al. 2016; Bonwitt et al. 2018).

This chapter largely consists of a literature review to understand the contexts which set the scene to better understand Sierra Leoneans' response to the Ebola epidemic. Here I have

[2] https://www.who.int/news-room/fact-sheets/detail/ebola-virus-disease

provided context to set the scene for how the Ebola outbreak came about, and the general manner in which it spread throughout West Africa. I also touch upon the role of the outbreak narrative and how this was corrupted by foreign influences to vilify the people suffering from Ebola.

Due to the vague and varied symptoms that people often show when they have contracted the Ebola virus, the specific pathogen that was spreading throughout Guinea went undetected for some time. Many people have come to associate Ebola with extreme and visible haemorrhaging, hence the term hemorrhagic fever. However in reality this isn't typical of many Ebola cases. With the limited access to laboratories, equipment, and even the internet or expensive journal subscriptions, it is unsurprising that a virus, which was declared 'unknown' in West Africa, went unidentified for so long. However, Paul Farmer (2021) has pointed out in his book 'Fevers, Feuds and Diamonds' that there have been a handful of medical studies from prior to Sierra Leone's civil war (1991-2001) that suggest Ebola was already present and moving around the region, likely mistaken for Lassa fever (another hemorrhagic fever).

The country of Sierra Leone gained its independence from British rule in 1961, but inherited many problems from the colonisation of this land that began in the mid-1600s. In particular British rule supported the formation and more strict hierarchies than were previously known including the establishment of the chieftaincy a lifetime and inheritable position (Gaertner 2020).

From 1991-2001 Sierra Leone experienced an extremely violent civil war which displaced more than half of the country's population and left over 50,000 dead. A group called the Revolutionary United Front (RUF) attempted to overthrow the then-leader Joseph Momoh, after civil unrest when RUF took over large swathes of land containing productive diamond mines. This war, much like the struggled faced by the country during the Ebola outbreak, were symptoms of the country's long-standing struggle with structural violence and kleptocratic government officials and societal elite, that led to distrust, the irrelevance of the state in rural communities, and widespread impoverishment throughout the country (Zack-

Williams 2001; Bordonaro 2009; Denov 2010). All these things greatly contributed to the cultural response to the Ebola outbreak.

However, as is argued by anthropologist Susan Shepler (2014), the distrust between citizens and the state in Sierra Leone extends much further back. "People's apprehensions about the failings of the healthcare system come from experience, not from ignorance" (Shepler 2014). The historically poor healthcare systems are yet another gift from British colonisation: "Across West Africa, weak health systems are a legacy of colonial rule, which, promises and propaganda aside, knew few successes in public health— and almost none in providing medical care for the natives" (Farmer 2020).

On 29 May 2014, as Sierra Leone was on an economic upswing, with the Gross Domestic Product (GDP) growth having increased from 6% in 2011 to 16.7% in 2012 (Davis 2015), the Ebola outbreak reached the country through the Kailahun District, an area which borders both Guinea and Liberia. By 2013, Sierra Leone boasted the world's highest economic growth rate at 18.1%, largely due to the industries driving ecological and local livelihood devastation across the country. So, despite the impressive-sounding figures for economic growth country was not prepared for an outbreak of this extent. The mining of precious metals and diamonds has left parts of Sierra Leone literally toxic to the land's original inhabitants, and the money earned by these industries has not been reinvested in Sierra Leone (Maconachie & Binns 2007; Akiwumi 2014; Mason 2014; Mabey et al. 2020). When the Ebola epidemic arrived in 2014 Sierra Leone's medical system was in shambles, and much of the country's rural populations were (and still are) stranded in medical deserts. By 2015 Sierra Leone's GDP had been savaged by the economic loss driven by the Ebola outbreak and dropped to the second lowest in the world at -22.3%, behind only war-torn Yemen (World Bank Group 2020).

According to WHO (2015a) the outbreak reached Sierra Leone when a healer from Sierra Leone's Kenema District crossed over to Guinea to treat those infected with the Ebola virus, and, upon her return, began exhibiting symptoms and ultimately died from the virus. She was a well-known healer in the area, and consequently hundreds of people came to her funeral and participated in a traditional burial ceremony involving physical contact with

the body that has since been linked to as many as 365 Ebola-related deaths. Human-to-human transmission was the most common cause of transmission and occurred either through the nursing of the sick or through traditional burial practices (Nielsen et al. 2015; Richards et al. 2015).

Bats (*Hypsignathus monstrosus, Epomops franqueti,* & *Myonycteris torquata*) are thought to be the primary natural reservoir of the Ebola virus, as they can carry the virus while being



Figure 1: These images show bats and primates being the focus of Ebola communication across West Africa during the 2014-2016 outbreak. A: UNICEF (Sierra Leone) poster about Ebola transmission featuring chimpanzees and bats; D: CDC (USA) poster about Ebola transmission featuring chimpanzees, gorillas, and bats used across the African continent.

asymptomatic (Leroy et al. 2005; Frieden et al. 2014; Osterholm et al. 2015). Several other species of animals have been known to be infected with virus, such as gorillas (*Gorilla* spp.), chimpanzees (*Pan troglodytes*), various species of monkeys (*Cercopithecidae*), and duikers (*Cephalophinae*) (Alexander et al. 2015; Osterhomle et al. 2015; Olivero et al. 2017). Zoonotic transmission of the virus can occur if animals infected with the disease are handled or eaten before being cooked, or if fruit which has come in contact with bodily fluids from infected animals is consumed (e.g. partially eaten fruit) (Alexander et al. 2015; Leroy et al. 2005).

Aside from the suspected initial case of Ebola during the 2014 outbreak, there was no other case of animal-to-human transmission reported in Guinea, Liberia, or Sierra Leone (Nielsen et al. 2015; Richards et al. 2015). All transmission was human-to-human in nature, largely from body washing burial rituals and kin caring for their sick family members, which was proven in a substantial number of studies examining Ebola virus genomes from patients across West Africa (Fire et al. 2014; Kugelman et al. 2015; Ladner et al. 2015; Simon Loriére et al. 2015; Tong et al. 2015; Arias et al. 2016; Carroll et al. 2016; Dudas et al. 2016; Quick et al. 2016). For example, Dudas et al. (2016) discusses how the variant of the Ebola virus that ravaged West Africa arrived from Central Africa within the last 15 years and that the first reported case in Sierra Leone was confirmed to have been from Guinea and not an independent zoonotic spillover event (Dudas & Rambaut 2014; Gire et al. 2014). Dudas et al. (2016) went on to provide evidence that the spread of the Ebola virus had higher migration events at administrative regions of outbreak, rather than rapid-international dispersal, that most vial spread happened between locations less than 72km apart, and that there were no linguistic (focusing on local languages to reflect cultural links) links correlated with the spread of Ebola (Dudas et al. 2016).

Despite this clear scientific evidence that the virus was spreading exclusively through human-to-human contact, animals, specifically primates and bats were heavily reported to be carriers of the Ebola virus across the three most affected countries (Wilkinson & Leach 2014; Richards et al. 2015; Mufunda et al. 2016; Bonwitt et al. 2018). All visual posters or murals which were found to describe the Ebola virus, what to do if you think you may have

contracted the diseases, and how to avoid the virus featured large images of animals, frequently highlighting chimpanzees.

Primates were so unanimously emphasised as a source of Ebola during sensitisation campaigns across West Africa that image B in Figure 1 even depicts and unidentifiable species of primate as the source of Ebola. The United States Center for Disease Control (CDC) released a poster which was used in Liberia which showed not only chimpanzees, an unidentifiable primate species, and bats as a source of Ebola, but also a gorilla, a species found nowhere near the West African outbreak. Harvard geneticist Pardis Sabeti told National Public Radio in the United States, after a study she worked on proved human-to-human transmission was responsible for the outbreak: "We're really concerned here because a lot of the message going around is, 'Don't eat bushmeat; don't eat mango; don't eat anything that might be in contact with animals.' When you see those fliers you're like, 'Okay, you just told them not to eat all the main sources of food." (Farmer 2021, p258)

By October 2014 over 3,000 cases had been confirmed in Sierra Leone with almost 1,000 deaths reported. When the Ebola outbreak was declared to have ended in Sierra Leone almost a year later in November 2015, there were over 14,000 reported cases and almost 4,000 Ebola related deaths in the country (WHO 2016a; 2016b).

Despite the numerous risks associated with burial practices and the spread of Ebola, there was a constant reminder that bush meat consumption can spread the virus. This was notably found on one poster that I encountered more than anything else referring to Ebola during my 2014 trip to Sierra Leone. The poster, created by UNICEF and the government of Sierra Leone, was found on the outside of the health clinics and schools in the rural villages I visited, and at various points throughout Freetown, the capital city. This poster had four main points: What is Ebola?, Signs and symptoms, How is Ebola spread?, and How can Ebola be prevented? Under the heading "How is Ebola Spread?" two of the five bullet points mentioned bushmeat. The pictures would be the only part that would be universally understood as the poster was in English, and English is only a popular language in the larger cities. The local tribal languages (ex. Temne, Mende, Susu) are dominant in rural communities. The drawings on the poster depicted a man visiting a doctor, a body being

disposed of in a sterile fashion, someone washing their hands, needles and blades with a red 'X' super-imposed on the image, a chimpanzee and a bat with a red 'X' super-imposed on the image, and a mango hanging from a tree that seems to have been partially eaten with a red 'X' super-imposed on it (as shown in Figure 1, Image A).

As mentioned above, the most recent outbreak in West Africa is thought to have begun with a child ingesting bat meat in Guinea: there is no evidence that Ebola was spread through infected bush meat within Sierra Leone. There have been a recorded 22 Ebola outbreaks in Africa and the cause of roughly half have been linked to zoonotic disease transfer (Alexander et al. 2015). In a 2006 study on the consumption of bush meat in Brazzaville, the Republic of the Congo it was shown that the types of bush meats consumed were artiodactyls, rodents, and primates, preferred in that order. There was a lowered preference for consuming primates linked to the emergence of diseases like Ebola (Mbete 2011). Although sentiments like this were repeated to me by some people from urban environments in Sierra Leone, most spoke of others' fear of consuming wild meats rather than their own. The 2006 study came from the Republic of Congo where Ebola as a sickness has been known for many years. In Sierra Leone the seemingly new emergence of Ebola, linked to wild meats that had never been considered unsafe before, seemed less believable. In Chapter Four I spend some time examining the responses that were portrayed in the media. While some fear over meat in general was reported across West Africa, very rarely was a fear of catching an illness from wild animals actually expressed by any of the Sierra Leoneans I spoke to.

However, as I explore in this thesis, the repeated misleading focus of 'bushmeat' during disease sensitisation has much wider and more problematic consequences. I will admit, as a wildlife conservationists, I was initially attracted to the opportunity of combining health messaging with conservation action. What could be a more convincing argument for protecting endangered wildlife? I am not the only person to have fallen into this trap. While I had these thoughts and feelings, instead I did my best to spend my time in Sierra Leone listening and seeing what was going on around me. What I learned was that pushing a wildlife conservation initiative by using flawed and patronising health messaging around

zoonotic disease spillovers was at its most basic, inaccurate to the reality of zoonoses, and at its worst, alienating the very people who are supposed to be kept safe and healthy by health messaging and guidance.

This lack of consideration of local perspectives and experiences supports Farmer's (2021) idea of the control over care paradigm; that the global response towards the West African Ebola outbreak was to control the virus rather than provide care to those who are sick. The European and North American media followed the racially-charged narrative of backwards and brutal Africans who eat things like chimpanzees and monkeys, and this narrative was used to dehumanise the people most in need of care at that time. The implicit message of this international media coverage often seemed to be: Why would the world want to help a people who brought this sickness upon themselves by eating animals that other parts of the world have decided are cute and human-like? What is overlooked in this stigmatising discourse is any curiosity about the reasons people would have for eating such things in the first place. As I explore in detail in the chapters that follow, these dietary choices do not come down to some sort of prestige associated with eating these creatures but come from a necessity born of hunger and being left behind as subsistence farmers in a new world order dominated by a cash economy.

1.3 THE BIG QUESTIONS

Below, I have outlined the 'big questions' I address throughout this thesis. Like much multi-disciplinary work, the answers to these questions are not as straightforward as one might like, but their complexities reveal how intricately human health is tied in with a country's culture and relationship with the international community. I started writing this thesis and thinking about these concepts in a pre-COVID landscape, and I ended my fieldwork in a 'once in a century' global pandemic. The questions I had been asking myself about an epidemic affecting West Africa suddenly had global relevance and highlighted the importance of this study even further.

Through historic and modern analysis of the attitudes towards wildlife, historically as a trade-good, and currently as a catalyst for cultural disgust and de-humanisation, I highlight

the negative impacts of improper zoonotic disease communication. This can be especially apparent when disease communication is hijacked by conservation organisations, which have a biased focus on vilifying local people for long-held cultural practices, low-level resource extraction, and unfairly focus the blame onto some of the world's most impoverished communities. This type of communication strategy, which relies on instigating pity for wildlife and disgust towards humans often works as a detriment to both conservation efforts, and in this case, zoonotic disease communication.

The disgust towards hunting wildlife that people in the Global North deem as 'cute' or are heavily anthropomorphised (like chimpanzees) created a chasm between those that should have offered aid, care and compassion, and those who were suffering the greatest. This de-humanisation has persisted in global attitudes towards West Africans and can easily be traced back centuries to the trade in human beings which brought this part of the world directly into the sights of Europeans looking to expand Atlantic commerce.

The 'big questions' that I explore through the following chapters are:

Q1: How can communicating the risks of Ebola be done more effectively?

Q2: Why did the international community (including international health organisations) choose to communicate about Ebola the way that they did?

Q3: What are the risks of miscommunication during an outbreak?

Q4: Why was the Sierra Leonean population so susceptible to conspiracy theories?

Q5: How do rural people's traditional beliefs and interactions with wildlife shape their view of Ebola?

Q6: How are popular urban conspiracy theories linked with the lived experience of rural Sierra Leoneans?

CHAPTER TWO: METHODS

"Americans eat bushmeat, though we call it 'game.' Thus 'bushmeat' is to 'game' as 'hut' is to 'house.' But that is a linguistic move that participates in the semiotics of denigration. What I am more interested in is that some of the animals eaten in West Africa —monkeys, dogs, pangolins, bats—inspire feelings of disgust. Other animals—boar, duiker (small deer), wild birds and tortoises—do not." — Mike McGovern, 2014

2.1 HOW I CAME TO BE IN SIERRA LEONE

The first time I exited the plane at Lungi International Airport and took in a breath of hot, smoke-tinged air (which I can still smell if I close my eyes) I was twenty years old and completing my last requirement for my undergraduate degree. Although, on that day in May, 2014 something much larger than the culture-shock of a budding anthropologist was happening. Much to my parent's chagrin, the Ebola outbreak in Sierra Leone was officially declared on that same day that our plane touched down. It was a moment that went completely over my head at the time, but still went on to shape so much of what I would see and learn about over the next seven years.

When I was around 15 years old I decided that I wanted to be a doctor, and not precisely the kind I am striving to be now. For years I spent my free time volunteering in hospitals, I shadowed emergency room doctors over long night shifts, and even convinced a neurosurgeon to allow me to watch him coil aneurysms. These bits and pieces of myself seemed so disjointed for so long, as I changed my course fairly quickly upon entering university and settled on studying anthropology and journalism. It's obvious to me now that my fascination with human health, media, and anthropology, and to a more focused extent, primatology, have all culminated in this study.

I first went to Sierra Leone as an undergraduate student, and I was required to earn a university course credit through the experience. Everyone else in my department went to the archaeological site in New Mexico owned by the university, but I had no interest in dusting pot sherds in the sun for a month. I found the course in Sierra Leone being offered by primatologist Dr. Andrew Halloran by chance, as I didn't want to go to Central or South America for my field work. I wanted to go somewhere with *Great Ape*s. While I would have preferred to go to Indonesia and meet wild orangutans, this was the closest I could get and

still receive university course credit. So off I went to Sierra Leone, a country I had never even heard of before signing up for that trip.

Despite the fact that I can look back now and feel the ignorance I had of a people, a culture, and that country's history, the experiences I had shaped the questions that ultimately led to this study. I will try to recount them in the order in which I learned them.

Several things of importance stick out in my mind, the first of which was a story I was told about the general reaction to some public service announcements on the radio calling for the citizens of Sierra Leone to protect the wild chimpanzees in the country. I remember being told that people felt upset by these announcements, because they felt like the government was more concerned with the state of the wild chimpanzee than they were with their own citizens. At the time, I knew little about the relationship Sierra Leonean people had with the government, wildlife conservation in general, or what was actually driving the loss of chimpanzees.

The next instance that shaped my curiosity for the situation of conservation in the country was a report from the project's main community partners upon our arrival to the field site in Tonkolili, a district in the centre of Sierra Leone. The Tonkolili Chimpanzee Project is a community-based conservation project working with several communities within the Tonkolili District. Our camp was based on the edge of one of the smallest communities, one not even considered a true village by many surrounding villages. Marokie contained about 6 buildings, though most had been destroyed in the weeks leading up to our arrival. Like many subsistence-level farming communities in Sierra Leone, farmers in Marokie and the surrounding villages clear and prepare land using fire. Also like many communities in Sierra Leone, this practice, combined with the lack of burn break borders or any attempt to control the fire once it's started, Marokie's citizens were at great risk to loosing their homes to fire. When I had initially heard about the agricultural fire which destroyed most of the homes in Marokie village I was shocked. At the time, I did not know how common this was, nor that it had been happening for centuries, which still does not minimise the loss experienced by the families in Marokie.

In studies published on the Tonkolili Chimpanzee Project work since my visit to the site in 2014 Halloran and colleagues have reported that people live in conflict with chimps who cause livelihood loss from feeding on palm hearts (Halloran 2014). The local villages do not ordinarily consume chimpanzee meat but take it to sell in the nearby city to sell when a chimp is killed during a farming conflict (Halloran et al. 2014). Which rings similar to the lived experiences of people from the Tambakha Chiefdom, in and around the Outamba Kilimi National Park. The Tonkolili Chimpanzee project also prioritises the role of ethnographic research in creating sustainable conservation solutions (Bolten & Marcantonio 2021).

On one of our first forays out into the bush, the Tonkolili Chimpanzee Project's resident hunter-turned-guide made a confession, deep in the forest and away from the ears of his fellow community members. The community people of Marokie, he claimed, had not harmed a chimpanzee (as per their agreement with TCP for the project to continue providing services to the community like paying children's school fees), but one of the neighbouring communities had grown jealous of Marokie's new water well, and had hired in a specialist chimpanzee hunter to come and kill some of the chimpanzees at the study site in retaliation. He reported that two chimpanzees had been killed, and a hunter had to be hired in from very far away, because no local hunters would harm the chimpanzees because of the project. The hunter-turned-guide said that he had reported the hired chimpanzee hunter for possession of a gun, and that even now, he was in prison.

There are a few things of key importance to take note of in the context of this story: The village which supposedly hired this hunter had apparently been offered the same deal as Marokie village, to not kill chimpanzees in exchange for assistance from the project through a well and school fees for children. This was the first time I had heard of specialist chimpanzee hunters, of which our hunter-turned-guide was supposedly one of.

Chimpanzees are not normal game. They are dangerous and usually avoided and not a preferred meat. They are left alone unless a community is having a particularly difficult time with the local chimpanzees in the form of crop foraging, in which case a hunter will be hired to to kill a chimpanzee in retribution.

Table 1: Dugata Chiefdom Villages 2018

Village Name	Tribal Affiliation	Village Population (2018)	Homes	Religion
Bambakeraya	Susu	100	16	Muslim
Beria	Susu	150		Muslim
Boroso	Madingo	200	33	Muslim
Borota	Susu	300	22	Muslim
Digidigi	Limba	75	10	Christian
Dubaya	Susu	400	18	Muslim
Dungkuba	Susu	70	16	Muslim
Fansiga	Susu	120	16	Muslim
Kamasugula	Susu	8	3	Muslim
Kamathama	Limba	3	2	Christian
Kamatirreh	Limba and Temne	50	21	Christian and Muslim
Katapolen	Limba	50	3	Christian, some Muslim
Kawono	Madingo	150	15	Muslim
Khatikoleya	Susu	60	12	Muslim
Kondeta	Susu	200	14	Muslim
Lakata	Susu	40	7	Muslim
Louma	Susu	428		Muslim
Madina	Madingo	300	10	Muslim
Salifuya	Susu	60		Muslim
Thanehneh	Madingo	120	14	Muslim
Yateya	Susu	600	37	Muslim
Yawuyen	Susu	500	23	Muslim
Yembere	Susu	44	3	Muslim
Yunkula	Madingo	125	4	Muslim

Table 1: This data was collected on a trip to visit all interior communities in the Outamba Section of the Outamba Kilimi National Park in 2018. The village chief or chosen elder representative reported the population, tribal affiliantions, and the religions practiced in their community. The number of homes was counted by researcher and did not include temporary housing in farming satellites outside of the immediate village.

The project's hunter-turned-guide also admitted that the hunter which had been hired in had been a close friend of his since childhood, and that it pained him to turn him into the police, but he felt it was his duty to the project and the chimpanzees. At the time I did not know the importance of kinship, the distrust in strangers, or of the extent to which a family in rural Sierra Leone could go hungry because of a troop of chimpanzees, and therefore did not understand the weight of this statement.

During this trip, the Ebola epidemic seemed far away. It was only reported in one district in the country at the time, which was far enough away from us, in our isolated situation, that we didn't do more than regularly check in with someone via the satellite phone for updates. We didn't alter our plans, and we didn't spend much time discussing what an outbreak like that could do in Sierra Leone.

The project had hired a young woman to join us on the trip and cook for us. Her name was Fatmata. We picked her up from Waterloo, a small city just outside of Freetown, and away she came with us. Fatmata was shy, understandably. She was in a rural village far from home, with many strangers who did not speak the same language as her. At the time I did not know much about Waterloo (or it's size), or how young people (in my experience) from urban environments felt about spending prolonged periods in rural communities (they lament the lack of access to comforts and goods, and often adopt an 'us' versus 'them' attitude towards local youths of the same age, especially if there is no tribal connection). What I remember most vividly about her was the sparkly stickers she had on her phone case, and how young she seemed. What I didn't know at the time was that she would be dead by November of that year, having lost her life to the Ebola virus.

Until I heard the news of Fatmata's death, the Ebola outbreak still seemed far away and not quite real, even though I had stood at the Freetown Ferry docks and seen the posters warning of symptoms and spread myself. Now, I was mourning a girl, probably no more than a teenager, who I had never actually gotten to know properly. She had been so young and full of life just a few months ago, and now she was gone. Maybe if the shock of young Fatmata's death hadn't abruptly awakened me to the extent of what was happening in

Sierra Leone I would have continued on towards my erstwhile dream of seeing orangutans in Indonesia.

While I was studying for my masters degree in primate conservation, I found myself drifting again and again away from my interest in orangutans and back towards what I had learned about chimpanzees in Sierra Leone. I think that this interest was certainly heightened by the general lack of wildlife research done in the region, which was a stark contrast to the decades of research and conservation efforts going to protect Indonesia's great apes. I reached out to the social anthropologist who had accompanied the Tonkolili Chimpanzee Project on my first fateful trip to Sierra Leone, who was raising money to get food to people during the outbreak.

The conversations I had with Dr. Catherine Bolton, anthropologist and part of the Tonkolili Chimpanzee Project, about the food shortages in Sierra Leone were what I based parts of my initial hypotheses on. She told me about how due to the travel bans and road closures many people were going hungry from lack of work and lack of access to trade goods. It was after this conversation the first spark of a question that would later turn into this study, came to life. Were communities like Marokie village going to have to rely more heavily on locally hunted game if they couldn't get enough food otherwise? Or would the fear of wild game as the source of the Ebola outbreak protect animals like chimpanzees from ending up on someone's plate? At the time I didn't know the role that wild game played in the diets of people of rural Sierra Leone, and in this pre-global pandemic time, I didn't consider the idea that people might not have believed the outbreak was real.

I wasn't able to visit Sierra Leone again until after my masters, and after the end of the Ebola epidemic. My first visit in 2014 had been extremely sheltered. I wasn't taken to any part of Sierra Leone that could be called 'developed', I was told I needed to bring my own toilet paper because it couldn't be easily purchased, I never saw any other part of Freetown except the Conservation Society of Sierra Leone office. In January, 2017 I stepped off the plane at Lungi International Airport, still there to learn, but there to do it in my own way. This was the year before I would start my PhD and made up the last brief amount of time which remained on my tourist visa from my initial visit.

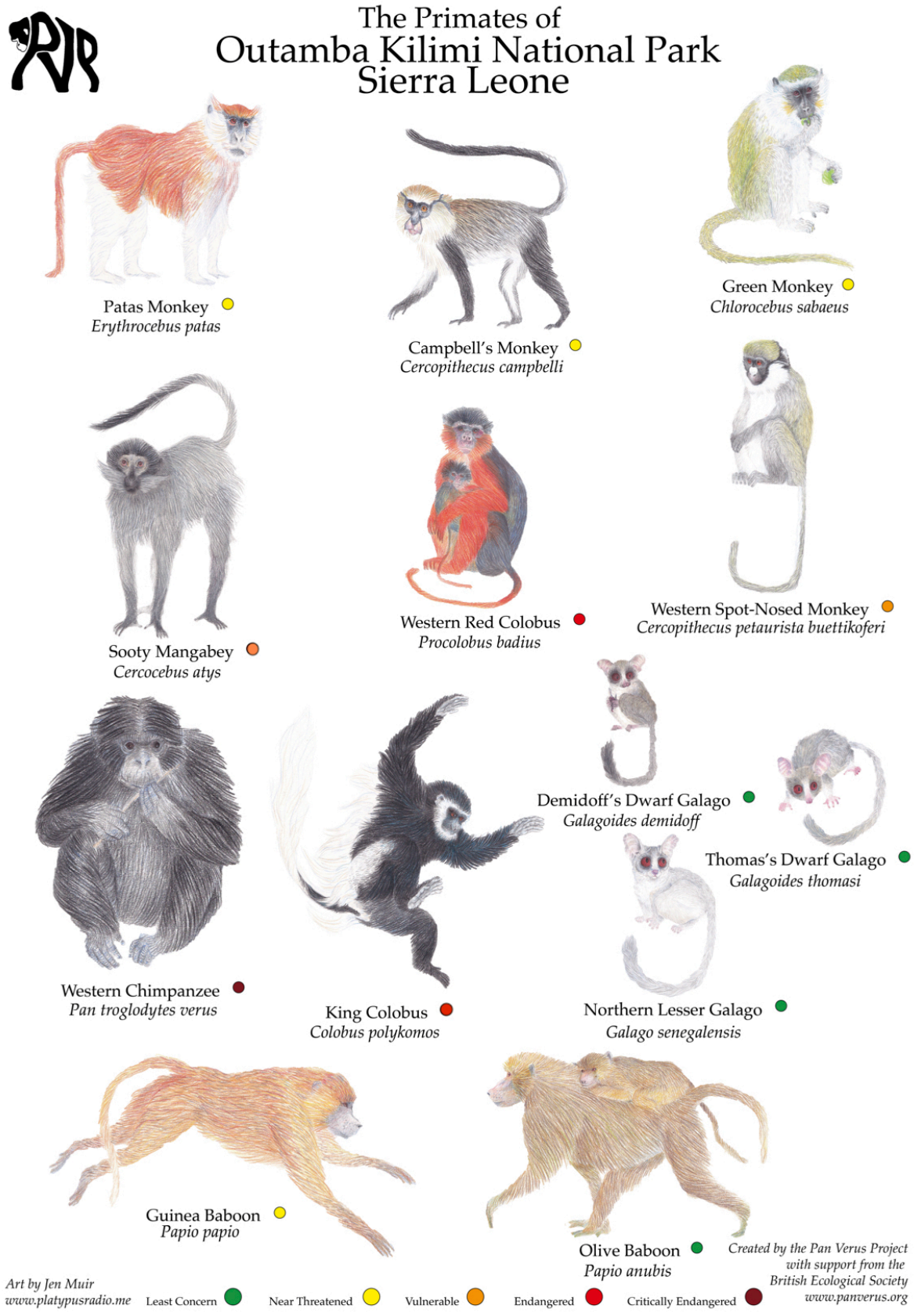


Figure 2: This is a poster depicting the primates of the Outamba Kilimi National Park and their threat statuses according to IUCN (2021) which was created by the Pan Verus Project for educational use at the Outamba Kilimi National Park

This time, I started my stay by AirBnB-ing a spare room in a Sierra Leonean family's home in an extremely lively part of Freetown. A friend who I had met on my first visit to Sierra Leone accompanied me, and together we discovered that there was so much more to Freetown than we had been shown. We discovered Lumley Beach, a seaside road full of grills, beach bars, and, at that time, a few hotels. I later learned during that trip that most of the wooden, outdoor beach bars that had covered the shore-side of Lumley Beach Road were bulldozed down during the Ebola epidemic, as they were seen as social, and therefore high risk places, during the epidemic. A few of them still had staff inside when the operation began.

On that trip the closest someone ever came to telling me that they didn't believe in the Ebola epidemic was when the father of our AirBnB host (and later, our host in his own right), a retired politician. He expressed deep suspicion with Tacugama, the local chimpanzee sanctuary, as a place he believed different viruses and medicines were being tested on the captive chimpanzees. He warned my friend and me to stay away from the sanctuary.

We wound our way towards the north of Sierra Leone, and towards Outamba Kilimi National Park. After leaving the guest house owned by the retired politician we stayed with his cousin in the village of Medina, though we spent most of our brief time there with the Father at the local catholic church. I briefly enquired around about Ebola, and they told me (the oft repeated phrase on that trip) "Ebola was everywhere".

2.2 THE VIRUS

The Ebola virus is a viral hemorrhagic fever in the same family as Dengue, Lassa, Marburg and yellow fever. Viral hemorrhagic fevers often share many symptoms with locally common illnesses like malaria and typhoid they can also damage the walls of the blood vessels and impede a persons ability to clot. This last symptom, which *sometimes* but not *always* causes internal bleeding, or bleeding from the eyes (a visually terrifying symptom) is why these viruses are classed as hemorrhagic fevers. The Ebola virus (*Ebolavirus*) is in the

Filoviridae family which also includes the closely related Marburg virus. However, Ebola has been found to be more virulent than Marburg virus.

The symptoms of Ebola initially starts with fever and chills and progresses to vomiting and diarrhoea. A more comprehensive listing of symptoms includes muscle aches, fatigue, sore throat, loss of appetite, abdominal pain, and unexplained bleeding or bruising and less frequently micro-hemorrhages in the skin and eyes. The incubation period of the virus before the patient starts showing symptoms is between two and 21 days and the infected person is not contagious before the onset of symptoms.

In comparison to airborne viruses like coronaviruses, the Ebola virus does not travel in aerosolised form and requires body fluids of an infected person (blood, urine, faeces, vomit, sweat, tears, saliva, semen) to come into contact with a persons broken skin or mucous membrane in the eyes, nose, or mouth. There have also been recorded cases of the men who have recovered from the virus being able to transmit it through their semen even if they no longer have symptoms.

From what we currently know about the virus and past outbreaks, many scientists currently believe outbreaks begin with a spillover event from non-human wildlife to a human, where the same modes of transmission as from human-to-human apply. This could happen from the hunting and subsequent butchering of an infected animal, the consumption of fruit which was partially consumed by an infected animal, or contact with the urine and/or faeces of an infected animal. While many researchers have attempted to unequivocally identify the natural reservoir for Ebola, there is still a level of speculation. Rodents have not been found to transmit the virus, but instead the scientific gaze has been set upon bats, frugivorous and insectivorous bats in particular, who do not succumb to the virus if infected (Leroy et al. 2007; Swanepoel et al. 2007). Other larger bodied species such as non-human primates and small forest antelope (duiker) have also been found to carry the virus, but they typically die not long after the onset of symptoms which does not make them likely to be the natural reservoir. It has been thought that most Ebola outbreaks have

occurred near cave sites with roosting bats or after probable scavenging of already deceased and infected larger bodied species.

2.2 STUDY SITES

The research took place over several sites — Outamba Kilimi, Makeni, and the Freetown Peninsula. I wanted to understand the attitudes and understandings of zoonosis in an area where people are living alongside wildlife, which is why I chose to work in and around Outamba Kilimi National Park. The country's more urban population, like those in Makeni and Freetown are extremely disconnected from wildlife, however they have significantly more access to media and disease sensitisation programmes. Multi-site ethnographies are beneficial for showing how geography, access to goods and services, and micro-cultures (in this case, tribes) can impact peoples' experiences and beliefs (Freidberg 2001).

2.2.1 Outamba Kilimi National Park



Figure 3: This is an image of the river beach at the Outamba tourist camp I took on my first visit in 2017, before beginning my course. I have also seen images of Geza Teleki and his wife sitting on the same beach. Each year after this the beach shrunk due to sand mining and increased use of mining dredge machines. I am told that in 2022 it had disappeared.

Sierra Leone's forests are part of the Upper Guinean Rainforest Ecosystem, which was identified as a biodiversity hotspot and is said to have 1,800 endemic species, including 416 mammal species (Mittermeier et al. 1998, 2004). This impressive biodiversity is highlighted in the Outamba Kilimi National Park, which lies at the edge of the Upper Guinean Rainforest Ecosystem, and represents an important transition zone where grassland, woodland, and dense wet forest zones intermingle. The national park is comprised of two non-contiguous areas, Outamba (183,100 acres) and Kilimi (90,900 acres). The park is also home to the Kolenten and Kaba River watersheds, which supply two of the nine rivers of Sierra Leone. Outamba Kilimi was first declared a game reserve in 1965, not long after the country gained independence from British rule. However, it was not declared a national park until 1995.

Within the park there are an estimated 13 primate species, including the Critically Endangered western chimpanzee (*Pan troglodytes verus),* Critically Endangered red colobus (*Piliobolobus badius*), and Endangered king colobus (*Colobus polykomos*). A full illustrated guide to the primates of OKNP is shown in Image X on page 30. A 2010 survey conducted by the Tacugama Chimpanzee Sanctuary, the first survey conducted since the creation of the park, estimated there to be about 1,020 chimpanzees within OKNP. The survey concluded that there were between 3,000 and 10,400 chimpanzees still residing in Sierra Leone, making it the country with the second highest number of *Pan troglodytes verus*. Along with boasting a high density of chimpanzees, a country wide survey by Brncic (2010) showed that the far north of Sierra Leone, where the Outamba Kilimi National Park is located, boasted the highest mammal diversity in the country. Until about 2014 it was the only national park in the country which protected Sierra Leone's resident hippopotamus *Hippopotamus amphibius* and elephant *Loxodonta cyclotis* populations, though it is believed that there now may be elephants living within the more recently establish Loma Mountains National Park.

Despite the importance of the wildlife found within the Outamba Kilimi National Park, the current majority of conservation efforts in Sierra Leone are currently concentrated in the

Table 2: Species in Outamba Kilimi National Park which can carry and transmit the Ebola virus

Scientific Name	Common Name	Threat Status
Erythrocebus patas	Patas monkey	Near Threatened
Chlorocebus sabaeus	Green monkey	Near Threatened
Cercopithecus petaurista	Lesser spot-nosed monkey	Vulnerable
Cercopithecus cambelli	Campbell's monkey	Near Threatened
Papio papio	Guinea baboon	Near Threatened
Papio anubis	Olive baboon	Least Concern
Cercocebus atys	Sooty mangabey	Vulnerable
Colobus polykomos	King colobus	Endangered
Piliocolobus badius	Western red colobus	Endangered
Pan troglodytes	Chimpanzee	Endangered
Cephalophus dorsalis	Bay duiker	Near Threatened
Cephalophus niger	Black duiker	Least Concern
Cephalophus ogilbii	Ogilby's duiker **(presence unknown)**	Least Concern
Cephalophus rufilatus	Red-flanked duiker	Least Concern
Cephalophus silvicultor	Yellow-backed duiker	Near Threatened
Philantomba maxwelli	Maxwell's duiker	Least Concern
Mops condylurus	Angolan free-tailed bat	Least Concern
Chaerephon pumilus	Little free-tailed bat	Least Concern

Table 2: This table show species in Outamba Kilimi National Park which can carry and transmit the Ebola virus, focusing on the large bodied species regularly encountered by local people and the bat species thought to be the reservoir host for the Ebola virus.

southern Gola Forest (Klop et al. 2010; Hillers et al. 2016; Belcastro & Larsen 2006; Klop et al. 2008). Much of the more extensive research in the national park pre-dates the Sierra

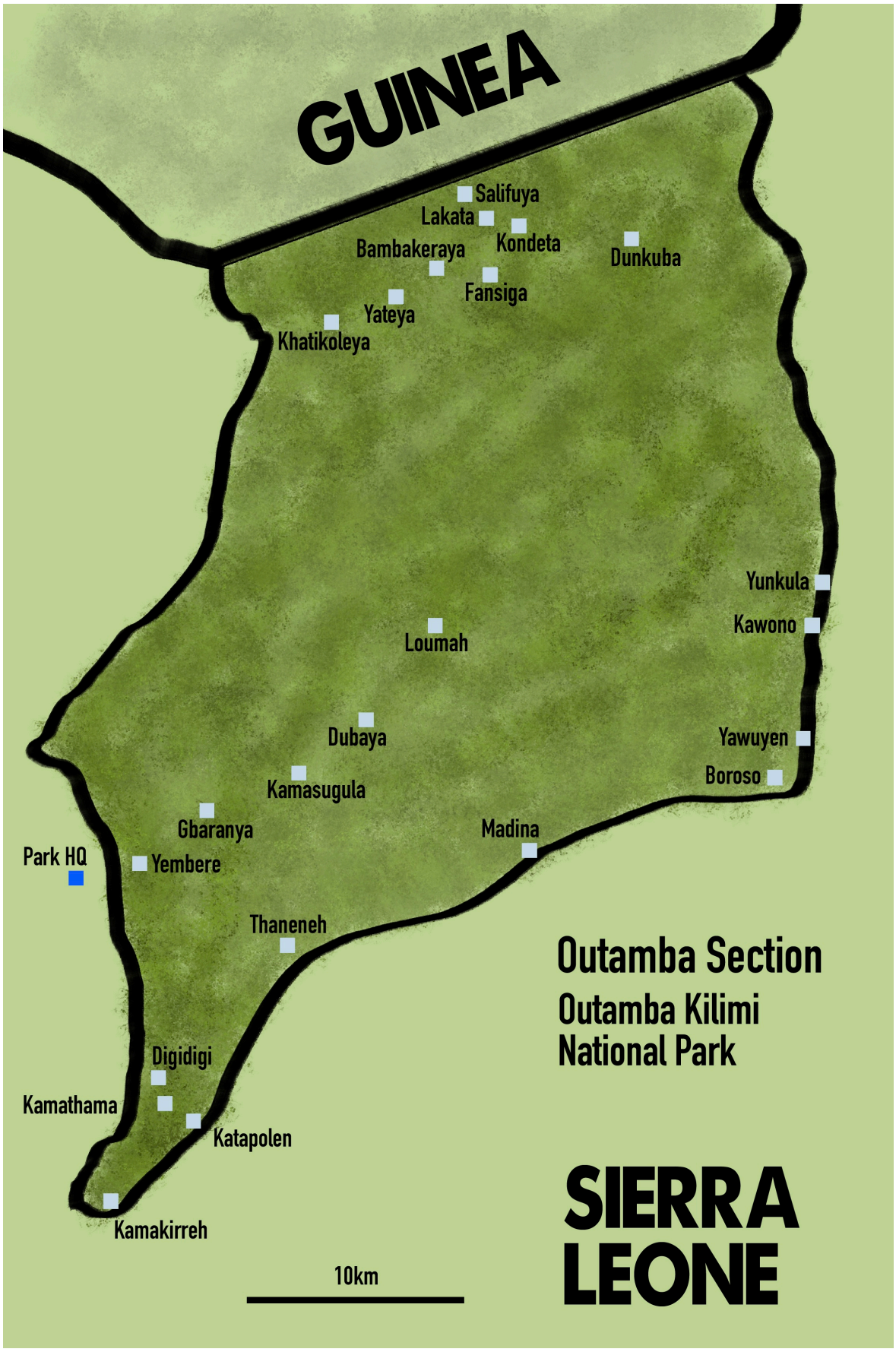


Figure 4: This map shows the border of the Outamba Section of the Outamba Kilmi National Park. This border is the same as the border for the Dugata section of the Tambakha Chiefdom. The park shares its northern border with the country border and touches Guinea. Each of the communities was visited at least once, but more were visited upwards of three times, sometimes with stays of over a week.

Leone Civil War (1991-2001). While OKNP was ratified as a national park during the war (1995), the efforts made to establish the park borders and relocate communities were completely undone by the civil war. The area used as a park base camp turned into a rebel camp and people throughout the park reported how they fled to live in the forest when the fighting forces moved though. Limited surveys were completed in the 1980s on reptiles and primates, though most of the work done in establishing the park remains unpublished (Zug 1987; Teleki 1988; Alp & Kitchener 1993; Alp 1997).

Parts of the park have been included in national animal surveys (Terry 2010; Brncic 2105) and was included in Max Planck Department for Evolutionary Biology's continent wide survey on chimpanzees (Kühl et al. 2019). The Outamba section of OKNP was included in the large scale surveys across chimpanzee habitat, but the site proved difficult for their staff. There were three Max Planck site managers in as many years to collect the 12 months of data required. Outamba Kilimi National Park is not mentioned by name in the conclusion of their data collection, which included 114 sites across the continent. The results that are truly representative of OKNP as a landscape in these surveys is limited due to natural methods and constraints of such types of research.

There is a relatively high abundance of species which are capable of transmitting the Ebola virus, almost all of which are hunted and consumed as bushmeat by local communities:

2.2.2 Villages in the Outamba Section (Dugata Chiefdom)

I visited all 23 of the villages thought to be within the Outamba Section park boundaries in 2018: Bambakeraya, Boroso, Digidigi, Dubaya, Dunkuba, Fansiga, Gbaranya (Baria), Kamakirreh, Kamasugula, Kamatama, Katapolen, Kawono, Khatikoleya, Kondeta, Lakata, Loumah, Madina, Salifuya[3], Thanehneh, Yateya, Yawuyen, Yembere, and Yunkula in 2018 with the intention of returning to a few communities for more in-depth individual interviews after hopefully building some trust with community members on my first visit.

[3] In 2019 the village Salifuya dissolved and it's residents returned to the village Fansiga where they had originated

After beginning to develop a deeper understanding of the conflict with the park staff and residents of the Dugata section of the Tambakha chiefdom (the same borders as the Outamba section of the park) I wanted to visit, explain my purpose, ask some basic questions, and then hope that with nothing bad happening to the communities after this interaction, I would be greeted with slightly less suspicion upon my return. Upon reflection the community people in this isolated part of the country were more open to me and Joseph Taylor, the MSc student, than I had initially expected. People saw it as a chance to have their complaints about living in a national park, and their interactions with wildlife, heard. So, we listened to the stories of hunger that happened every year, how they had no hope of schools or hospitals but didn't want to leave their ancestral land.

During my 2018 field trip I also visited several buffer zone communities; that is, communities based within one mile of the park border. Restrictions on buffer zone communities are lesser than those faced by communities within the park borders. Though activities like hunting, fishing, logging, and mining are expressly forbidden by law, all of these activities occur on a regular basis in all communities, are rarely hidden and I observed them regularly throughout my fieldwork.

Many residents within the park, especially those in Outamba North and Outamba East, cannot cross the river, which acts as the park border, during the raining season and so turn to Guinea for access to markets. These villages use both the Guinean Franc as well as the Sierra Leonean Leone (currency changed name and value in 2022: Old Leone $10,000 = New Leone $10).

Tribal affiliations were recorded while visiting the villages in 2018. The majority of people within the park are Susu, though in Outamba East the villages are a mix of Limba, and Madingo, with some Temne and Fula. Almost all villages reported being exclusively Muslim. Villages reported that their populations were between 3 and 600 people, though no more than 20 to 100 people were ever seen in a single village at a time. The smallest village, Kamathama, reported only 3 residents, whereas the largest, Yateya, which is also the Dugata Section headquarters, reported 600.

Anthropologist Migeod visited several of the same villages in the early 1920's, though he did not spend an extended time within them:

> "A few minutes after 9 a.m., that is three and a quarter hours out, we reached Yatia [Yateya], quite a big place with a dozen huts, and I had to disappoint the people by saying I couldn't not stay. So we went on another hour and stopped at Fansiga, a farm village of half a dozen smallish houses. The type still remains the same, namely two little rooms made by closing a piece of verandah on each side. This place is a farm village belonging to Kondita [Kondeta], which was somewhere to the north up the hill; and both belong to Yatia, which is why I was expected to stop there." (Migeod 1926: 53)

Yateya has over tripled in size, not accounting for the two new villages which have been established by former residents of Yateya; Khatikoleya and Bambakeraya. It served as the Dugata Chiefdom Headquarters and was, at the time of my 2018 visit, the home of the Chief, though he was very old and in poor health during my visit, to the extent that we did not meet. In 2019 the Chiefdom Headquarters was moved to Loumah after the death of the chief. I, like Migeod, did not stay the night in Yateya, but also continued on the Fansiga.

Fansiga is now an independent village, and not just a farming settlement from Kondeta. Several other villages have come about as offshoots of Kondeta and Fansiga, however, the village Salifuya, which I had been told had been established around 20 years ago, dissolved and returned to Fansiga in 2019 due to a difficult farming year. The residents of Salifuya had told us that they moved to the isolated hilltop because there was so much fresh water that they could plant crops all year round. In-between this time there was a drastic increase in illegal logging taking place within the borders of the national park.

Yembere village claims to be the first and oldest village within the Dugata section. It is certainly the most easily accessible. The other villages of historic import in the area include Loumah, Kondeta, and Yateya. These were reported to be the ancestral villages of most other communities within the section (those not formed by incoming settlers who were displaced by the war or by the Ebola epidemic). Villages will often have farming



Figure 5: This image was taken overlooking Fansiga on my 2018 visit. We camped under trees on the land that gently sloped up behind the village. There was a steep hill behind us where people would often perch to get cell signal. By my 2020 visit all of those trees were cut down and several additional homes were being built to accommodate the influx of non-local loggers. All village pit toilets were overflowing from the rapid increase in population.

settlements dotted like satellites around the village. This is largely due to the fact that people must live at their farms to protect their crops. Eventually these farming settlements will either grow to become independent villages, or they will dissolve and residents will abandon the land and move back to their village of origin. Some farming settlements, like Salifuya, remained successful independent villages for nearly 20 years before dissolving and returning to their ancestral village of Fansiga.

During my 2020 field trip I was determined to return to some of the more interior communities in Outamba, which I had not been able to visit during my 2019 trip (which was plagued with illness and injury and ended abruptly). One of the MSc students, Zoe Amieli-Copper, who joined me on my 2018 trip had returned to Sierra Leone with some funding for a conservation education and outreach project. While I had not been able to revisit the communities in 2019, Zoe visited each one, also with Alhassan, and conducted camera trap sensitisation activities (involving children's games with the cameras and letting the community members view footage, both from the games and the forest, on a portable projector) so I felt that some level of connected presence had been maintained. Towards the end of 2019 a logging operation of significantly larger scale began to move into the park

and conflict between these men (mostly coming from the cities where work is scarce) and park staff reached dangerous levels. After Alhassan and others were attacked with machetes, the government sent in the military to do a full sweep of the park, not even two months after Zoe had finished her community visits and while she was still working with a few primary schools in the buffer zone.



Figure 6: These images were taken in January 2020 and show the piles of Rosewood and crisscrossing logging roads that cut through places in the park that were previously unreachable by such large vehicles.

When I returned to the park in January 2020 I cried. Even though I had been in the park in January 2019, the interior was unrecognisable along the small bike and foot paths now widened to accommodate logging trucks. The skeletons of the trucks which hadn't survived the conditions littered the sides of the road, along with abandoned log piles, or those awaiting pickup. While the forest was not being clear cut and just the African Rosewood being targeted, the loggers did not assess the potential of the trees before

cutting. This meant that all over the forest there were the carcasses of redwoods dimmed to small or twisted to be used, but cut down all the same.

I insisted we walk from the park headquarters up the central road that goes from Yembere to Loumah. I wanted to reach Fansiga, the village we had stayed in for some days in 2018. On that trip we had come through a road on the west that started near Khatikoleya and went to Medina, but I had heard there was a foot path that connected Fansiga and Medina to Loumah and I wanted to travel through this area of the park. In every community we walked through we stopped for water, shade and a chat. When previously there had only been Susu speakers, the villages were now filled with young men and women who spoke exclusively Krio and no Susu. When before we had been hard pressed to find anyone selling goods if we had run short on a trip, now there were small tables filled mostly with candy, medications (tramadol, structurally related to morphine, is a popular daily medication for loggers to deal with the physical stress of the work), energy drinks, and alsohol. There was a plethora of small wooden tent-style accommodation, the normal sleeping quarters of the loggers from out of town. Usually these loggers would leave the park come raining season, and these small dwellings would be taken down. This year, with seemingly so much work for them, they had brought their women and the construction of many new homes in the park was well underway, from Yembere to Lakata, it seemed like populations had nearly doubled in most of these communities, and the tone of my visits was received completely differently.

Now, there was clear illegal activity anywhere you looked. When before community members had been wiling to look at images of animals and tell me about them and where I might find them, now everyone feigned ignorance of knowledge of any animals. Now, loggers and hunters accompanied by packs of dogs appeared on the cameras nearly as frequently as wildlife. Stern words from a chief had kept them largely safe from theft, but that didn't stop them from hunting. The only signs of chimpanzees I encountered on that entire trip, including the long hike through uninhabited forest, was a skull with burn marks from being cooked found in a trash midden in a loggers camp on the edge of Fansiga.

Andre Nyerges (1992) argues that this near constant state of fission-fusion between Susu villages in northern Sierra Leone is indicative of a 'perpetual frontier' culture in which low population densities have historically constrained political development. Frontier societies tend towards this type of shifting spatiality and power-dynamics as individuals attempt to gain the cultural clout that comes with being a 'founder' of a village, or the descendant of a founder (Nyerges 1992). Land tenure and usage rights contribute to this idea as the ownership of land is decided on the basis of descent while usage rights belong to the person or family who cleared the land. This creates a clear division between citizen and 'stranger'. This idea of 'strangers' was often repeated to me in these areas. A woman in Kotor, who had been a resident for over 30 years (her husband is from the village), claimed that because she was not of the village, she would always be a stranger there despite being Susu. Nyerges (1992) also discusses the influence on the Susu's history with slavery (both domestic and their involvement with foreign slave traders) as it ties in with kinship bonds and how it adds another layer to the dichotomy of citizen versus stranger. A Susu slave or slave descendent would be lesser than a citizen, but perhaps might hold a bit more clout than a recently arrived stranger. I observed some of the tensions that emerge from this long-remember genealogical histories, while conducting interviews with residents of one of the Susu villages inside Outamba. My translator Alhassan, who was also a park ranger, introduced himself by his full name. Upon hearing his surname one of the leaders of the village (a younger man of a seemingly similar age) told him: "You are my slave. My family always kept people from your family to be slaves." To which the ranger responded laughing, perhaps too light heartedly, "No, no. You are *my* slave!" The Outamba resident became agitated at this statement and a few heated words were exchanged (in Susu) before my guide changed the subject back to our research. When I asked him about it later, he told me it was nothing to be concerned about and it was obvious he found the whole exchange entertaining.

Nyerges' (1992) discussion of the importance of having familial ties with founding families also gave me pause to reflect on how my presence was interpreted by various people in the area. Half-way through my research, though while I was away from the field, the near entirety of the park staff was replaced. The new staff had obviously heard quite a bit about

me, and not long after my return to the national park (and my introduction to these new staff members) a tourist recounted a story told around a campfire while I was away camping in Fansiga on a research trip. He recounted how the de-facto leader of the park staff (Mende by tribe, not Susu) spun him an outlandish story about my grandfather being one of the original people of the Outamba area, but my grandfather had fallen into the river and remained trapped there from a spell for hundreds of years. The story then jumps to my return to park, which has now been declared the land of my forefathers by this narrative, and how I am here to protect the land of my grandfather. After hearing this story I mostly hoped that the park staff had kept it to themselves, and not shared it with those people who had *actual* ancestral claim to the land. But their need to give me some sort of kinship tie to the park seems now, to me, an attempt to legitimise my (non-destructive) interest in the people and wildlife of the area.

The villages, aside from Kamakirreh, are all about a one day walk from any clinic, hospital, market, or school. The towns outside the park which have these resources are Fintonia, Kamakwie, Kamabon, and Kabala. Each village chief, when asked what problems the people in his village faces living in a protected area, listed a lack of access to things such as schools, and hospitals. They also stated that as they live in a protected area and hunting is illegal, they have no way to defend their crops from wildlife. Though all villages had residents which did report that they consumed bushmeat somewhat regularly.

> "There is no health facility here. The entire section there is no health facility. This is the section headquarter town and there is no water, no health facility, no school, no road system. There are so many problems, but I have to say these first… Even if you send your child to Kamakwei they will not learn. No house, there is not someone to care about us. But if we have a better education system here we will manage them when they get experience you can send them [the children] anywhere. And the hunger, because all the food crops they work on the farm, animals destroy them. Every year we work, every year we are hungry. There are so many problems but these are the most important."
>
> [Yateya Elder 2018]

All residents of these villages practice subsistence-based agriculture, and often suffer from food shortages, or do not retain enough seed for planting each year. They grow crops such as: rice, cassava, groundnut, potato, corn, and millet. They suffer losses from crop raiding wildlife, most notably primates, elephants, various pig species (of which there are three in the park), and greater cane rats.

Universally, residents of the Dugata Section felt that their basic needs were not being met due to lack of food security, clean water (particularly in the dry season), roads, schools, medical care and markets. The lack of education was cited repeatedly, and I believe this is because of the multiple failed schools which were partially built by the UK charity Street Child, all of which lay crumbling and abandoned inside the national park. These schools were tantalising close to being completed and provided hope that their children would be educated. By leaving them unfinished and unmanned, I believe that significantly more distrust was instilled in developmental aid projects. When I contacted Street Child to ask how they had found permission to build within the national park boundaries, they did not comment.

Despite the fact that tax collectors and presidential campaigners visited all of these villages when they felt was necessary, the communities were aware of the proverbial 'rock and a hard place' that they were stuck in. They know that the laws surrounding the national park restrict their abilities to grow as a community, but yet they are required to pay taxes each year for government benefits that will never reach them.

> "We are here. We are suffering from food because whatever we work on their farms the animal in the forest destroy them. And the health facility. We don't have school. We are here paying the local tax and doing commonable labours for the government, but we don't have any income or any other benefit from the government. At the same time where we are farming the animals are destroying their crops. If you can have a way to stop this problem. And the road facility. The water."
>
> [Thanehneh Chief 2018]

There is a school within walking distance to Yembere, but the teacher was, in 2018, an untrained volunteer about 20 years old so the people of Yembere choose not to spend the money to have their children taught by an untrained teacher. Though, later on in this study, the teacher did receive some training through a 2 day course, which is standard for training teachers. Additionally this school also received some notebooks and lesson plans from the Sierra Leonean government, however interviewees told other researchers that when this had happened in the past they were absconded with by the absentee headmaster. By 2020, this volunteer teacher had left the school to find a paying job and the children had still less access to education.

Occasionally, if the situation allows, children will be sent to Fintonia, Kamakwei, or other nearby towns, to live with family members to receive an education. Though this was frequently acknowledged by residents of the villages located further within the boundaries of the national park, they usually stated that they lacked any funds to send their children to school elsewhere.

The villages, aside from Kamakirreh, are all about a one day walk from any clinic, hospital, market, or school. The towns outside the park which have these resources are Fintonia, Kamakwie, Kamabon, and Kabala. Each village chief, when asked what problems his village faces living in a protected area, listed a lack of access to things such as schools, and hospitals. They also stated that as they live in a protected area and hunting is illegal, they have no way to defend their crops from wildlife. Though all villages did report that they consumed bushmeat somewhat regularly.

All villages practice subsistence based agriculture, and often suffer from food shortages, or do not retain enough seed for planting each year. Prior to 2019 there were extremely limited options for earning an income with anything other than subsistence agriculture[4]. Very

[4] The local economy within the park changed drastically in 2019 with the introduction of large scale logging operations which I saw in the wide roads which now run through the entire park, and in some villages the number of houses had doubled. In 2018 where no one had spoken Krio, but only Susu or Limba, now there were entire families of Krio speakers with no knowledge of the Susu language. By the end of 2019 the change in population was so apparent that even the pit toilets in each of these communities had begun to overflow and residents had to use the nearby forest for defecation.

occasionally a healer or speciality hunter was encountered, but only two healers and one hunter made themselves known during the focus group interviews throughout the Outamba sections of the park. Anyone who hoped to earn cash-in-hand salaries would move out of the Dugata section (the park boundaries) and move to the towns of Fintonia or Kamakwei as was explained by some such youths in Katapolen village. Even when (usually) young men left to seek their fortunes elsewhere they would return to their home village for the labour intensive planting season in which everyone, from children to the elders, are involved. The farmers in this region grow crops such as: rice, cassava, groundnut, potato, corn, and millet. In each village, residents reported that they suffer losses from crop raiding wildlife, most notably primates, elephants, various pig species (of which there are three in the park), and greater cane rats. As the chief of Yunkula explained, the particular limitations imposed upon residents of Outamba exacerbate the strains on their already tight livelihoods:

> "The whole village, from my great great grandfather. Maybe we never knew this place would become a national park. We were born inside here, and we don't have anywhere else to go. We only know this place. So we want to make this a fine place, we need to build a school and fine villages here, so we don't have to leave our home. We don't want to have to go and be strangers in another man's land, and be called foreigners."
>
> [Yunkula Chief 2018]

2.2.3 Kortor Village

The village which is situated just outside the Outamba Kilimi National Park, closest to the national park head quarters and tourist camp is called Kortor. It was home to just over 200 people in 2018, though that number grew in 2019 with the increase in logging activities. Kortor is Susu by tribal affiliation and exclusively Muslim. There is a small, periodically defunct primary school, two permanently defunct wells, and a sand filtered stream which runs through the village year round. Due to its location at the entrance to the national park

headquarters, this community is usually a central focus for (failed) conservation activity implementation and a target for conflict with the park staff (sheer proximity).

This is the village I spent the most hours in, as it was an easy walk where I lived at the park head quarters. When I arrived in 2018 with three masters students in tow a handful of people remembered me from my stay in the park in 2017. I can still remember how nervous I was to return over a year later with so many hopes and expectations, hoping everything would live up to my descriptions to the accompanying students. Pa Saidu Bah, the oldest ranger at the park, lives in a white washed brick house at the entrance to the village. There, he sits sentinel on his veranda, cigarette in hand and a baseball cap low over his forehead, the first to see anyone trundling up the steep hill from the rice swamp directly before the village. As soon as I saw him I had Almamy, the driver, stop the car. I had spent many hot days trekking through the bush with Pa Saidu Bah in 2017, and remembered him and his sharp sense of humour fondly. As soon as he spotted who I was I was nearly knocked flat by hug. The rest of the students hopped out of the car and we were met with a flurry of activity and equally enthusiastic greetings from my other erstwhile friends Mohammed Mansaray and Alhassan Sillah.

After settling in at the headquarters the first night having arrived late, dusty and exhausted, the next morning we walked about 20 minutes up and down the hilly red-dirt road that led back to Kortor village. That morning we would hold our first official meeting with the Kortor chiefs.

We gathered in a circle while the elderly chief and village elders sat in low wooden chairs or on wobbly benches, and were introduced by the park staff as students and researchers (this was also where Chloe and Zoe were given 'African names' as chosen by the community as theirs were deemed to hard to pronounce; Joe and I were allowed to keep our names as they were already African). That morning the elders had appointed the elderly and retired school master to act as translator from English/Krio to Susu, but somewhere past the introductions he nodded off and began gently snoring. A young man I hadn't met before took over the task. This young man, named Osman, would go on to be

appointed, along with Morlai Kamara, as translators for Zoe and Chloe respectively, while Joe and I would work with Alhassan. Between my relationships with some of the older residents of the village (Saidu Bah and Mohammed Mansaray) and our new found connections with residents closer to our own age, the four of us began our foray into the social world of Kortor village. When I wasn't hiking to the interior villages with Alhassan and Joe, we would spend mornings walking around peoples farms and snacking on hot fresh fried rice cakes, afternoons playing games on the river beaches, or drinking hot sweet soft drinks on Osman's veranda, and even hopped on the bikes for an occasional group outing in Fintonia. The relationships forged during this 2018 field season cemented relationships I maintained throughout, and after, my fieldwork. Some, but not all of these people, would eventually sit down with me for a more formal interview, but there were many more informal conversations outside of those interviews that shaped my understanding of the lives of these individuals, and more widely, the residents of Tambakha Chiefdom.

2.2.4 Freetown to Makeni

By choosing to discuss zoonoses and the Ebola outbreak in both a rural and urban setting, I was able to better understand the cultural links that Sierra Leoneans, even those more far removed and living in urban areas, have with wildlife. As I demonstrate in Chapter Three, the mass trade and exploitation of wildlife has often been fuelled and accelerated by foreign influences. However, that does not negate the fact that wildlife is also used by Sierra Leoneans for a wide variety of reasons that are integral to Sierra Leonean culture.

Although urban residents do not live alongside wildlife to the same extent as that those who inhabit Sierra Leone's smaller towns and rural areas, they nonetheless continue to hold a strong folk knowledge about wildlife, including the practical ways in which animals can be used. I was reminded of this on one occasion while I watched a wasp build a mud nest in my friend's home where I was staying over the holidays. Upon seeing what I was looking at, one of the janitorial staff for the University of Makeni, who was born and raised in the northern city, told me that the mud from this small house was wonderful for curing

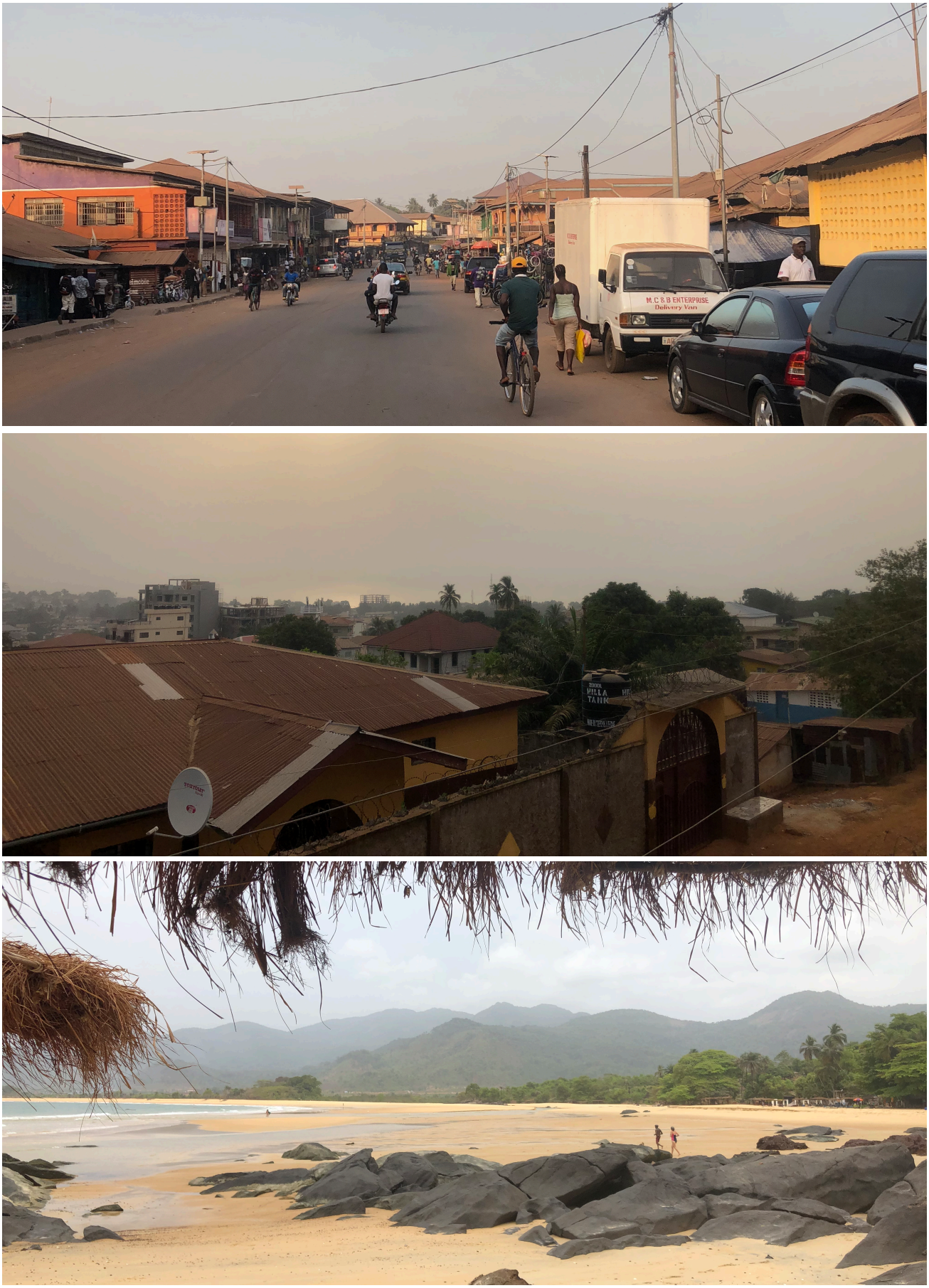


Figure 7: Top to bottom: Makeni town centre (2019), moving away from the clock tower; Freetown, a view from a home near Spur Road junction (2020); A view from my accommodation at Bureh Beach Village (2020) looking towards the mountains in the Western Area National Park

joint pain.

People in cities like Makeni and Freetown, often live very far removed from free roaming wildlife, especially those species who could transmit diseases like Ebola. The only exception to this are bats. Bats make their home in some of the most iconic spots in both Makeni and Freetown, the large tree that overlooks Makeni's central clocktower and marks

the entrance to the city's market, and Freetown's famous Cotton Tree, where it is believed that freed slaves gathered in the 1700's to found the new society that would become Freetown. Despite living a considerable distance from most of the wildlife species discussed in this thesis, the cultural ties to wildlife have stayed strong, and, like the story of the wasp shows, urban Sierra Leoneans have maintained knowledge and use of what few species still share their modified landscape.

Makeni is the largest city in the Northern District of Sierra Leone and is the capital of the Bombali District, which included the Outamba Kilimi National Park until 2017 when Bombali was divided into two districts, the more urban Bombali containing Makeni and the more rural Karene to focus around the small town of Kamakwei. While it is Sierra Leone's fifth largest city, its population is only about 124,000- (United Nations 2015). From my perspective, which was much coloured by my interactions with staff and students from the University of Makeni, one of the more prestigious private universities in Sierra Leone, it felt much like a college town encroaching on a suburban area. The city is haphazard in it's layout, with all roads leading to the iconic Makeni clocktower, placed next to the town's largest cotton tree and bustling street market. The language spoken most predominantly is Krio, though the city hosts a large population of Temne people.

On my first stay in Makeni in 2018, I met Richard Edmond, a British man in his early twenties, he was then teaching at the University of Makeni (UniMak) and working on a international development project. He had been living in Makeni for about a year at that point and I quickly fell in with his friend group of lecturers and law students at UniMak. This initial connection was largely where my relationships in Makeni stemmed from, and my interview participants were either friends or friends-of-friends of Richard or worked

adjacent to the University in other regards (I interviewed one of the janitors who I had become friends with, and who was the first to teach me a small array of Sierra Leonean cooking and kitchen skills, like how to use a coal pot). Most of the students came from relatively well-off households, at least compared to the families I'd grown close with in Tambakha Chiefdom. One of the young men, a law student, who is quoted in this thesis, was president of the Scrabble club, and admittedly prided himself on using word-choices/ language that others found complicated to make others feel stupid. Those kinds of comments he made, often over long nights with my Scrabble board, had coloured my opinion of him as a haughty young man, but when we finally sat down to an interview he recounted the time he and his siblings were so hungry they had no choice left but to eat their cat. He was given the responsibility of dispatching the animal, and his recounting of the tale and the cats human-like screams nearly had me in tears. His sadness and compassion, masked by the hard reality that he and his brothers had to eat, was apparent in his retelling. This juxtaposition of traits and experiences was well highlighted in the young students I interviewed in Makeni.

The vast majority of Sierra Leone's population lives in the urban and rural districts of the capital city of Freetown. Of the country's 8,000,000 inhabitants more than 4,000,000 of them live in and around the Freetown peninsula. A natural characteristic that has been a double-edged blade for the country is that Freetown is one of the continent of Africa's only naturally suitable port for large vessels, with the deep sea shelf coming so close to the coastline. The city of Freetown gets it's name from the hundreds of freed slaves that the British returned to the port city in the late 1700s and gathered under the city's now famous Cotton Tree. Freetown is also home to the oldest university in sub-saharan Africa, Fourah Bay College. While the interior of the peninsula has been made into a national park, there is near continuous encroachment on the forest, most recently highlighted by the devastating mudslide in 2017 where over 1,000 people were killed. When Sugar Loaf Mountain collapsed, it became clear that the government was not monitoring the encroachment and deforestation happening around Freetown, which left the ground unstable. These homes had actually been built within the borders of the national park, and Fourah Bay College

professor of biology told me he had been predicting that event for years and had become disillusioned with trying to raise the alarm, as no one ever listened.

Due to the shifting plans granted me by the COVID-19 pandemic I spent more time than I had planned to in the rural areas of Freetown along the coast, in particular, Bureh Village. It sits just down the road from Tombo, which is the major local fishing port, and was the site of a violent clash between the police and fishermen over COVID restrictions just days after I left the country. Bureh is an easy day trip for people from the city, but more often people come for the weekend enjoying the quiet beaches, easy surfing, and good company. The small town of Bureh has seen a lot of engagement in their development from the various foreign people who come through and find sanctuary in the little beach town, away from the bustling of Freetown proper. Many of the long-term foreign doctors working in the country are on a first name basis with the people in the community, and the whole village took the Ebola outbreak very seriously. There were no reported Ebola deaths in their community, which the locals say was due to vigilance on not letting strangers into the village, and access to the sea where anyone returning to the village was made to wash in, fully clothed, upon their return. It provided an unexpected but worthwhile juxtaposition of the hesitancy and distaste which people from Makeni and Tambakha viewed sensitisation and foreign medical interference.

I first met the Bureh Beach surf boys in 2018 when I stayed for a brief visit, hoping to soak my toes in the sea for a few days before leaving Sierra Leone. Over the next few visits I returned to Bureh Village whenever I had the opportunity for rest and relaxation, including Christmas and New Years of 2018. Over the periodic stays from a few years worth of long beach weekends I developed a small group of familiar and friendly faces that I would grow unexpectedly closer to during the spring of 2020. By 2020 one of the masters students who had joined on my summer 2018 field trip was back and living in the country in Bureh Village with her long-term partner, who was born and raised in Bureh. She and her new found family offered me shelter from the storm that was the first few weeks of the COVID pandemic. I was not the only one who had arrived from *upline* (the word for anywhere outside of the Freetown peninsula) to choose the Atlantic Ocean over the dry grasslands

surrounding Makeni. Some of the friends I had made in the city also came to the village to whether the periodic lockdowns and general confusion. The interviews I conduct in Bureh consisted largely of residents of the village, and two being acquaintances I normally knew from Makeni. Because I was accompanied by a woman who was in a relationship with a Sierra Leonean man, and therefore was taken up by his sister-in-law and mother, had an easier time connecting with women in Bureh Village. I was not able to interview any women in Makeni as I found it incredibly difficult to get any women near my age to even have a casual conversation with me. But not in Bureh. In Bureh I befriended the fruit sellers, cooks, imported snack vendors, mothers, sisters, and nurses, and am grateful to all of them for the insight both their conversations and interviews gave me.

2.3 RESEARCH METHODS AND THESIS STRUCTURE

As an interdisciplinary project, my research incorporated a range of complementary methods, the findings of which are presented across the different chapters of this thesis. Chapter Three is historical in focus, and was based on documentary and archive research. This chapter presents a long and in-depth timeline about the commodification of wildlife in Sierra Leone, which I think is vitally important to understanding people's relationship with wildlife and the environment in general in Sierra Leone. Sierra Leone is a country rich in natural resources that has, since its 'discovery' by Europeans, has faced unrelenting extraction to the extreme detriment of the country as a whole. In addition to this, the new wave of environmental conservation, especially when disease communication is hijacked by conservation organisations, focuses unfairly on subsistence resource extraction at a local level, while rarely discussing the long-term international pressure for more resources and wildlife. This type of conservation action works as a detriment to both conservation activities and for disease communication, as it's hyperbolic and accusatory tone is alienating to Sierra Leoneans. Additionally, some information and context are given on the Sierra Leonean Civil War, which is not discussed in great detail throughout this thesis, but

the ramifications of which are necessary to better understanding the mindset of Sierra Leonean people who have had such violent trauma so recently in their lives. The information gathered in this chapter came from a variety of sources: a small private zoological library in Kent, the collections of papers and notes from the late Geza Teleki, as well as supplemental information from his widow Heather Teleki. In addition, I have developed a fruitful working relationship with an antique African book seller and have been able to access several rare historical texts relevant for this research.

Chapter Four lays the groundwork for understanding exactly how the Ebola epidemic was communicated to people and takes a special look at understanding how certain species, such as chimpanzees, were targeted in the communication strategy for this Ebola outbreak. This chapters examines local media output from Sierra Leone, Guinea and Liberia before, during, and after the Ebola outbreak to examine how communication about chimpanzees and Ebola evolved over that time. This links into how Ebola sensitisation was done in a more official capacity by local governments, as well as by internationally recognised health organisations. I highlight these communication strategies as they show how local peoples were alienated from the communication, and how the communication strategy focused more on shaming local food cultures (while data showed that the spread of Ebola was human-to-human contact) and contradicted people's lived experiences.

In addition to considering the official sensitisation materials produced by government and health organizations, Chapter Four also considers how ideas linking the spread of Ebola laced wildlife were disseminated through local media sources. I chose to examine online news sources from Guinea, Liberia, and Sierra Leone to measure people's attitudes over the Ebola epidemic arc. Newspapers have been shown by previous studies to be accurate indicators and important influencers of people's attitudes towards wildlife. For instance, in the United States, studies have shown that print media was the most common source of information about wildlife and that increased coverage by (online) media, as well as the slant of the content of said media, had a remarkable effect on people's perceptions of the dangers of wildlife (Mankin et al. 1996, Gore et al. 2005).

I chose to focus specifically on chimpanzees in this chapter and in the newspaper searches because chimpanzees were often featured on posters and murals as a potential source of Ebola. In addition, the chimpanzee is one of the few species in this region which has multiple active conservation efforts, including public sensitisation campaigns (in Sierra Leone they are sponsored almost exclusively by the Tacugama Chimpanzee Sanctuary) and during the course of my studies the chimpanzee became the national animal of Sierra Leone (2019). Later in this thesis I will show how the focus on chimpanzees, as vectors, as traded 'objects', and as 'bushmeat' plays into the international fears and responses to the West African Ebola outbreak. While they are not considered a reservoir of the virus, they burdened much of the weight as the symbolic 'Typhoid Mary[5]' in this outbreak.

Online newspapers were sourced from "www.onlinenewspapers.com" and were found by searching by the country. Of those newspapers listed for Guinea, Liberia, and Sierra Leone, not all links were active. For Guinea the following online news sources were used: Guinee News, Media Guinee, Guinee Presse, Kabachir, Guinee Conarky, and Le Journ Guinee. For Liberia the following online news sources were used: Front Page Africa, GNN Liberia, The New Dawn Liberia, Liberian Observer, Monrovian Inquirer, and Bush Chicken News. For Sierra Leone the following online news sources were used: Awoko, Sierra Leone Concord Times, News.SL, Cocorioko, Sierra Leone Press, Makoni Times, ExpoTimes Online, Salone Monitor, Salone Post, Global Times Sierra Leone, and This Is Sierra Leone. To be utilized in this study the online news source needed to have a search capability so that they key word "chimpanzee" ("chimpanzé" for Guinea articles in French) could be used. Only articles matching this keyword search were used and for each the topics and context in which chimpanzees were discusses was recorded. If the article was written before, during, or after the Ebola outbreaks were officially announced in each country was also recorded. The time frames for articles chosen was different for each country as it reflected the duration of the Ebola epidemic as described by the WHO. Articles for Guinea were collected up to 23

[5] Typhoid Mary was, in life, Mary Mallon, a cook born in 1869 and infected with typhoid fever and continued her work in kitchens while being an asymptomatic carrier of the virus. She is believed to have infected over 50 people with the virus. In 'Contagious: cultures, carriers, and the outbreak narrative' (2008), P. Wald argues that Typhoid Mary took on a mythic archetype capable of changing social interactions and kept a hold over public imagination which ultimately shaped the outbreak narrative.

Village Name	Reported Population	Interview Group Dynamic
Khatikoleya	60	7M, 3F
Yateya	600	8M, 4F
Bambakeraya	100	3M, 4F
Fansiga	120	15M, 4F
Lakata	40	2M, 1F
Salifuya	60	13M, 8F
Kondeta	200	10M, 6F
Dunkuba	70	3M, 3F
Yembere	44	N/A
Gbaranya	150	5M, 2F
Thaneneh	120	16M, 4F
Kamasugula	8	N/A
Dubuya	400	4M, 3F
Loumah	428	7M, 7F
Digi Digi	75	4M, 2F
Kamathama	6	2M, 1F
Katapolen	50	4M, 3F
Kamakirreh	50	10M, 4F
Madina	300	14M, 7F
Boroso	200	17M, 8F
Yawuyen	500	13M, 2F
Kawono	150	8M, 2F
Yunkula	125	6M, 3F

Table 3: These are the villages listen in the Outamba section of the Outamba Kilimi National Park. While I visited all communities in 2018, some did not participate in focus group interviews for reasons outlined below. Key: M = Male, F = Female. Population reported in 2018.

months prior to the outbreak, during the outbreak which lasted 23 months (including flare-ups), and for 23 months after the outbreak (start May 2012, end December 2017). Articles for Libera were collected up to 22 months prior to the outbreak, during the outbreak which lasted 22 months, and for 22 months after the outbreak (start May 2012, end October 2017). Articles for Sierra Leone were collected up to 23 months prior to the outbreak, during the outbreak which lasted 23 months (including flare-ups), and for 23 months after the outbreak (start June 2012, end February 2018).

The topics which were recorded for this study were: was another country discussed, was cross border trade discussed, was conservation of chimpanzees discussed, was chimpanzee related crop raiding discussed, was chimpanzees being consumed as bushmeat discussed, was Ebola (EVD) discussed, was the article completely off topic, or was a topic mentioned that would fall into the 'other' category. Articles could be recorded to discuss multiple topics.

Integrating camera trapping into ethnographic research

In addition to conducting these interviews I also wanted to understand which species were present in Outamba Kilimi National Park as no species assemblage survey had been conducted since before the Sierra Leonean Civil War. I opportunistically placed 25 Bushnell camera traps throughout the Outamba section of the Outamba Kilimi National Park. Camera traps were placed on wildlife trails, near watering holes, and on the edges of farmland within the park. Opportunistic camera trapping has been successfully used to determine species assemblages (Carbone et al. 2001; Trolle et al. 2007; Azlan and Sharma 2006; Stein et al. 2008). Transects as a means of assessing the species of primates which inhabit the area are not a viable option as the frequency of hunting in the area has made all species intensely wary of human presence. Camera traps are the least invasive option and promise a high degree of success in capturing images of illusive species. Cameras were placed in the Outamba section of the Outamba Kilimi National Park beginning in May, 2018

with camera traps still in place to continue monitoring wildlife near buffer zone communities.

In addition to using these camera traps to confirm the presence of various species in the park, they also served a secondary, and perhaps to this thesis, more important role: they gave my presence a more tangible and understandable purpose to people, and the resulting videos also worked wonders for initiating conservations about wildlife that were not exclusively about their role as crop destroyers. I often introduced camera traps, handing around one of the cameras when visiting communities, and pulling out my computer to show off videos we had captured. The discussions had around these videos never focused on the species we watched together as vectors, but were valuable to me in my understanding that despite from my perspective, these people were living alongside these animals, they did not have the luxury of ever just *watching* them. Showing videos of chimpanzees would elicit exclamations of "Look at them carrying their baby on their back, they are just like humans!" Or showed people that elephants could use their trunk like a hand, which was of great interest to the community of Kortor in particular, who had requested we place cameras inside their sacred forest (a feat that took two years of relationship building) to observe 'their' elephants.

A full list of species seen on the camera traps can be found in the Appendix.

Below are a selection of images from the camera trapping work. Cameras are moved every 3 to 6 months, depending on external factors like forest fires, flooding access points, etc. The number of cameras since 2018 has fluctuated with 30 new cameras purchased in 2020 after nearly half of the original cameras were lost due to fires, elephants, and machine error (the Bushnell's were purchased used from a Max Planck project in the country). The cameras were maintained by local peoples when I was not in the field.



Figure 8: Camera trap images taken inside the Outamba section of OKNP between 2018-2020 from top to bottom: Mother and juvenile Guinea baboon, leopard, female chimpanzee



Figure 9: These camera trap images were taken between 2018 and 2022 and include from top to bottom: an African forest elephant, a Campbell's monkey, and two common cusimanse

In addition to the camera traps helping me to build trust and relationships with community members, I was also able to capture species on camera which are outside their current listed range according to IUCN. These species include the leopard (*Panthera pardus*), olive and Guinea baboon (*Papio anubis, Papio papio*), common cusimanse (*Crossarchus obscurus*), and I confirmed the continued existence of a stable group of African forest elephants (*Loxodonta cyclotis*) which had been speculated to have been hunted out of existence in 2015.

A total of 179 articles were used for this study with 104 being from Sierra Leone, 40 being from Liberia, and 35 being from Guinea. There were significantly fewer online news sources from both Guinea and Liberia in comparison to Sierra Leone, and it was very common for entire online news sources to disappear from the web throughout the duration of this study. All translations are mine.

Chapter Five and Six focus on the lived experiences and perceptions of wildlife and zoonotic disease of people who live in more isolated and rural parts of Sierra Leone, namely the Tambakha Chiefdom in Karene District. I spent time in this area each year from 2017 to 2020 and not only spent time building relationships with local community members, and gaining knowledge and insight through participant observation, but I also conducted in-depth one on one interviews, and worked with an MSc student from the Primate Conservation programme in 2018 to map the communities of Outamba and conduct focus group interviews (after one-on-one interviews were deemed inappropriate by local leaders) on people's perceptions of wildlife and their understanding and knowledge of the Ebola outbreak (Agar & MacDonald 1995; Suter 2000). Local leaders and residents were more accepting of focus group interviews as they were afraid to be seen speaking behind the back of local leaders. People seemed to have no issue disagreeing with the local chiefs during focus group interviews, but on an individual basis the fear of providing alternative information behind the back of leaders prohibited people from participating in one-on-one interviews. The research partnership between myself and the student, Joseph Taylor, was also beneficial in that it meant there was a man and woman conducting the interviews, which assisted in gaining the trust of both the elder men and

women of the communities we visited. When conducting the focus-group interviews with Taylor, the questions usually followed the pattern of starting with the flashcards of the animals and asking if people had any issues or problems caused by this animal, if any (or any other, if some were mentioned) animals could make them sick, if they knew what Ebola was, then more in-depth questions about their knowledge of Ebola.

In total we conducted 23 focus group interviews and one-one-one interviews with an additional 12 people. Outside of these more formal interviews I spent a lot of my time talking to people about various topics, or simply listening to discussions that went on around me (Solomon et al. 2007). By 2019, I was confident enough with Krio to be able to hold interviews without the assistance of a translator, though for all 23 of the focus group interviews a translator was used as these discussions were largely conducted in Susu or Limba. The majority of the translations were done by Alhassan Sillah of the National Protected Areas Authority, whose in-depth knowledge of scientific topics meant he was able to communicate cultural nuances to us that were lost when I attempted to use other translators.

While mapping the villages in the Outamba section I also conducted a photo elicitation survey to identify which species were present in certain sections of the park. Photo-elicitation was used to help determine the way people view and use wildlife, without relying on oral communication. Therefore, reducing the amount of mistranslation that may happen. This method is widely used by anthropologists to attribute social meaning to something (Ruby 1995; Harper 2002) and can build rapport (Bignante 2010). I also incorporated photo elicitation into my interviews, showing participants photographs of different primates, and other wildlife species. As well as enabling me to identify which species were present in the park, the photographs also served as prompts for further discussion by encouraging participants to reflect on how they view and use wildlife, including certain species of primates. The flashcards were an extremely useful conversation starting tool which gave people the opportunity to not only share about the topic I was

initially asking about, but to offer up additional information I would never have known to ask about.

I had originally intended for Chapter Seven to focus largely on Makeni, and I had planned to do larger-scale more quantifiable surveys in the city with the assistance of students from the University of Makeni. Unfortunately before this could be arranged the COVID-19 outbreak began and I moved to Bureh Village. I had one-on-one interviews with four people in the city of Makeni, from various backgrounds, and more casual conversations with dozens more people. I attempted to build trust and some level of a personal relationship with people prior to the interviews. I found it was helpful for people to have a good understanding of my motivations, especially at the intersection of medical health. I needed to be clear I was not a medical doctor, nor was I performing any tests or interactions on wild animals (no need to fuel the conspiracies further). When I arrived in Bureh I had a slight social advantage in that I had known the people there for some time from my own weekend visits over the last few years. Additionally, some of my friends from the University of Makeni also decided to seek shelter in the beach town, rather than remain under lock-down in the dusty city of Makeni. It was much easier for me to find men and women to interview as there was already a level of trust and understanding established. I conducted one-on-one interviews with five individuals in Bureh Village.

There were many ethical considerations made during this study. Initially I was unsure of how people would respond to questions about an epidemic that had claimed so many lives, but it was not long into my 2018 trip I realised that Sierra Leoneans were very accustomed to talking about topics like death, and there was not the same stigmatisation around these conversations. Death and disappointment were, after all, encountered with regularity in the lives of Sierra Leoneans. Many people divulged traumatic incidences to me, some more openly than others, oftentimes with no prompting. These were not conversations had during interviews, but conversations with people who became my friends. After I was the victim of a violent crime in Makeni, the friends who came to visit me in the hospital opened up about similar experiences they had had. No one was left unscarred in Sierra Leone. I was even told that women were not allowed a significant mourning period (which allows

the woman reprieve from her household duties) after the death of a child until that child had reached at least 5 years of age. When my British friend's grandfather passed away from natural causes, his distress was confusing my friend Ibrahim. When I told Ibrahim this was the first person he knew to die, Ibrahim had to have me clarify this. It was unheard of to reach your mid-twenties with no first-hand exposure to death.

If the person who started began this idea in 2017 read the questions I asked people I would have balked at their directness, but I had learned that the assumptions I put with direct questions, based on my own cultural upbringing, were my reservations, and not shared with the Sierra Leoneans I spoke to.

Before beginning any interview I always verbally discussed with people why I was asking them questions and how their repossess would be used. I allowed space for questions from people at the beginning and end of the interviews, and always gained consent for audio recordings. I did not insist upon signed consent forms, as the majority of my interviewees are illiterate. Although they could have 'signed' with a fingerprint I was not comfortable, nor were the people (friends from Kortor and my translator) I asked prior to beginning, with asking people to sign something they are unable to read. This was continued from the legacy of distrust between the government/conservation efforts and local people, who felt their land and resources had been stripped from them without their permission, and were constantly afraid of being forcibly removed from their own land.

CHAPTER THREE: HISTORIC CONTEXT

"For centuries the average peasant hunted only for meat to feed himself and his family and little harm was done to the wildlife population. This utilisation of wildlife for food is still very important in Sierra Leone where beef is expensive and relatively scarce. Subsistence hunting is strongly traditional." – Daphne Tuboku-Metzger

3.1 CREATING THE PERFECT STORM

The Sierra Leonean Civil War and it's cultural impacts have already been well studied (Richards 1996; McIntyre et al. 2002; Shelper 2004; Basu 2008; Bolten 2012; Mitton 2015) and will be alluded to (largely in the form of systemic distrust), but not widely elaborated on in this thesis. In the next section I aim to elucidate the root causes of why sensitisation programmes and the media focused so heavily on this topic around food disgust (i.e. the consumption of monkeys, bats and chimpanzees) and the subsequent justification of blame. To accomplish this, I have examined a rarely discussed topic in Sierra Leone's history: the commodification of wildlife by outsiders.

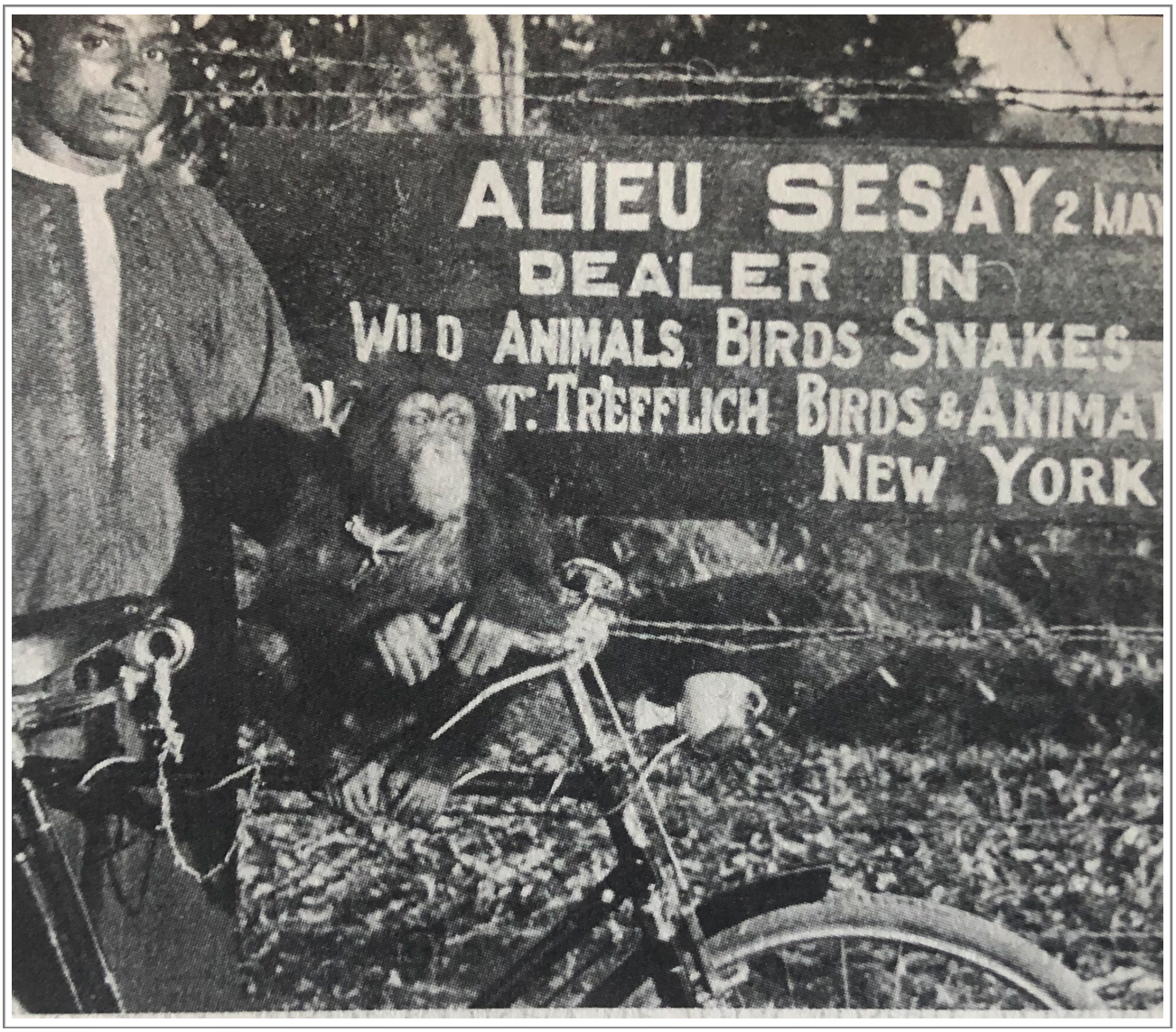


Figure 10: A young chimpanzee on the bike of American wildlife exporter Henry Trefflich's manager, Alieu Sesay, outside of Trefflich's collection centre in Freetown, Sierra Leone circa 1940 from '*They Never Talk Back*' by H. Trefflich and B. Kendrick (1954)

The purpose of understanding the historic extent of influence of Europeans on wildlife trade in Sierra Leone is to understand the context in which Sierra Leoneans have traded, viewed and used wildlife for centuries. This can help anthropologists and wildlife conservationists understand how deeply imbedded wildlife trade and use is within the context of Sierra Leonean society. It is also interesting to note the external influence on the wildlife trade as outsiders now return to the country in an attempt to conserve the remaining wildlife or design zoonotic disease communications with biased information purporting the harms of consuming wild animals. Oftentimes, the impact that colonisers had on wildlife populations can be overlooked, but even decades out of colonial rule over Sierra Leone, there is no way that wildlife populations would have recovered from the rate of hunting which took place from at least the mid-1400's to the 1980's, not even considering the poorly documented black market trade in wildlife still happening today.

To begin narrating the story of Sierra Leone's difficulties with the Civil War (1991-2001) — to imagine that before this Sierra Leone held titles like the 'Athens of West Africa', was a holiday destination for the likes of former French President Jacques Chirac, and must have been some idyllic place — is to ignore the centuries of pillaging, instigation of in-fighting, and the constant dehumanisation of Sierra Leone's citizens by outsiders. To consider a fuller narrative, in this chapter I begin from the earliest written accounts of the land that would eventually become Sierra Leone: 520 BCE and follow the historical accounts of colonisers influence on wildlife as a commodity to modern day tourist markets. This timeline elucidates the constant pressure to commodify wildlife that has been imposed on Sierra Leonean culture for centuries, and how this has been turned on it's head and used by other cultures to justify the dehumanisation of people thought to consume wildlife, in particular wildlife which is viewed as a potential vector for zoonses.

Much of the world looked upon West Africa during the Ebola outbreak with disdain and blame: blame on these people who would dare eat something like a monkey, chimpanzee, or a bat; blame on the country for its poorly functioning healthcare system; blame on the people who have traditions associated with death and burial. This blame and the disgust the media played on made it easier for the Global North and other global powers to

relegate the peoples of West Africa to subpar care. But it did not start with the Ebola outbreak. This disgust and dehumanisation has been pervasive in the global attitude towards West Africans for centuries.

In Paul Farmer's book 'Fevers, Feuds, and Diamonds' (2021) he argues that a 'control-over-care paradigm' overtook the scene as Ebola spread throughout the region: "What drove Ebola sufferers underground, and sparked or fanned conspiracy theories and overt resistance to health authorities, was not the arrival of doctors, nurses and other professional caregivers. It was, rather, the arrival of a vast machinery of disease containment: once the global alarm sounded in late March, the control-over-care paradigm was officially ascendant." (Farmer 2021: 19)

Even looking back to 1886, when Sierra Leone's borders became defined by the British Crown and the region was being carved into colonies for European benefit, is not far enough. To account for the impact of only the last 150 years minimises the effect of the centuries of trade in human beings out of the region. To start at 1886 is to start seventy years after the founding of Fourah Bay College (which started as a missionary school, then delved into colonial education by the late 1800s), one hundred years after the arrival of 400 formerly enslaved people to found Granville Town, and three hundred years after Portugal began exporting some 1,500 enslaved people per year from the region (Foray, 1977). To believe that we should look back no further than to the formation of 'modern' European colonies is to ignore the centuries of dehumanisation that has continued in global cultures which allows outsiders to view West Africans as, at worst, a commodity themselves, and at best, savages whose culture is to blame for their failures.

3.2 THE HISTORY OF WILDLIFE AS A COMMODITY IN SIERRA LEONE

Daphne Tuboku-Metzger, arguably the mother of all Sierra Leonean conservation, who established the first nature conservation organisation, the Sierra Leone Nature Conservation Association (SLENCA)[6], wrote in African Wildlife News in 1979:

> "For centuries the average peasant hunted only for meat to feed himself and his family and little harm was done to the wildlife population. This utilisation of wildlife for food is still very important in Sierra Leone where beef is expensive and relatively scarce. Subsistence hunting is strongly traditional.
>
> In recent times, however, hunting pressure has increased resulting in a marked decline in the numbers of wild mammals. Although subsistence hunting for protein is now more than it used to be owing to the growth in population, it cannot be said that this form of hunting has been wholly responsible for the depletion of wildlife in the country. The greater part of the blame must be attributed to hunting done for commercial reasons and for sport." (Tuboku-Metzger 1979)

3.2.1 Pre-European Settlement (Pre 1462)

It is difficult to have an understanding of what daily life may have been like for the people in the country now called Sierra Leone prior to the arrival of Europeans. Those who simply mapped the coastline had little to no interactions with those already living in this part of the African continent, and the brief interactions that they recorded are wholly unhelpful in interpreting culture. In 520 B.C. Hanno, a Carthaginian explorer, recorded the first written account of travel within what is now Sierra Leone. He recorded his interactions with the

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[6] While Tuboku-Metzger continued to support conservation efforts, specifically those of the West African manatee, throughout her life, SLENCA did not stand the test of time. She and SLENCA worked towards the establishment of the Outamba Kilimi National Park after the organisation was established in 1977, but details of the organisations role are not recorded. While SLENCA no longer exists and details of any later efforts have been lost, other grassroots organisations have emerged in the last few decades, including the Conservation Society of Sierra Leone (CSSL).

people of Sherbro Island stating that the island was full of wild, hairy men and women whom he referred to 'gorillas' (George 1904). While these earliest voyages tell us little of Sierra Leone's cultural identity, they can show when trade with Europeans and Phoenicians began with those living along this coast. It is speculated that after Hanno's expedition, trade with Phoenicians must have been fairly regular as the use of Phoenician names begin to enter the record in West Africa after this voyage (George 1904).

3.2.2 Early Portuguese, Dutch, & British trading (1462-1786)

In the year 1462 Pedro de Cinta named the area that would become Sierra Leone *Serra Lyoa* and mapped the capes, rivers, and islands found there. By 1482 the Portuguese had built a fort along the River Sierra Leone (Foray 1977).

Many reports of the daily life of Sierra Leoneans from this time come from the dairies of Portuguese missionaries who traveled throughout the country. Some reports of pet chimpanzees ring similar to reports I heard during my first trip to Sierra Leone in 2014:

> "The older people say that, in the times when the natives lived in peace, *daris* (chimpanzees) were used to fetch water and firewood… There are heathen that claim to be descendants of this animal, and when they see it they have great compassion: they never harm it or strike it, because they consider it the soul of their forefathers." (Manuel Alvares, ca. 1615)

Though there are mentions, like the one above, of pet chimpanzees in Sierra Leone, according to Sept and Brookes (1994), there was no mention in the diaries of early Portuguese priests (Pereira, 1505-1508; Alvares, 1615) that chimpanzees were hunted for consumption in Sierra Leone. While taboos surrounding the killing of chimpanzees were recorded in my own study, they were rare and seemed to be flexible in that some people admitted that chimpanzees were still consumed if they were caught. This cultural flexibility plays an important part in understanding how Sierra Leoneans processed and reacted to the 2014-2016 Ebola epidemic and will be discussed in greater detail later. It is possible that at the time of that these journals were written these taboos were not flexible and therefore

chimpanzees were not as widely hunted as they later were after significant Western influence.

In addition to early reports of chimpanzees being kept as pets, wildlife was also a major export out of Sierra Leone and to Europe. Anthropologist Frederick William Hugh Migeod noted that Tasso Island was the first site in Sierra Leone to be settled by the English, and factories were built on this island in December 1664. At this time, unspecified animal skins and elephant ivory were some of the main exports out of Sierra Leone, and although the slave trade out of Guinea was already prolific at this time (with an estimated 1,500 slaves being exported from Guinea by the Portuguese per year) ivory was the true focus of the West African trade to Europe (Vos 2010; Foray 1977).

One report of the fall of the British Bunce Island Fort, used predominantly as a major point of export, recorded that in July 1702 French Commander Guerin took the fort and "among his booty were 4,000 tusks of ivory from the fort, and 3,000 from a boat that happened to be passing at the time" (Migeod 1926).

3.2.3 After former British slaves were returned (1787) through the British colonial rule (1801-1961)

The first official attempt at protecting Sierra Leone's endemic wildlife occurs on November 20, 1901 when the British Provincial Administration enacts the ordinance for the Preservation of Wild Animals, Birds, and Fish, though Teleki (1986) stated that enforcement was minimal as there was no regulating body within the existing government who had the authority to enforce the new laws. "The colonial government continues to tolerate all forms of wildlife exploitation," says Teleki (1986).

Although trophy hunting by foreigners undoubtedly had been occurring on a regular basis for many decades, if not centuries, one of the earliest first hand accounts is from the September 1911 issue of Baily's Monthly Magazine of Sports and Pastimes written by Lieutenant G. E. J. Wills of the Loyal North Lancashire Regiment. Wills was in the Limba village of Tonia, about 20km from what is now the Kilimi Section of the Outamba Kilimi National Park. He describes the hunt and his interactions with the villagers as follows:

> "The Limba tribe eat the flesh of the elephant, and the prospect of so much meat on the morrow must have rather turned the heads of the good people of Tonia… The chopping out of the ivory lasted about four hours, for an elephants tusks are embedded in a massive bone structure… After this work was completed, and those portions of the beast which I wished to save for trophies had been set aside, I gave word that the natives could start cutting up the animal, and immediately there ensued a most revolting spectacle. The hide was hacked off in lumps, while the natives yelled and fought for the places around the great body… My next bull was bagged four days later only a few miles from here, but as it was shot in open grass-bush and under quite normal conditions, there is no need to inflict any details upon the reader.
>
> For several days after this I failed to get in touch with any news of elephant, but one evening I had received word that a large herd was scaring the lives out of some small fakkais [villages] near the R. Great Skarcies, by their daring raids on the mango trees, which are very plentiful in the district… There were about forty elephants comprising the herd —- a large number for this country — and their trail led us over some of the vilest country it was possible for even an elephant to select…" (Wills, 1911).

Wills goes on to describe the shooting of at least two elephants from this herd, though one page is missing from this document that may describe the shooting of more as the final page concludes with another elephant shot, though possibly from within what was at the time French Guinea. There are reports of Sierra Leonean elephant hunters, but it is unknown if they would also aim to kill such a high number of elephants during a hunting trip. Migeod (1926) describes some hunting traditions of the Susu and Limba people with regards to elephants:

> "The tusk on which the elephant falls is the Chief's, who gives powder to the hunter ("hunting man" in local English), not a cow as with the Kuranko" (Migeod 1926).

The anthropologist Migeod traveled through Sierra Leone from 1924-1925. He not only reported on the history of the areas in which he traveled, but reports extensively on the cultures of various tribal groups in Sierra Leone, with a strong focus on the north. Several of the villages he gives in-depth accounts of are located in what is now the Outamba Kilimi National Park and provide an interesting lens with which to compare to the modern day villages (Fansiga, Yateya, Beria). Though Migeod's focus is not on wildlife, and he himself frequently consumed bushmeat, he provides a look at what animals were culturally significant, and the impact of the British colonial rule on hunting.

In the village of Kamalu, which lies on the modern-day road from Makeni to OKNP, Migeod encountered a British Court Messenger temporarily stationed in the village assigned with setting up and maintaining two leopard traps in response to a recent attack by a leopard which was reported to have "bagged a baby" (Migeod, 1926).

Migeod describes the traps as follows:

> "The traps were of the customary kind, having two compartments, the small one for the sheep, and a large one for the leopard to go into to try to get at the sheep. When he gets in he cannot fail to touch something which releases the drop and he is enclosed. The sheep is put in every evening, and taken out in the morning. I believe these traps are sometimes successful. It must, however, be borne in mind that a leopard that has spent years hunting and lived on it alone, acquires a good deal of sense and is not easily deceived. The amount of local knowledge a leopard gains in its lifetime must be enormous. I should venture to say he ought to be a match for a court messenger sent out from headquarters by the district commissioner.
>
> I have seen many leopard traps, and I gathered they were always erected by order, the local people seldom doing so on their own initiative. The same pattern trap I found in the distant Congo." (Migeod 1926; p. 38)

A key phrase of interest here, aside from his view of the apparently inept court messenger, is that he never witnesses Sierra Leoneans erecting traps for leopard's of their own volition. It was the will of the foreign power in the form of British-born district commissioners and

court messengers that influenced the hunting of these big cats. Surely it happened without the influence of foreign powers, as reports of chiefs wearing leopard skins appear periodically in the history of Sierra Leone, but this systematic hunting and destroying of apex predators was seemingly not a part of Sierra Leonean custom until the arrival of colonisers.

However, there seemed to be no aversion to the use of guns retaliatory killings. While by this time the colonial government had confiscated the guns previously owned by Sierra Leoneans, they were, on occasion, lent guns to hunt wildlife:

> "They [Samaia village, Susu] complained of the destruction of the crops by monkeys, and of having no guns to drive them off… Chief Kanda Suri was most anxious for some guns. They used to have them in former times, but the government took them all away. Some time since, when some leopards came about, then they were lent three guns with six cartridges for a fortnight, and then they were duly taken back. These guns would be the single-barrelled twelve-bore shot guns the court messengers are given when out on special duty." (Migeod 1926; p. 43)

This handing out of guns for the sole purpose of hunting wildlife is a trend that continues on in Sierra Leone well into the 1970s, but is cemented in this time by the agents of the British Crown.

While foreigners continued to emphasise large game species in Sierra Leone due to sport hunting interest, the first Wild Game Rules are enacted in Sierra Leone in 1927 which are created primarily to control and restrict the ivory trade out of Sierra Leone.

Large-scale live wildlife export can be roughly traced back to the 1920s when famed German-born American wildlife importer named Henry Trefflich. Trefflich set up a wildlife export post in Freetown where he largely sold infant chimpanzees to the American National Aeronautics and Space Administration (NASA) and various other animals to zoos, circuses, and for use in television and film. Trefflich is arguably one of the most famous wildlife importers in American history and, aside from his trade out of Sierra Leone, was known for supplying the Basenji dogs which all American pedigree Bansenji can now be

traced, the chimpanzee companion of the original Tarzan, as well as the Metro-Goldwyn-Mayer (MGM) studios famous lion from their opening film sequence. In his New York Times obituary it states that he "imported and sold more than 1.5 million monkeys, 4,000 chimpanzees and thousands of other animals." He operated a global export business, with large amounts of wildlife coming from local markets across Asia and Central Africa, but his only permanent international base was the Trefflich Collection Center in Freetown, Sierra Leone which was overseen by Phillip Carroll, Trefflich's representative in Africa. Trefflich charged approximately $600 (USD) per chimpanzee and was known for naming every single exported chimpanzee (Brackett 2013).

In 1933 a survey by an apparent avid hunter, Captain W. B. Stanley appeared in a copy of The Field, the world's oldest country and field sport magazine (including hunting, and fishing). Stanley discusses his thoughts as to why Sierra Leone's wildlife seems relatively abundant in comparison with other places in "India and Africa":

> "The state that the fauna of Sierra Leone has not decreased during the past 22 years — the limit of the writer's personal experience— would be no less misleading and incorrect than to say that it is in danger of extermination. It has undoubtedly, taken the whole, steadily decreased as the population has expanded, but scarcely anywhere are there signs that any particular beast is in danger of extermination, while in certain areas, some species have actually increased in numbers.
>
> The principal reason why Sierra Leone has not suffered as much as other parts of India and Africa lies in the vast amount of dense cover of every description which occurs nearly everywhere." (Stanley 1933)

A visit to Sierra Leone today would leave the spectator with no doubt that there is little "cover of every description" remaining in the country. Today, you can drive from Freetown to Makeni and see no natural tree cover, only villages with mango trees or other cropping trees situated in a dense ring around the individual village. When driving from Makeni to the Outamba Kilimi National Park the forest degrades significantly every year. The intense logging for highly prized African rosewood *(Ipterocarpus erinaceus)* has stripped the forest

away in layers. This, combined with intense burning every dry season has left the land on the sides of the roads often looking like a scene from a post apocalyptic novel, where the soil erodes and crops struggle to grow.

Stanley continues on to discuss Sierra Leonean hunting strategies and how they contributed to the relatively dense numbers of animals in the country:

> "So discouraging are the conditions outlined above to even the natives themselves, that there are very few hunters amongst them, and these are regarded as a class apart… hunting is, in fact, regarded as a difficult art, and the vast majority of natives never attempt it. It is no exaggeration to say that there are many villages of considerable size which do not contain even a single hunter.
>
> Trappers, who are usually ex-hunters, are few in number, and although they account for a certain amount of game animals, they cannot be regarded as a menace; as a rule, moreover, they cultivate farms and only devote a few days a month to their traps. Poison of any kind is never used." (Stanley 1933)

Stanley's account of hunters and trappers in Sierra Leone is seemingly consistent with the understanding I have of how hunting occurs today in Tambakka Chiefdom, and even in the small villages in Tonkolili District I visited in 2014, though I would argue that trapping today is more frequent than is described here. Unfortunately, when Stanley continues on to describe prized game animals present in Sierra Leone, a marked difference is apparent in the densities of these species over the last 100 years:

> "All forest reserves are elephant reserves… Only warrantable bull elephants may be killed by either native or European… Fortunately also, by native customary law, elephant's meat is not saleable; it belongs to the Chiefdom and is shared by all without payment of any kind. I do not consider the further steps are necessary to protect the elephant beyond the exercise of great vigilance in seeing that native elephant poachers from French territory, who are better armed than our own natives, do not come over to hunt.

> The position of the hippopotamus is less secure than that of the elephant by reason of the fact that he is confined to the deep pools of certain reaches of the bigger rivers and is, consequently, easily exterminated by ignorant or unsporting Europeans shooting from the bank of the ricer. They are scarcely ever hunted by natives, and then only when they persistently damage rice farms. I do not think the time has come completely to prohibit the killing of this beast. At present a full game licence permits the killing of two hippos.
>
> …Of the heavy antelopes only two occur in Sierra Leone: the waterbuck and the bongo… The distribution of the bongo is general all over Sierra Leone where environments are suitable… There are certainly a fair number in the Forest Reserves… The position of the cobus kob [*Kobus kob*] is far from satisfactory, and here the European sportsman is to blame. The herds have been greatly thinned out during the past 20 years; in some places one only sees one or two beasts where formerly there were herds…
>
> There is an abundance of monkey life in Sierra Leone. Both the red collabus monkey and the white-tailed variety occur, but are practically never killed. There is no export of monkey skins.. Two varieties of chimpanzee are found: the common light-skinned beast and a black-skinned animal which is larger, and at times becomes very fierce and has to be destroyed. The colour of the hair of the two beasts does not differ greatly.
>
> In my conclusion I would add that in my opinion a Game Department is not necessary in Sierra Leone and would be a waste of public money." (Stanley 1933)

Unfortunately for Stanley, his predictions would prove to be far from accurate. There are an estimated less than 120 elephants remaining in the country (Pers. Comm. C. Thouless 2020) and they only remain in small pockets in the north of the country (though it is agreed that the number is realistically much lower), similar numbers for hippopotamus can be expected, there has not been a bongo sighting in over 30 years, and the kob has no listed range in Sierra Leone, according to the IUCN Redlist. There is only one variety of

chimpanzee found in Sierra Leone, though possibly he was confusing sub-adult and adult chimpanzees. In addition, the export of primates out of Sierra Leone, as well as the hunting of them, occurred on a massive scale for almost 100 years, leaving present-day populations sparse.

Trophy hunting was not the only form of wildlife hunting that was explicitly instigated by the colonial regime. Tucked away in small private zoological library in Sevenoakes, England is the personal collection of one T. S. Jones, who acted as an Agricultural Officer to the Crown in Sierra Leone some time in the 1940s and 1950s. He seemed to be a very organised man who kept everything to do with Sierra Leone's agricultural history and natural landscape; from small press clippings, his own correspondence, to a multitude of unpublished reports from Sierra Leone about the wildlife and hunting practices in various districts. In a report written 3 November, 1950 he discusses the monkey culls in some detail. While overall numbers of monkey's culled (which ran from 1947 to 1962, according to Teleki (1986)) are thought to be 245,513 (with 97,104 known to be killed in communal drives), not much was known about the individual culls. Additionally, the overall number is limited to the number the recorded bounties which were paid by the government. Although it is unknown if the monies which were paid out came from the same source throughout the entirety of the culls, Jones states that the funds forgone of the culls he documented in his report came from the Cacao Profits Fund and one shilling was paid for each monkey head. According to a currency inflation calculator (http://www.in2013dollars.com), if a shilling was worth 12 pence in 1950, today the equivalent of 12 pence in 1950 is £4.08 (September 2019) which is worth 46,929 Leones[7] (September 2019). Jones states that the culls began in 1947 (a minor contradiction to Teleki's dates) and were started by the Agricultural Department in Pujehun and Kenema Districts in response to what they felt was an increase in monkey populations over the last 10-15 years. Jones felt that this increase in monkeys was due to two factors: a decrease in hunting them for food and an increase in the hunting of apex predators "whose skins are in great demand… Thus

[7] In September 2019 the minimum wage in Sierra Leone is 500,000 Leones per month, but most in rural communities live off of significantly less

the balance of nature has been upset" (Jones 1950). In his report, Jones discusses several culls:

> "In 1948 in Pujehun over 4 days…a shilling was paid for every monkey head brought in. This payment was made from funds made available from the Cacao Profits Fund. This inducement led to concerted action by the people in the villages and towns and resulted in the killing of 12,814 monkeys, over 90 per cent of which were destructive species. Most of those of a non-destructive type, were shot, as it so happens they are all commonest in very high forest where monkey drives by surrounding them and using nets cannot be done. In 1948, in Kenema, over 24,000 were killed in about 6 months and the dried tails were brought in and payment made for them (apart from a few small organised drives where heads were counted). Paying for tails, whilst the only practical method where drives are not done simultaneously and payment made on the spot, can lead to unethical practices as in certain species it is difficult to distinguish 'tails' cut out of monkey skin.
>
> In 1949, in Pujehun district (and Wunde chiefdom in Bo district), 14,460 were killed in 6 days and again over 90 per cent were of destructive types. This time 6d [half the value of a shilling] was paid per head. In a similar drive in 1960, 13,039 monkeys were killed in 4 days and it is likely that drives will continue in areas where this pest is serious, until it is brought under control." (Jones 1950)

In this report Jones mentions that a certain percentage of the monkeys killed were "destructive species". The "non-destructive species" were those protected by the Wild Animals, Birds and Fish Preservation Ordinance (colobus spp.) and the Diana's guenon (*Cercopithecus diana*). This means that during the 1948 and 1948 Pujehun culls that if 10% of each cull was "non-destructive species" that somewhere around 2,727 colobus (various spp.) and/or Diana guenon's were killed within a combined 10 day period.

The 1950s also marked the beginning of a new phase of Western interest in the collection and export of Sierra Leone's wildlife. In 1954, Sierra Leone launched the career of David Attenborough through his first televised appearance on BBC's *Zoo Quest.* Sir Attenborough

and a small team traveled to Sierra Leone to collect living emerald starlings (*Lamporotornis iris*) and white-necked picathartes (*Picathartes gymnocephalus*). The animals were intended for the collection at the Zoological Society of London and in his proposal for the trip to Sierra Leone, Sir Attenborough wrote:

> "Although these two birds [*Lamporotornis iris, Picathartes gymnocephalus*] will be the primary object of the expedition, Lester also hopes to collect two other rarities — the Superb Sunbird [*Cinnyris superbus*], the most beautiful of all the Sunbirds which has only been seen in Europe once before… and the Olive Colobus [*Procolobus verus*], a very rare monkey. In addition, however, the expedition will collect whatever other interesting creatures it finds. These might well include the pygmy hippopotamus [*Choeropsis liberiensis*], chimpanzees, snakes of all sorts, pottos, bush babies, honey badgers, giant millipedes and scorpions, crocodiles, land crabs, lizards and a wide variety of birds and monkeys." (Attenborough 1953)

Their method of animal collection largely relied on local people and they felt that by sharing "the extraordinary news to all traveling along the road that a party of Englishman were wiling to buy animals of all sorts and were offering a reward to anyone who could show them the nest of the extraordinary bald-headed bird" they would be able to produce a fine collection for Zoological Society of London and London Natural History Museum (*Zoo Quest* 1955). This method of collecting animals for export remained popular for many decades, and created a strong correlation between wildlife collecting and monetary income that spread across Sierra Leone where it still exists today, though these legal collection trips have long since ceased.

> "The Chief had obviously told everybody that we were wanting animals, because people started bringing boxes and cages to us in great numbers. They brought everything to us from small frogs and lizards, to forest deer and bush fowl… Some of the animals we wanted and bought, and some of them we didn't. But the contents of this box we wanted very much indeed, for sticking her fingers through the slats, scratching anybody who came near, was a very young, very frightened baby chimpanzee. She was so wild and terrified that at first she refused to eat any of the food

> we offered her. But within four days… Jane, as we christened her, was the tamest and most affectionate animal in the collection." (Attenborough, *Zoo Quest* 1955)

It is difficult to image the devastation that short trips like these caused, where word may have arrived too late and local people would have continued to collect as many animals as they could manage, hoping to receive payment from the mysterious white men who passed through, promising large sums for any animals they could bring.

Sir Attenborough's single trip collected a multitude of species like white bellied pangolin (*Manis tricuspis*), various insects including termites and mantises, chameleons (spp. unknown), fish (mudskipper, sp. unknown), nile crocodiles (*Crocodylus niloticus*), sun birds (various spp.), owl (spp. unknown), duiker (various spp.), mongoose (various spp.), ball python (*Python regius*), Gaboon viper (*Bitis gabonica*), squirrels (various spp.), and rats (various spp.),

> "We had a full complement of baby animals." (Attenborough, *Zoo Quest* 1955)

Sometime in the 1950s, the majority of Sierra Leone's wildlife export trade is taken over by two men; one, a Sierra Leonean named Sulaiman Mansaray who took over Trefflich's Freetown business, and a foreigner named Dr. Franz Sitter. Sitter was originally of Austrian descent, but became the first white citizen of Sierra Leone by marrying one of President Siaka Stevens' daughters, a marriage that proved useful in his animal exporting business. Sitter became increasingly notorious, not only for his prolific international trade in chimpanzees, but for his past; he was known as an ex-convict, former Hitler Youth leader, and rumoured to be a former member of Hitler's Schutzstaffel (SS) and is still remembered widely across Outamba as "Dr. Sitter, the one-handed white man" by nationals (Peterson & Goodall 1993).

In 1986, researcher Dr. Geza Teleki created a report for the Sierra Leonean government about ongoing hunting and trapping in the country. His reported found that most of the animals obtained for sale by Mansaray and Sitter, much like those obtained in Attenborough's expedition, were not obtained on expeditions that the traders themselves oversaw but were purchased from "upcountry sources". These sources were rural

Table 4: Wildlife targeted by Sitter and Mansaray

Common Name	Scientific Name	Current Threat Status
Western Chimpanzee	*Pan troglodytes verus*	Critically Endangered
Red Colobus	*Piliocolobus badius*	Endangered
King Colobus	*Colobus polykomos*	Critically Endangered
Green Monkey	*Cercopithecus sabeus*	Near Threatened
Serval	*Leptailurus serval*	Least Concern
Leopard	*Panthera pardus*	Vulnerable
Bongo	*Boocerus eurceros*	(Has not been reported locally since 1980's)
Defassa Waterbuck	*Kobus defassa defassa*	Near Threatened
Bushbuck	*Tragelaphus scriptus*	Least Concern
Duikers, varied/unspecified	*Cephalophus spp.*	Various
Dwarf Buffalo	*Syncerus cafer nanus*	Least Concern
Elephant	*Loxodonta africana*	Vulnerable
Crocodiles (Nile, slender-snouted, dwarf)	Crocodylus spp. (*C. niloticus, M. cataphractus, O. tetraspis)*	Least Concern, Critically Endangered*, Vulnerable (*Investigation needed if this species is still present in SL)
Pythons (African rock, royal)	Pythonidae spp. (*P. sebae, P. regius*)	Near Threatened

Table 4: These were the species reportedly targeted by Sitter and Mansaray during their tenure as the most prolific wildlife traders in Sierra Leone. I have included the modern day threat status of these species. Sitter and Mansaray reported constantly, according to Teleki (1988), that the numbers of all animals they were targeting were completely stable and that there was more than enough to support their practices. We can see in the comparisons with the modern day knowledge of their range and presence in Sierra Leone that this trade probably had a large impact on fragile populations that never have recovered.

community members whose hunting and trapping methods "involve killing the mothers and, in the case of social species such as monkeys and apes, some killing of the other group members as well… hunters openly confirmed it by pointing out that any other technique involves too much risk to the hunter(s) doing the work" (Teleki 1986). Teleki also found that, while the excess animals killed were usually consumed, making it difficult to separate subsistence from commercial hunting, that the "incentive to exploit wildlife is increased by

the option to sell live specimens. And in the case of species collected in regions where villagers do not eat those types of wildlife, such as monkeys taken in Muslim chiefdoms and chimpanzees taken almost anywhere in Sierra Leone, capture operations are the main reason for exploitation" (Teleki 1986).

Sitter's business quickly surpassed Mansaray's and was the larger and more well organised of the two, and his largest operation was based out of what is now the Outamba Kilimi National Park headquarters. The Outamba operation was at it's height in the mid-1970's when the government was making plans to create a non-hunting reserve in the area and Sitter wanted to extract as much game as possible before the laws in the region changed. There were two men in charge of this operation, which also acted as a hunting lodge for tourists: David Brooke and Ahmed Haidar. Brooke oversaw the hunting expeditions, massive game drives with over 200 recruits, and between 100-200 pit traps at any given time, while Haidar recruited hunters around Outamba, distributed more than 150 guns to hunters and chiefs, and purchased specimens. According to local residents at the time multiple shipments were made per week containing species such as (but not limited to):

While the species in Table X list some of the main species targeted by Sitter and Mansaray, they captured and sold anything that they could. This would have also included birds (like the Timneh parrot, a cousin to the popular African grey parrot), common and pygmy hippos and small carnivores like civets and genets. Primates were a primary target, especially chimpanzees, as traders saw the lucrative potential in supplying laboratories with young chimpanzees, but the upwards of 200 pit traps were designed to catch any and everything.

Sitter's team also had one very unique tool: A trained chimpanzee named Thomas which Teleki referred to as "perhaps the first Judas ape in history" (1980). Thomas and a team of hunters would corral a group of chimpanzees and Thomas would run in and harass the group until members began splitting away so that hunters would have a more clear point at which to shoot the mothers, with these drives happening about once per week. Sitter

claimed that he never sold a chimpanzee under 4 years old, stating that the chimpanzees were all old enough to be abandoned by their mothers when confronted by humans, however Teleki noted that upon visiting Sitter's compound in Freetown in May 1980 there were 17 chimpanzee infants all between the ages of 6 and 24 months old. Hunters interviewed by Teleki also stated that there was on average a 50% mortality rate sustained to infants during these drives (Teleki 1986).

I personally encountered a man in the Outamba village of Boroso in 2018 who claimed to have worked for Sitter in Freetown as his house boy. He said that he would often be charged with feeding a variety of animals that lived at the compound, like elephants. He, like other villagers in the area, also believed Sitter to be a medical doctor (some rumours exist he had a PhD in virology) and told stories of Sitter performing medical procedures on him.

American missionaries were said the be the target audience for elephant hunting in Sierra Leone, with 90% of hunters annually being missionaries. There were specialised ivory carvers in the city of Makeni (the closest major city to Outamba) who mostly carved Judaeo-Christian idols for missionaries. This business was exacerbated by Sitter who, after a presidential decree prohibiting the export of chimpanzees, switched his focus to other forms of wildlife export (Teleki 1986). Teleki also reported that a large amount of the ivory being exported from Senegal at this time was actually originating from Sierra Leone.

3.2.4 After British colonial rule to present (1962-Present)

Geza Teleki stated that the post-war (WWII) economic boom had an impact on the wildlife export business in Sierra Leone and that from the 1960s to the 1970s the export of chimpanzees increased from about 130 per year to about 250 per year, though these are from government reports which were reliably incomplete. Teleki estimated that the commercial exploitation of wildlife was so extreme that "the survival of certain species beyond the 1980s is improbable" (Teleki 1986).

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) database for wildlife export from Sierra Leone goes back as far as 1976. Until the

1980's the recorded trade is largely in orchids being sent to the Great Britain (not all species listed originate from Sierra Leone), but does include chimpanzees (live) and leopard (skins) being sent to Germany and Great Britain.

In the 1980s the wildlife trade begins more heavily entering the record, though undoubtedly it was occurring consistently throughout this time period, as shown by Teleki's notes. CITES as a database was in it's infancy and Sierra Leone did not enter into CITES until 1995, so the numbers listed on the database are surely only scratching the surface of the flora and fauna exported from Sierra Leone.

Ivory in the form of elephant tusks and carvings were exported on an almost yearly basis from 1980-1998, though sporadic reports of ivory continue through until 2016. The CITES report for Sierra Leone is filled with large exports of Timneh parrots (*Psittacus erithacus timneh*) sometimes comprising of hundreds of live individuals (890 shipped to South Africa, in one instance).

The start of the civil war (1991-2001) seemed to have little effect on the export of wildlife. This figure is a record of wildlife export from Sierra Leone between the years during which the Sierra Leonean Civil War occurred. The cumulative number of recorded wildlife/ wildlife items exported from Sierra Leone over this period was 20,800, with the majority of the wildlife exported being live birds like waxbills and finches (Estrildid family) destined for Europe or Timneh parrots (*Psittacus erithacus timneh)* to South Africa .

In recent years the global news has focused more on Sierra Leone's export of marine creatures, with little investigation into the terrestrial creatures that dominated the trade for so long. Ships leaving Sierra Leonean waters have often been found to carry large amounts of shark meat (87 tonnes in one instance), even if the ship was reporting that it's main catch was tuna (Debruyne 2017). Others have written on the Chinese demand for sea cucumbers and how it stripped away fishing business for locals after they were pushed out (Trenchard, 2014). These instances are a reflection of the long and sordid history the country has with large scale exploitation of wildlife at the hands fo foreigners, much to the detriment of the local environment and even local livelihoods.

A 2009 study on the current state of the pet trade of chimpanzees in Sierra Leone noted that around 45% of all chimpanzee owners were foreigners living in Sierra Leone, though many local owners had intentions of trying to find a foreigner to sell the chimpanzees to (Kabasawa 2009).

> "Chimpanzee vendors travel to crowded areas or tourist areas such as beaches, bars, and restaurants to seek potential buyers. Sometimes they go to shops owned by expatriates (mainly Lebanese or Indian), offices of international nongovernmental organizations (NGOs), or compounds managed by the united nations or British military battalions or mining companies. one owner (an expatriate working for a mining company) said that he had inherited the chimpanzees from the previous owner, also an expatriate, who had ordered hunters to capture young chimpanzees." (Kabasawa 2009)

With a large amount of emphasis today placed on the impact that Sierra Leoneans have on their own environment (local bushmeat trade, hunting, etc.) it unfairly paints the picture that Sierra Leoneans are responsible for the destruction of their own environment, when over 60% of Sierra Leoneans are living under the poverty line, and a chimpanzee can be sold from anywhere between $20USD and $300USD to foreigners, who is really to blame?

3.2.5 Tourism craft market, *Big Markit,* in Freetown, July 25, 2018

This market sits near the famous Freetown Cotton Tree on Wallace Johnson Street and opposite what used to be a slave trade centre, near the historic entrance to the capitol city. The market is officially run by the Government of Sierra Leone and is in a large two story building with its' outside walls painted with murals of chimpanzees to warn against the sale of these animals. Prior to the civil war (1991-2001) it mostly served as a market for local peoples, but after it was destroyed in 1999 the government decided to rebuild it as a market for tourists.

After my obligatory meetings with various stakeholders and government offices in the capitol city of Freetown, I would often wander and look for signs of wildlife trade in. One



Mayonnaise jars filled with assorted animal parts in *Big Markit*



An elephant ulna sits amongst colourful spoons

Figure 11: Scenes from downstairs in Big Markit on my 2018 visit. The seller opened some of the jars for us, and offered the elephant bone for sale. I was able to identify this as the ulna of an elephant, but can not properly age it as I do now know how it was processed after death, though no butchering marks were apparent upon brief inspection.

day I visited all of the hotels along the popular beach strip, Lungi Beach, to see the different species kept on the grounds for the entertainment of guests. This was limited to a few Maxwell's duiker, a bushbuck and a pinioned African crowned crane between just two establishments. I would occasionally see foreigners or locals toting a pet primate on a rope, but the most signs of wildlife I saw in the city were in the tourist market. I visited multiple food sellers markets during my time in Sierra Leone, at first I was curious about if I could find wildlife at these markets. Eventually my visits were solely for sustenance purposes, but after my years in Sierra Leone I never saw wild meat or wild animals openly for sale at a food market.

At the end of the 2018 field season I had one such free afternoon before I needed to set out on the ferry boat to reach the airport and decided to take my first visit to *Big Makit*. I was expecting something similar to the other, smaller, tourist markets I had visited where wares were usually limited to hand woven cotton blankets called country cloth, or wooden carved chimpanzees in the 'hear no evil, see no evil, speak no evil' poses. This is exactly what you will find on the upper level of the market. But I was surprised to note the number of animal parts for sale on the ground level. I did not go into the market to search for any specific species, but rather to gain an overview of what items could be purchased with ease in a public setting. I recorded the species I saw, and prices where I could learn them, though as I did not purchase anything at the market the sellers communicated this with each other and I did not find much assistance in determining prices by the end of my visit.

Within the ground floor of the market the first thing that greets you are large rice bags stuffed full of various snake skins: reticulated python, royal python, and forest cobra are the most easily identifiable. A woven basket filled with various parts of sea turtles, mostly pieces of skulls, and carapace sat on the floor next to the bags. The bottom floor of *Big Markit* is much less appealing than the orderly, well-lit stalls upstairs filled with nicely folded *lappa* and generic cravings of animals not found in West Africa. Upstairs is an ideal market for the average 'voluntourist' visiting Sierra Leone. The ground level of *Big Markit* is darker, with crammed shelves reaching to the ceiling and blocking out the natural light. There are bright and colourful items that might attract a tourist as something to bring home for a keepsake, but with more ominous items scattered throughout.

The woman who is in charge of the snake skins catches me quickly as I pull out my phone to take a picture, "Picture 5,000" she says, curtly letting me know I'm not the first person to show an interest in her skins without purchasing any. After pointing to a few different snake skins and inquiring prices, she leads myself and another researcher over to her table of goods. The first item that jumps out at me is the elephant ulna, towering over decorative spoons painted with "Sierra Leone". She tells me I can have it for 1.2 millions Leones (about £100), but when I respond with a noise of disbelief, she offers to cut it into pieces, which she will happily sell me at a lower price. "It still works," she encouraged, upon seeing my

puzzlement as to why she would cut it up. “For medicine,” she explained, though she would give no further details on the subject. The ulna, I was able to identify thanks to my afro-centric zooarchaeology course, and confirmed with reference photos, was not fresh and had no tell-tale grease stains or any remnants of musculature, though I can not say exactly how long it must have sat on that market shelf.

She also had recycled mayonnaise jars to hold assortments of small animal pieces. She opened a jar for me to look, pulling out objects and naming them: “puss,” she pulled out a dried cat tail, “lizard,” she pulled out a monitor lizard skin, then she rummaged around the rest of the jar to let me see, but without proper lighting and an expert eye, the pieces were to small for me to identify.

In 2013 several researchers from Njala University in Sierra Leone investigated the Bo Town bushmeat market in southern Sierra Leone and found a wide range of species present in the market, though because they relied on the sellers to identify the species being sold, some species recorded in the market do not appear in the wild near Sierra Leone (caracal, blue duiker). Due to this, some caution needs to be taken when interpreting their results (Harounkamara et al. 2013). This trade, however, was targeting locals and was not for export. This type of bushmeat trade plays an important role in the lives of the rural citizens of Sierra Leone, oftentimes serving as the primary source of protein or income for families (Harounkamara et al. 2013; Wilkinson et al. 2014; McGovern 2014).

With little enforcement of the country’s outdated wildlife laws, the trade in wildlife parts is no secret. By housing a market filled with skins, bones, horns, feathers and more alongside the tourist craft market, a dangerous pattern could emerge of encouraging visitors to more openly engage in the trade of wild animals and parts. These pieces, potentially intended to be sold to Sierra Leonean for cultural practices, and easily accessible to tourists, which only reinforces the idea that wildlife’s purpose is that of a commodity, rather than finding intrinsic value in the species remaining alive and in the forest.

FIGURE 8: Wildlife items for sale in Big Markit

Common Name	Scientific Name	Current Threat Status	Item for sale	Price (Le) if known
Reticulated Python	*Python reticulatus*	Least Concern	Skin	150,000
Snake (various spp.)	*Python regus, Naja melanoleuca,* unidentified spp.	Least Concern	Skin	100,000
Bushbuck	*Tradelaphus scriptus*	Least Concern	Horn	25,000
			Skin	
Maxwell's duiker	*Philantomba maxwellii*	Least Concern	Skin	
Red-flanked duiker	*Cephalophus rufilatus*	Least Concern	Skin	
Waterbuck	*Kobus ellipsiprymnus defassa*	Near Threatened	Partial skull with horns	
			Horns	
Elephant	*Loxodonta africana*	Vulnerable	Ulna	1.2 Million
Crocodile (various spp.)	*Crocodylus niloticus, Osteolaemus tetraspis*	Least Concern, Vulnerable	Skin	
Genet (spp. undertermined)	*Genetta spp.*	Various	Skin	
African Crested Porcupine	*Hystrix cristata*	Least Concern	Quils	
Great Blue Turaco	*Corythaeola cristata*	Least Concern	Feathers	
Clawless Otter	*Aonyx capensis*	Near Threatened	Skin	
West African Mud Turtle	*Pelusios castaneus*	Least Concern	Live animals	
Sea Turtle (various spp.)	Chelonian spp. (5 spp. found in Sierra Leone)	Vulnerable/ Endangered/ Critically Endangered	Shell	
			Carapace	
			Skull	

Table 5: These were the species I observed for sale during a visit in 2018. As I had been using the camera traps and had spent time creating the photo flashcards used in this project I was able to identify most species with ease. If the material for sale was unidentifiable down to species, this was recorded. I was able to enquire about some prices, but not all as it raised suspicion to ask so much without purchasing.

It is interesting to note that most Sierra Leoneans have little understanding of the wildlife that inhabits their country, and it is disappointing to see that the only place for them to encounter any amount of biodiversity in Freetown is on the ground floor of *Big Markit.*

3.2.6 Reflections

I embarked on this journey to understand the historic context of wildlife trade as I found myself questioning the origins of beliefs, misconceptions, and other ideas surrounding wildlife after I had more and more conversations with Sierra Leoneans. I could not reconcile the taboos and cultural practices I was being told about with the actual behaviours and actions I saw people taking. By recreating this timeline of wildlife trade and export originating in Sierra Leone I bring to light the idea that this mass exploitation of wildlife was not originally ingrained in the culture of Sierra Leoneans, but, like so many other troubles, arrived by sea, brought by the *apotos* (white man).

Associating foreigners with the wildlife trade, despite the fact that sport hunting of big game, and legal wildlife trade has ceased, has not abated. Most people who do not physically appear to be of Sierra Leonean birth, including long-term foreign aide workers, PeaceCorps volunteers, Sierra Leonean-Lebanese, or foreigners involved in natural resource extraction, continue to support and encourage the live animal trade in Sierra Leone. Most non-Africans I have made an acquaintance with who have lived in Sierra Leone for more than a year have at some point had some type of wild animal as a pet, if not multiple. From monkeys to chimpanzees, crocodiles to chameleons, foreigners are still creating a demand, mostly through pity purchasing of live wildlife tied tight with string.

In October 2019 a leopard was killed in Kabala and the images of the dead cat were circulated on WhatsApp and Facebook. One Facebook user commented: “It looks dead. In which case, I suspect the flesh will end up pepper soup & the skin in Big Market.”

This simple statement, by a foreigner no-less, shows the extent to which the expectation is for locals to profit from killing wildlife, and sell in a market targeting foreigners.

Traditionally the skins of big cats hunted in an area would have become property of the chief, and although there is no way to know where the skin of this leopard ended up, it serves as a reminder that although the large-scale wildlife export from Sierra Leone has ended, the animals are still not safe from ever-growing pockets of visitors. The other side of this reality is that Africans are the focus of the 'problem' when considered in conservation or disease sensitisation, when so much of the trade is started, supported, and aimed at feeding the desire for exotic animals and their parts by visitors to Sierra Leone.

3.3 YESTERDAY, TODAY, AND TOMORROW

While such an in-depth history of the commodification of wildlife through extractive trade to foreign nations may feel out of place at this point in the thesis, I will go on to show through my experiences, interactions and interviews with modern day people across Sierra Leone that this long history has left its mark. The commodification of wildlife, the rampant extraction of species to fuel international demand, greatly impacted the relationship that the people, past and present, of Sierra Leone. Even today, large scale hunting and trading of wildlife, Sierra Leonean to Sierra Leonean is rare. The deaths of animals more often occur during the protection of farms and livestock rather than to fill markets. When young animals are captured they are frequently brought to Lebanese-Sierra Leoneans or to 'expats' living in the country, usually as part of a development project. You would be hard pressed to find a foreigner in Sierra Leone that has not been offered some type of wildlife for purchase, something which often happens along the beaches where foreigners flock over the weekends.

Additionally, the current extractive industries in Sierra Leone, namely minerals, deep sea fishing and timber, are built by and for foreigners (or Lebanese Sierra Leoneans, who are legally citizens but culturally hold a separated place in society due to their comparative wealth). These extractive industries have long left a negative mark in Sierra Leone, most prominently the Civil War which began due to unrest over the unfair distribution of wealth occurring around the diamond mining industry in the south of the country. The significant wealth inequality heightened by the extractive mineral trade works in tandem with this long history of large-scale extraction of wildlife, where the natural resources of Sierra Leone are given value by foreigners. In Chapter Three I have proven that

not only decades of extraction, but *centuries*, have shaped Sierra Leone's environment, economy, and relationship with foreigners.

With Sierra Leone being the centre of so many unsavoury types of trade (never forgetting that Sierra Leone, Guinea and Liberia were central points of export for enslave people) for so long, it seems unimaginable that anyone could look at the country and blame the residents, simply trying to survive the hunger the 'others' have for their land and resources. Alas, modern day conservation efforts have done exactly that, focusing the blame on people's desire for for bushmeat and cutting down forest. This narrative was exacerbated during the Ebola outbreak where said conservation projects co-opted the messaging for the Ebola outbreak to try to use this as a chance to scare people out of eating bushmeat, lest they catch Ebola and die. Many of the conspiracy theories that I will discuss in later chapters is built upon this long-standing history of 'us' versus 'them' that has existed alongside extractive industries, and especially when it comes to the commodification of wildlife, once fuelled by international demand, and now condemned by the same cultures that craved cages full of chimpanzees only a few decades before. The future of conservation and disease communication needs to be inclusive and not focus on blame or messages meant to inspire disgust or hatred for local peoples.

CHAPTER FOUR: (MIS)COMMUNICATING EBOLA

"Bushmeat does not give the Ebola virus. The inhabitants of the forest have been stigmatised as the origin of the virus because they eat monkeys and other bush animals. Passion must be avoided when examining facts." — Former Prime Minister of Guinea, Jean Marie Doré

In this chapter I will show how the disgust associated with the idea that people consume chimpanzees infiltrated all levels of disease communication, from local news, international news, to messages output by official disease communication offices. I chose to focus on the chimpanzee in this section because, despite no cases of chimpanzees having Ebola during this outbreak, they were scapegoated and highlighted prolifically throughout the epidemic as a potential source of the virus. In this chapter I explore the reaction in West Africa as well as the tone of the outbreak narrative which was set by the media. Through an exploration of 179 articles sourced from online newspapers (www.onlinenewspapers.com) listed for Guinea, Liberia and Sierra Leone.

For Guinea the following online news sources were used: Guinee News, Media Guinee, Guinee Presse, Kabachir, Guinee Conarky, and Le Journ Guinee. For Liberia: Front Page Africa, GNN Liberia, The New Dawn Liberia, Liberian Observer, Monrovian Inquirer, and Bush Chicken News. For Sierra Leone: Awoko, Sierra Leone Concord Times, News.SL, Cocorioko, Sierra Leone Press, Makoni Times, ExpoTimes Online, Salone Monitor, Salone Post, Global Times Sierra Leone, and This Is Sierra Leone.

Online news sources used in this studied needed to have an internal website search capability so that they key word "chimpanzee" ("chimpanzé" for Guinea articles in French) could be searched. Only articles matching this keyword search were used and for each the topics and context in which chimpanzees were discusses was recorded. The time frames for articles chosen was different for each country as it reflected the duration of the Ebola epidemic as described by the WHO. Articles for Guinea were collected up to 23 months prior to the outbreak, during the outbreak which lasted 23 months (including flare-ups), and for 23 months after the outbreak (start May 2012, end December 2017). Articles for Libera were collected up to 22 months prior to the outbreak, during the outbreak which lasted 22 months, and for 22 months after the outbreak (start May 2012, end October 2017). Articles for Sierra Leone were collected up to 23 months prior to the outbreak, during the outbreak which lasted 23 months (including flare-ups), and for 23 months after the outbreak (start June 2012, end February 2018).

The topics which were recorded for this study were: was another country discussed, was cross border trade discussed, was conservation of chimpanzees discussed, was chimpanzee related crop raiding discussed, was chimpanzees being consumed as bushmeat discussed, was Ebola (EVD) discussed, was the article completely off topic, or was a topic mentioned that would fall into the 'other' category. Articles could be recorded to discuss multiple topics.

A total of 179 articles were used for this study with 104 being from Sierra Leone, 40 being from Liberia, and 35 being from Guinea. There were significantly fewer online news sources from both Guinea and Liberia in comparison to Sierra Leone, and the availability of the data after this study is variable. Tt was very common for entire online news sources to disappear from the web throughout the duration of my work, so accurate links to all news sources can not be provided.

The media played up the idea of linking chimpanzees (and their consumption) to the pandemic, which only further alienated the people the news was meant to inform and create an aura of disgust around cultural practices that were not accurately referenced. The consumption of chimpanzees does happen in Sierra Leone, for example, but it is not widespread, and due to the prevalence of the Islamic faith in Sierra Leone, it is usually not a preferred type of meat. This type of communication furthered the gap between 'us' and 'them', whichever side one would want to place oneself on.: those who understand the realities of when meat like chimpanzee is consumed (infrequent, chimpanzee deaths are often tied to defending farms/livelihoods), and those who are filled with disgust strong enough to dehumanise a population.

4.1 IN THE LOCAL NEWS

Media "agenda-setting" has long been known to have a link with how its audience perceives an issue, a fact only emphasised by the recent emergence of "fake news" and its ability to spread falsities across countries. In the United States a survey conducted showed that 75% of adults believed "fake news" headlines, which shows the ability for the media to influence a massive audience with little factual content required (Silverman & Singer-Vine

2016). Therefore, using media to track a general population's feelings towards a subject, in this case, chimpanzees and how it relates to Ebola, was determined to be a viable option.

Newspapers have been used to track perceptions of wildlife in the past, notably by Boissonneault et al. (2005) which surveyed portrayals of grey nurse sharks *Carcharias taurus* in newspapers from 1969-2003 and by Wolch et al. (1997) which looked at newspapers to track attitude changes towards pumas *Puma concolor* in California. Wolch et al. (1997: p 101) stated:

> "The study of newspaper coverage allows attitudes to be traced over time, since articles reflect moods, experiences and concerns through continuous publication on a regular basis, and are seen by a sizeable share of the general public. In turn, however, the media itself reflects the changing nature of these public attitudes and concerns".

In the Wolch et al. study it was suggested that the narrative surrounding human-puma interactions shifted from the preservation of wild pumas, to the desire to be protected from wild pumas. Studies using newspapers to understand other wildlife topics, including illegal trade, are also emerging, showing that newspapers could prove to be a more valuable source to wildlife conservation studies in the future (Nijman 2015; Siriwat & Nijman 2018).

The Ebola epidemic was far reaching enough that even those not infected by the virus still felt its presence. Hunger, fear, distrust, and confusion were predominant factors in people's lives across West Africa during the epidemic. One of the first steps taken in Ebola prevention campaigns was the proscription of hunting and consuming of bushmeat, which ultimately formed a primary component of sensitisation (Bonwitt et al. 2018). These messages were so completely at odds with the lived experiences (where the continued consumption of wild meats caused no health issues) of the people in Ebola-affected countries that the information sowed dissent and skepticism that ultimately played a large part in the region's inability to control the spread of the virus (Wilkinson & Leach 2014; Seytre 2015, 2016).

> "We agreed that the virus is real and is claiming lives, but we don't think the meat is responsible for the spread of the disease. The ban on the sale and consumption of bushmeat is affecting our business and has introduced economy hardship on us marketers already poor people," (Cecelia Davis of Bong, Liberia: Anonymous, 2014).

The government's ban on bushmeat during the Ebola crisis was just as devastating as the virus itself in some communities: "No one can disobey the government order, but this is what we do for living; we, as hunters, cannot sit and allow hunger to killed our families only because of Ebola," a bushmeat hunter from Nimba County, Liberia told a newspaper during the outbreak (Teh, 2015). This sentiment was felt across West Africa shown as news reports states that the Sierra Leone police department released a statement saying they would arrest those selling bushmeat, and simultaneously requested that the public not attack those coming into communities to sensitise them about Ebola.

When authorities shut down a bushmeat market in Kailahun, Sierra Leone towards the beginning of the outbreak, the resistance by local peoples was immediate and widespread and resulted in destruction of public property specifically targeting health provisions (Mufunda et al. 2016). Additionally, when sensitisation efforts discussed the link between bushmeat and the virus, Mufunda et. al (2016) found that there was no distinction made between contact with fluids during the preparation and handling of dead animals or consuming cooked bushmeat items. Bonwitt et al. (2018) found that sensitisation messages did not include warnings against contact with sick animals or those found already dead, when previous outbreaks have had reason to suspect that it was scavenging, rather than the consumption of cooked animals (for which the risk is entirely minimal) which was the spillover point for the virus. Scavenging, even after Ebola, is still a part of people's lives in and around the Outamba Kilimi National Park, in Sierra Leone.

Distrust of those who came to educate about the virus was so great in this region that news reports stating that Ebola was not a naturally occurring virus but instead a bioweapon created by the ominous "West" or by the Islamic State of Iraq and Syria (ISIS) were all too

Lived experiences VS the outbreak narrative as constructed by healthcare and sensitisation teams

The lived experiences of people are the realities and experiences upon which they build their perception of, in this case, the outbreak narrative constructed by people without that shared lived experience. In this chapter I show that the lived experience of people in Tambakha Chiefdom included: that wild meat had always been a safe and reliable source of protein; that even if contact with bodily fluids of an animal might be dangerous it probably posed little risk once cooked; that their loved ones who died during that time did not show signs or symptoms of Ebola; that healthcare at the only nearby hospital could be risky and was expensive and traditional healers had long standing in their respective communities; that the government was culpable for a large sum of international aid funding vanishing. In return the sensitisation teams carried out sweeping health messaging that was generally nonspecific and focused heavily on bushmeat as a threat to safety, and used confusing if not entirely misleading language when discussing the cause of death of any person who died during the epidemic. In Chapter Six I expound on the effects of health messaging that was in direct contradiction of peoples lived experiences.

> "Narratives, as should be obvious by now, are not transparent renditions of reality but they call for our interpretation. This means that, to understand the stories people tell us and one another about who they are and their pasts, we must relate them to the social and political contexts that have shaped and continue shaping the circumstances of their lives and which engage their commitments." (Eastmond 2007)

frequent during the outbreak [8,9]. A newspaper in Guinea stated:

> "The African people cannot be responsible of something they did not create and diffused. The Ebola virus has neither been "created" nor "named" by Africans. It's the name of a river in the Democratic Republic of Congo that the Western community has unilaterally chosen to give to a virus that was created in their laboratories. Those laboratories pursue military goals and create diseases with matching solutions that are - to say the least - mitigated." (Baldé 2014)

The former Prime Minister of Guinea, Jean Marie Doré, reaffirmed the people's distrust in what was being spread by Ebola sensitisation teams across West Africa. A news report covered a press conference during which he denied the link between Ebola and bushmeat stating that:

> "…the entire population of South-East Guinea would have disappeared" due to their reliance on bushmeat as a food source. He continued on, ''bushmeat does not give the Ebola virus. The inhabitants of the forest have been stigmatised as the origin of the virus because they eat monkeys and other bush animals. Passion must be avoided when examining facts.'' (Baldé 2014)

In Sierra Leone, Ebola sensitisation campaigns took place at community centers and schools. One such campaign visited the Save Our Souls Children's Village in Freetown, Sierra Leone where a Disease Prevention and Control Communications Officer in the Ministry's Directorate of Disease Prevention and Control, described that the eating of dead animals like chimpanzees and bats could cause the virus (Anonymous 2015). In Liberia a news article reported that hunters in rural Liberia were 'defying the government's restriction on the continuation of bushmeat hunting' as the government had recently made

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[8] Newspaper articles written in Western Africa resemble more closely what in Western journalism would be called an "opinion piece" as traditionally respected journalism standards require a high degree of impartiality, which is often missing from these articles which have few sources of information to back up their claims.

[9] Frequently these news sites go temporarily offline, have their links changed, or disappear from the Internet. Direct links for all articles recorded in this study were noted, though many of them are now invalid or lead to unrelated news articles. The articles claiming Ebola to be an ISIS bio-weapon still have valid links, though these links lead to different articles not concerning Ebola

a statement which specifically named monkeys, baboons, and chimpanzees as animals that should not be killed and eaten (Teh 2015). The focus on the consumption of these animals as a major risk to personal health and safety during the Ebola outbreak is completely unfounded, misleading and ultimately was damaging (Wilkinson et al. 2014; McGovern 2014; Seytre 2015, 2016; Bonwitt et al. 2018).

An article by Seytre (2015) on the handling of Ebola communication criticised the way in the risks associated with the Ebola epidemic were communicated with people in outbreak countries. The article cited multiple Ebola communication strategies from the WHO and UNICEF stating that they were over emphasising the risks of bushmeat which played no part in the continued spread of the virus, and is only a threat to beginning an outbreak. It stated that as non-flying mammals which have been known to be infected with Ebola have only ever been found dead by hunters that bushmeat hunting poses less of a risk than does scavenging. In fact, the researchers encountered several people in Togo, a country free of Ebola but inundated with Ebola related communiques, who believed that the Ebola epidemic was invented to prohibit hunting and so they continued to eat bushmeat. Because of the emphasis placed on the risks of bushmeat, when people continued to consume it with no adverse health effects, suspicions grew that the disease was not what had been communicated to them.

> "Almost two years after the beginning of the epidemic, some families continue to practice unsafe burials in Guinea. In light of these continuing difficulties, does it make sense to continue promoting, in both epidemic and pre-epidemic countries, bushmeat messages that have no efficacy and are not believed? This can only contribute to increasing doubts about all Ebola communications and opening the door to a host of misconceptions. As is frequently observed when dealing with public health, suspicion can lead to distrust, and distrust can turn to hostility" (Seytre 2015).

Seytre (2015) stated that the confusing messages reported by UNICEF and USAID posters discussed things like cooking food thoroughly and avoiding stagnant water, neither of

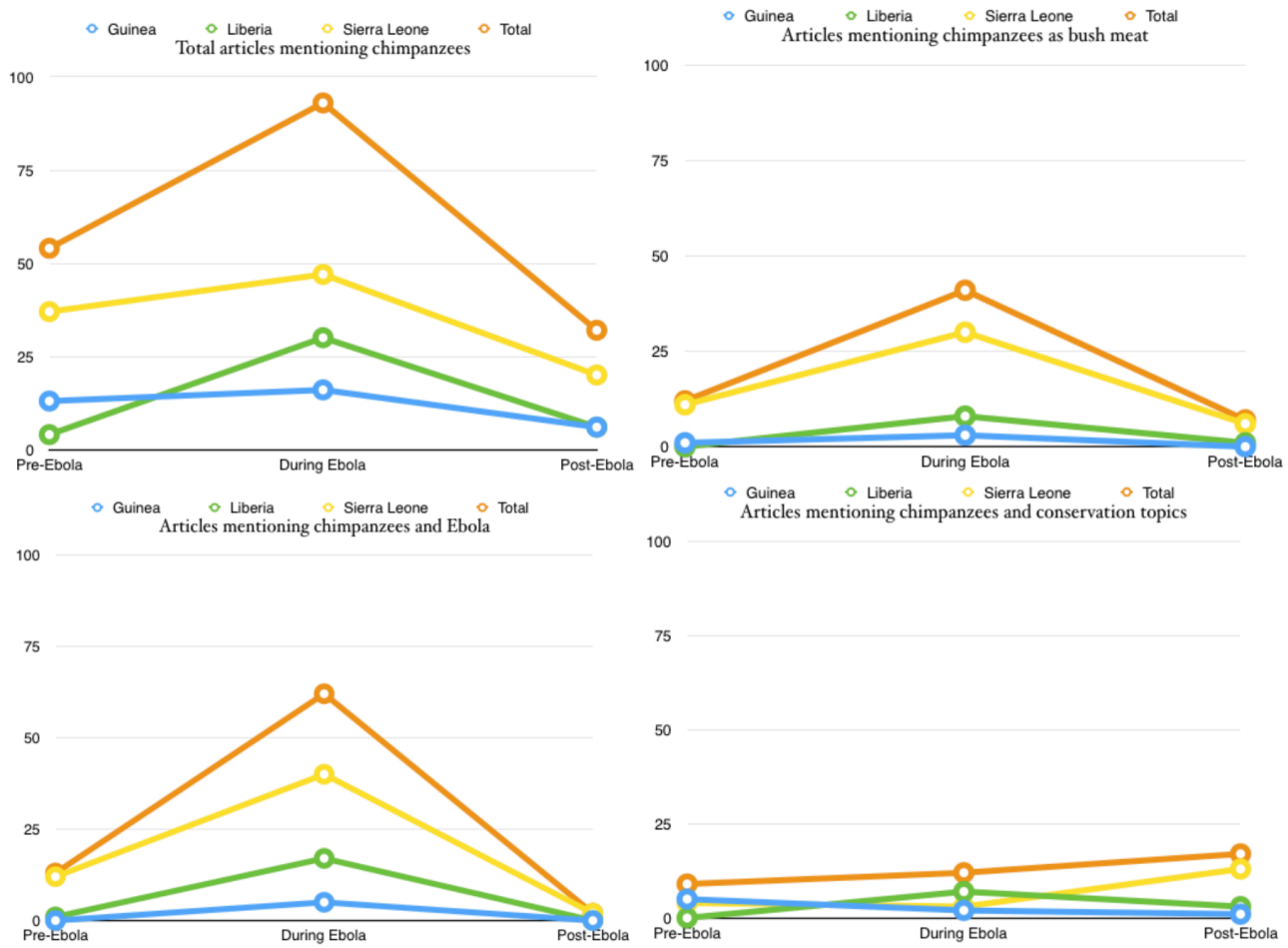


Figure 12: Articles mentioning chimpanzees before, during, and after the Ebola epidemic in West Africa by country and focus of the article. These articles were collected in 2017 and 2018. This Table shows the results of the study as separated by colour: Blue - Guinea, Green - Liberia, Yellow - Sierra Leone, and Orange - Combined total

which have anything to do with Ebola prevention. Seytre (2015) claimed that this overshadowed potentially effective interventions.

Ordaz-Németh et al. (2017) also conducted interviews in Liberia during the Ebola epidemic showing that bushmeat hunting as a preference dropped drastically from being the most consumed meat source to being the fourth most consumed, behind fish, chicken, and beef. The study also showed that while people still preferred bushmeat because of the taste, they discontinued consuming it at their previous rate out of fear of contracting the disease. These two studies present contradicting information on how people's food consumption changed during the Ebola epidemic, although this is likely to be due to the fact that the first study mentioned took place in a country which had no active Ebola outbreak. The Liberia study, which is currently the only comprehensive 'before and during' study with

comparable results from interviews which took place prior to and during the Ebola epidemic shows a clear drop in the consumption of bushmeat due to the fears associated with the Ebola outbreak. Other studies which took place after the outbreak showed a drastic increase in the consumption of bushmeat once the virus was controlled, which shows that even those who believed bushmeat posed a threat to their health, actually believed it was only a temporary risk (Bonwitt et al. 2018)

Figure 5: Articles mentioning chimpanzees before, during, and after the Ebola epidemic in West Africa by country.

4.1.1 Chimpanzees in the news prior to the 2013-2016 Ebola outbreak

From the newspaper articles published prior to the Ebola outbreak it is clear that chimpanzees were not seen as particularly newsworthy, except on the rare occasion of a fatal interaction between human and chimpanzee or if chimpanzees were mentioned out of context[10].

Although Sierra Leone had the highest number of pre-Ebola outbreak articles mentioning chimpanzees, 16 out of the 37 were categorised as not relevant to the aims of the current study. The number of articles mentioning chimpanzees in Sierra Leone prior to the Ebola epidemic could be explained by the fact that Sierra Leone was the last of the three countries in this study to have the Ebola outbreak officially declared.

4.1.2 Chimpanzees in the news during the Ebola outbreak in West Africa

[10] Examples of out of context topics include: violent human beings or those viewed as 'primal' were often compared to or referred to as chimpanzees in newspaper articles, or chimpanzees were counted in rural communities as citizens as a way to commit voter fraud in Sierra Leone by increasing their local population.

An article by Seytre (2015) on the handling of "Ebola communication" criticised the way in the risks associated with the Ebola epidemic were communicated with people in outbreak countries. The article cited multiple Ebola communication strategies from the WHO and UNICEF stating that they were over emphasising the risks of bushmeat which played no part in the continued spread of the virus, and is only a threat to beginning an outbreak. It stated that as non-flying mammals which have been known to be infected with Ebola have only ever been found dead by hunters that bushmeat hunting poses less of a risk than does scavenging. In fact, the researchers encountered several people in Togo, a country free of Ebola but inundated with Ebola related communiques, who believed that the Ebola epidemic was invented to prohibit hunting and so they continued to eat bushmeat. Because of the emphasis placed on the risks of bushmeat, when people continued to consume it with no adverse health effects, suspicions grew that the disease was not what had been communicated to them.

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Seytre (2015) stated that the confusing messages reported by UNICEF and USAID posters discussed things like cooking food thoroughly and avoiding stagnant water, neither of which have anything to do with Ebola prevention. Seytre (2015) claimed that this overshadowed potentially effective interventions.

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discontinued consuming it at their previous rate out of fear of contracting the disease. These two studies present contradicting information on how people's food consumption changed during the Ebola epidemic, although this is likely to be due to the fact that the first study mentioned took place in a country which had no active Ebola outbreak. The Liberia study, which is currently the only comprehensive 'before and during' study with comparable results from interviews which took place prior to and during the Ebola epidemic shows a clear drop in the consumption of bushmeat due to the fears associated with the Ebola outbreak.

During the Ebola outbreak chimpanzees were mentioned in the news more times than they were either prior to or after the outbreak (54 articles prior to the outbreak, 93 during, and 24 after). This shows that there is an inextricable link in the public view between chimpanzees and the Ebola outbreak. When looking at Figure 3 the number of articles which mentioned both chimpanzees and Ebola increased drastically during the outbreak (from 13 to 61), which follows the spike in numbers when examining the amount of times they were mentioned as a source of bushmeat.

Chimpanzees promptly returned to being 'less news-worthy' after the Ebola outbreak with a drop in the number of times chimpanzees were mentioned in the news, in any context, in each of the three countries. After the outbreak there were a total of 21 relevant articles, with 11 mentioning conservation, 5 mentioning bushmeat, and only one mentioning the Ebola virus, the latter from Sierra Leone. Twenty-one of the 32 articles which were written after the Ebola outbreak were considered off topic. Although there were no articles mentioning chimpanzees and conservation in Guinea and Liberia after the Ebola epidemic, there was an increase in the number of conservation related articles published in Sierra Leone.

4.1.3 Shifts in attitudes towards primates during epidemics

There are several diseases which can be transmitted from wild primates to humans, notably hemorrhagic fevers like the Ebola, Lassa, and yellow fever viruses (Bicca-Marques & Santos

de Freitas 2010). Responses by locals to the information that primates can spread these deadly diseases have varied over place and time. During the 2008-2009 yellow fever outbreak in Brazil seven humans and over 2,000 howler monkeys were reported to have died (Bicca-Marques & Santos de Freitas 2010). Upon further analysis of a portion of the monkeys which died (308 deceased monkeys were sampled, as samples must be collected within six hours of death) it was reported that about 40% of the howler monkeys did not die of yellow fever, and were most likely killed by misinformed and panicked people (Bicca-Marques & Santos de Freitas 2010). Despite their ability to carry the virus, howler monkeys are much more sensitive to the disease, often dying with three to seven days after infection, and are therefore not considered reservoirs (Bicca-Marques & Santos de Freitas 2010).

Alternatively, a report from a 2006 study on the consumption of bushmeat in Brazzaville, the Republic of the Congo it was shown that the types of bushmeat consumed were artiodactyls, rodents, and primates, preferred in that order. There was a lowered preference for consuming primates linked to the emergence of diseases like Ebola (Mbete 2011).

On January 28, 2015 the Sierra Leone newspaper *Concord Times* published an article which interviewed various sellers at the Krootown Market in the capital city of Freetown. A meat seller was said to be "[lamenting] the drop in profit as many customers stopped buying meat for fear of the deadly Ebola virus" (Janneh 2015) even though he was said to only be selling cow. This shows there was a fear of many types of meat even though there is no evidence stating that Ebola can be transmitted through domestic animals like cattle or chickens (UNICEF 2014). Misinformation about zoonotic disease transmission between animals and humans can have drastic consequences for both.

These examples show the range of responses by local peoples to primates after zoonotic disease outbreaks. By following the trends of the attitudes of peoples in countries affected by Ebola, they can be monitored and better understood so as to improve responses to zoonotic diseases in the future.

4.1.4 Chimpanzees and Ebola

According to a study by Lahm et al. (2007) which documented reported outbreaks in Gabon and the Republic of Congo between November 1994 and April 2005, chimpanzees were involved in 12 of 44 recorded cases examined. This shows that while chimpanzees have been involved in Ebola outbreaks in the past they are by no means the singular cause of the virus, as they were sometimes reported as being by various media outlets across West Africa during the 2014 outbreak.

In Sierra Leone, Ebola sensitisation campaigns took place at community centers and schools, one such campaign visited the Save Our Souls Children's Village in Freetown, Sierra Leone where one Mr. Harold Thomas, a Disease Prevention and Control Communications Officer in the Ministry's Directorate of Disease Prevention and Control, described that the eating of dead animals like chimpanzees and bats could cause the virus (Anonymous 2015). In Liberia a news article reported that hunters in rural Liberia were 'defying the government's restriction on the continuation of bushmeat hunting' as the government had recently made a statement which specifically named monkeys, baboons, and chimpanzees as animals that should not be killed and eaten (Teh 2015).

A shift in the perceptions of chimpanzees resulting from the Ebola outbreak in West Africa

All articles which do not mention the conservation of chimpanzees could be categorized as expressing negative ideas and views of chimpanzees. The issue with having such a drastic increase in articles mentioning chimpanzees in a negative context, such as being associated with bushmeat or Ebola, means that chimpanzees became linked with a disease they had previously not been associated with in this region. Future Ebola sensitization must proceed with caution or it risks unintended negative consequences for the wildlife. By having a Critically Endangered species like the West African chimpanzee be so inextricably linked with a disease that it had no part in spreading can have little positive outcome for either the chimpanzee populations, or the misinformed humans receiving the 'sensitization'.

Two studies, Subramanian (2012) and Ordaz-Németh et al. (2017), which contained interviews that took place prior to the Ebola outbreak examined bushmeat preference in relation to zoonotic disease transfer. Subramanian (2012) showed that while 77% of hunters

interviewed in Sierra Leone reported that they hunted bushmeat for both consumption and trade only 24% of the hunters reported any knowledge of zoonosis. Of the potential illnesses these hunters believed could be spread from animals to humans, Ebola was not listed among them. Instead they believed species like the Gambian pouched rat (*Crycetomys gambianus*) was capable of giving the consumer a stomach ache or Lassa fever, where as they believed monkey species were capable of spreading HIV/AIDS and typhoid fever and that consuming reptiles like the ornate monitor lizard (*Varanus ornatus*), Gabon viper (*Bitis gabonica*), and the African rock python (*Python sebae*) could cause a rash. This knowledge did not seem to affect people's preference for bushmeat. However, once a more threatening zoonosis moved onto the scene this changed. Ordaz-Németh et al. (2017) conducted interviews across Liberia prior to and during the Ebola epidemic and showed that prior to the outbreak the majority of households interviewed consumed bushmeat as opposed to other protein sources like chicken, turkey, crustaceans, pork, fish, or beef. However, once the Ebola epidemic spread across the country, bushmeat went from being the most preferred protein source to the fourth most preferred protein source. This drastic shift in preference is in no doubt inextricably linked with the attempted sensitisation efforts which occurred during the 2013-2016 outbreak. By understanding the link between people's knowledge of zoonosis like Ebola and their attitudes towards wildlife we can understand the effect that epidemics will have on wildlife populations. Although we cannot confirm if there was a reduction in bushmeat consumption outside of this study there was obviously an impact on the way wildlife was viewed in West Africa during the outbreak because of the way Ebola was communicated.

The conflict between those attempting to educate West African populations about the Ebola virus and those populations who were receiving the education was so great that it undoubtedly impacted the spread of the virus. Many people were so consumed with the idea that because they were told bushmeat spread the virus, but that they, nor anyone they knew, had contracted the disease this way, those educators must be lying about the virus as a whole. The initiatives would potentially have had more success if they would have focused solely on the human-to-human transmission aspects of the spread of the disease.

4.2 IN THE INTERNATIONAL NEWS

Venables and Pellacchia (2017) write that during the West African Ebola outbreak "the daily realities of those most affected by the epidemic were overshadowed by the media focus on Western fears that the virus would spread outside of Africa's borders". This type of conflicting information coming from people's lived experiences and the Ebola sensitisation efforts seriously undermined the government and foreign organisation's ability to control the spread of the virus (McGovern 2014; Wilkinson & Leach 2014; Seytre 2015, 2016; Mufunda et al. 2016; Bonwitt et al. 2018). Globally, the response to bushmeat was popular among fear-mongering media outlets as shown by the Newsweek article "Smuggled bushmeat is Ebola's backdoor to America" by Flynn and Scutti which states:

> "While the focus remains on the passengers of trans-Atlantic flights, there is an additional risk—all but ignored by the popular press and public—lurking in the cargo hold below: bushmeat contaminated with the virus and smuggled into the U.S. in luggage…. with seizures ranging from dried bat to smoked monkey" (Flynn & Scutti 2014)

In this highly sensationalised article reminiscent of the VICE coverage of the outbreak in the video "Monkey meat and the Ebola outbreak[11]" placed the blame of the spread of the virus on bushmeat, when, after the initial infection in Meliandou there was not one other case suspected to have some come from bushmeat consumption. This article even states that in a study on the health risks of bushmeat smuggled into the US, no wildlife tested positive for Ebola. The article brushes past the fact that the Ebola virus dies when exposed to heat, even if it's just a hot sun, and claims that "dried bat" and "smoked monkey"

[11] The tagline for the video reads: "West Africa is being plagued by a new outbreak of Ebola — a terrifying disease that causes its victims to bleed to death from the inside out. Ebola has no cure, and the latest epidemic is spreading fast. VICE News visited Liberia, where many feel the new outbreak began, borne from the bushmeat markets of Lofa. Western scientists feel that the consumption and preparation of meat from monkeys, fruit bats, and other forest animals is behind the transmission of Ebola, and possibly a new supervirus, which if left uncontrolled could kill a third of the world's population."

present a significant risk to American populations. As McGovern (2014) put it: "'bushmeat' is to 'game' as 'hut' is to 'house'"; by vilifying those consuming the meats that appear to be distasteful to western audiences we denigrate those to whom we prescribe these words. It has been argued by anthropologists that the blame placed on bushmeat in the midst of the Ebola epidemic only served to distract from the underlying issues within the countries that suffered the greatest losses, as in fact it has been said that Ebola (due to its short incubation time and mode of transmission) is one of the most easily controlled infectious diseases (Wilkinson & Leach 2014; Seytre 2016).

Countries like Sierra Leone hold massive amounts of natural and mineral wealth, but have developed only enough to aid in the extractions of those resources and focus the benefits on the wealthy and foreign, rather than investing in the majority of the population (Wilkinson & Leach 2014). When countries which have developed in this way face a crisis, their lack of infrastructure quickly becomes obvious, something that was at least partially obscured by the focus on bushmeat as the cause of the virus. The citizens also lack any trust in the government because they have simply never experienced a government working to improve the lives of the masses, and this distrust became deadly. In the next chapter I set out to explore how the citizens who live in the more rural areas in the country where the arm of the government is felt only in tax collection. These communities have maintained the importance of their cultural ties to the land they live on and the wildlife that surround them, and the sensitisation campaigns were long diluted by the time they reached these peoples.

4.2 CEMENTING THE NARRATIVE

The 'us' versus 'them' narrative created with the blame-centric messaging around bushmeat and environmental conservation espoused by organisations within the country was further strengthened by both the media in West Africa and more internationally. The media leaned heavily into the messaging about bushmeat being at the centre of the outbreak, spreading it and possibly even bringing it to other countries. In many cultures around the world the term 'bushmeat' is met with disgust and thoughts of savage or

uncivilised peoples living in remote and backwards jungles, rather than simply people hunting local game as they do in any corner of the earth. The division of us' and 'them' was widened further by this narrative, and the international reponse, which led to public condemnation of consuming wild animals and even law put into place to stop this from occuring, were met largely with anger and suspicion from people in West Africa. While it was common to hear people in the cities avoiding more types of meats than they usually would have over the epidemic, most people who told me about their personal experiences said that they didn't see the harm in continuing to eat the same foods they always did, which infrequently included wild meats.

By the media labelling some practices, like the consumption of wild meat, with disgust it downgraded the people of West Africa in the eyes of the international community. Here were a people who were doing something bad and dirty, like eating chimpanzees, so surely they deserved this jungle sickness. The othering of people during an epidemic is not new, but it is just as harmful to the containment (or perhaps more importantly, the care given to the sick) of an illness as it ever was.

CHAPTER FIVE: WILDLIFE, TRADITIONS, AND LIVELIHOODS

"Yes, we get sick [from wildlife]. Because if you plant a crop and the animal destroys it, you are sick through hunger." — Yateya Elder

To better understand the more culturally traditional relationship that Sierra Leoneans have with wildlife I chose to conduct interviews in one of the more biodiverse areas of Sierra Leone, and one that has had little conservation action implementation. The known number of Ebola cases in this region were relatively few, despite the fact that during the EVD outbreak it was part of the Bombali District, which had the highest number of cases in the country.

I felt it was essential to understand the realities of the vast differences between people's lived experiences and the communication foci seen both in health messaging and the media. By better understanding the relationship with wildlife that rural peoples have, I could better understand the root causes of the conspiracies that wove themselves through the fabric of the disease narrative surrounding the Ebola outbreak in Sierra Leone. If one were to base their ideas on what and how wild meats are consumed in Sierra Leone from the media storm that placed the blame on rural peoples, you would picture an entirely different reality (lived experience) than that which exists in the Dugata Section of the Tambakha Chiefdom.

At the time I conducted this research there was relatively little hunting occurring in Outamba. But, here in this rural area where it is thought that Ebola creeps from the forest, to infiltrate a population and decimate it, are people who do not rely on meats from vector species like chimpanzee, but instead on ungulates and large rodents like porcupine and cane rats.

The hunting of wild meats is not done to encourage any trade, but most often occurs when people are protecting their farms. To insist people stop capturing wild animals, and leave them with no other options of protecting their farms, is to ask them to starve. When the Ebola communications came in, they made no difference between handling dead animals and consuming cooked meats. This error is messaging led to some of the most extreme misinterpretations of the Ebola virus and was the foundation upon which many people, both rural and urban, built their conspiracy theories. Those who proselytised the message that any bushmeat carried the virus (a broad stroke when, in reality, the threat was human-to-human contact) did not know or care that even in rural populations the basics of viral

transmission are understood. As Ebola, like many other viruses, dies when cooked, even the dangers of consuming potentially contaminated wild meats largely lay with the hunter or who prepared the meat, not with the consumer. While the details of this, viral death at a certain temperature, are probably not explicitly known, it is apparent that some understanding of the transmission of illnesses through bodily fluids is understood and respected. I have shown this extensively in section 5.2 with the discussion on the locally-believed illness 'monkey sick'.

It is well documented that, during the Ebola epidemic, members of outbreak response teams frequently encountered the problem that local populations simply did not believe Ebola was 'real' (Farmer 2021). I argue that, if the communication strategies during the Ebola epidemic took into account the prior knowledge upon which people built their beliefs, and the reality which formed their lived experiences, perhaps the widespread disbelief could have been somewhat tempered. The way in which Ebola was communicated to the people of Tambakha (when communication efforts reached them at all) was that any wildlife; fish, cane rat, any and all monkeys, apes, and bats, could and would transmit the virus. The problem with blaming any and all wild meats is that you will ultimately alienate the people who rely on them to survive, and have been doing so with no ill-health consequences for generations. Over the next chapter I will show the realities of people's lived experiences with wildlife, and how people in Tambakha interpret zoonosis outside the lens of 'Western medicine'. In Chapter Six I will highlight the issues created with ill-informed sensitisation campaigns which worked in dissonance with the pre-existing relationships with wildlife already in place in rural Sierra Leone.

5.1 RURAL RELATIONSHIP WITH WILDLIFE

There has not been a large amount of wildlife research conducted within the Outamba Kilimi National Park in recent years. The majority of the international attention to the area ended with the start of the Sierra Leonean Civil War (1991-2002). In fact, no researchers, or

even park staff had visited each community inside the Outamba section of the park until my research.

This had several implications for my work, and is essential to understanding how some of our questions were met and why some of our questions focused so heavily on crop destruction by wildlife. Our presence in the communities of Outamba was treated differently in different communities, usually based on a few factors: Those that had more interactions with park staff or previous researchers were significantly more wary of any questions that involved the consumption of wild animals and often included round-about answers which didn't implicate anyone in the community, but vaguely referred to the species' in question being consumed but "no one here [in this specific village] eats this. Others do. But not here."

5.1.1 Chief Almamy Idrissa

Slightly less commonly, some of the descendants of Chief Almamy Idrissa held his beliefs and disagreements about the national park as a whole, or were old enough to have been present when many empty promises were made to Idrissa on behalf of the park. Idrissa was the Chief of the Dugata Section of the Tambakha Chiefdom during the time the Outamba Kilimi National Park was established. The entire Outamba section of the park shares roughly the same borders as the Dugata Section of the Tambakha Chiefdom.

I spent some time with Heather Teleki, wife of the late Dr. Geza Teleki, who told stories of Chief Almamy from her time living at the Outamba Headquarters from 1982-1984. The decision of the placement of the park in the far north of Sierra Leone was that this was one of the least densely inhabited (by humans) areas in Sierra Leone, coupled with a high density of wildlife. When the park was created the government's intention was that financial resettlement incentives would be offered to clear the parks of human inhabitants. Geza and his team were successful in carrying this out in the Kilimi Section of the park, but were never able to make significant headway in Outamba due to the diligent resistance of Chief Almamy Idrissa. These days, some community leaders in Outamba say they are still

waiting on this money to move, but many more say that they would not like to leave their villages.

Despite Chief Almamy's constant disagreement with the formation of the park and the movement of his people, the park was established by the Government of Sierra Leone. Due to his vehement opposition it was difficult for Geza and his team to conduct any wildlife surveys from deep within the Dugata Section boundaries and stories of Geza's powerful spirits that helped him evade the curses set upon him. Once, the resident rescued chimpanzee orphan Rupert, jumped on the visiting Chief Almamy and ripped off his outer layer of clothing to reveal a leopard skin and other powerful magical objects meant to cause harm to his enemies. The park staff hailed Rupert as the protecting spirit of the park for unmasking these wicked intentions (Pers Comm, H. Teleki 2018).

In Fansiga an argument interrupted the interview about halfway through and the grandson of Almamy Idrissa (who had a wife, and subsequently, children, in every village in Dugata)



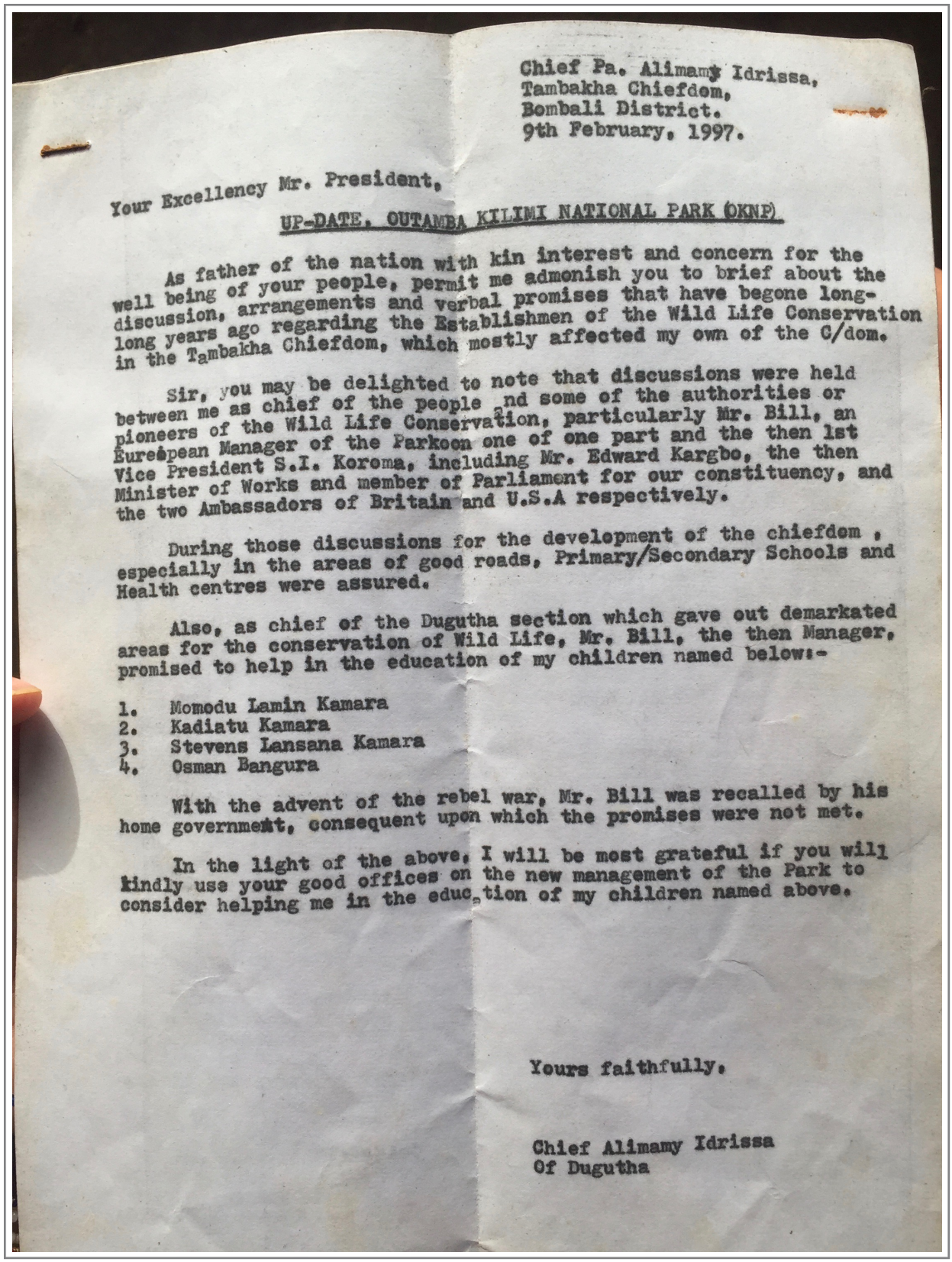
Figure 13: A calendar gifted by elephant researchers and a monkey skull from a trash midden both from the same village visited inside OKNP in 2018.

arrived to tell the village chief and elders that they should not cooperate with us. My translator, Alhassan, declined to give me a word-for-word account of what was going on, as he quickly became engrossed in the argument stating that I was a student, and not affiliated with the formation of the park in anyway. After about forty-five minutes of raised voices, the grandson of Almamy Idrissa left frustrated and Alhassan turned to me and said: "we may continue."

One of Almamy Idrissa's now-elderly nephews lives away from any other village, in a settlement called Kamasugula (interior). It has one small thatched house and two larger tinned roof homes. It is home only to the older man, his wives, and a few children to mind the land and is surrounded on all sides by many species of mango trees and very large orange trees. His grouchy reputation is widely known, if not apparent enough by his self-isolation. While he has never been anything but outwardly courteous to me, it ends at courtesy, as I have never been able to ask him the same types of questions I asked of people in other communities. Despite this, I learned a lot from him. He was able to show me, saved in clear plastic folders, correspondences about the agreements between the park residents and the government, promises from Peace Corps volunteers from the early 90s to pay for his and several of his cousin's university degrees (which went unfulfilled as all Peace Corps volunteers were pulled from Sierra Leone in the early 1990s at the start of the Civil War), and letters written from Almamy Idrissa to the then President of Sierra Leone.

5.1.2 The importance of images

Over time, I developed strategies to overcome community members' instinctive suspicion of me, by asking questions that demonstrated my recognition of, and empathy with, their livelihood struggles. For example after a few less-than-enlightening interviews in the north of Outamba, where an elephant survey team had passed through, large colourful gift calendars in hand, I shifted my question order slightly and found significantly more success. It seems that whoever accompanied these researchers, who found no elephants in this area of the park, also appointed people from a few villages to uphold the 'no hunting' laws in the park. This attempt to me seems slightly laughable, that a single visit and a gifted



Chief Pa. Alimamy Idrissa,
Tambakha Chiefdom,
Bombali District.
9th February, 1997.

Your Excellency Mr. President,

UP-DATE, OUTAMBA KILIMI NATIONAL PARK (OKNP)

As father of the nation with kin interest and concern for the well being of your people, permit me admonish you to brief about the discussion, arrangements and verbal promises that have begone long-long years ago regarding the Establishmen of the Wild Life Conservation in the Tambakha Chiefdom, which mostly affected my own of the C/dom.

Sir, you may be delighted to note that discussions were held between me as chief of the people and some of the authorities or pioneers of the Wild Life Conservation, particularly Mr. Bill, an European Manager of the Parkoon one of one part and the then 1st Vice President S.I. Koroma, including Mr. Edward Kargbo, the then Minister of Works and member of Parliament for our constituency, and the two Ambassadors of Britain and U.S.A respectively.

During those discussions for the development of the chiefdom , especially in the areas of good roads, Primary/Secondary Schools and Health centres were assured.

Also, as chief of the Dugutha section which gave out demarkated areas for the conservation of Wild Life, Mr. Bill, the then Manager, promised to help in the education of my children named below:-

1. Momodu Lamin Kamara
2. Kadiatu Kamara
3. Stevens Lansana Kamara
4. Osman Bangura

With the advent of the rebel war, Mr. Bill was recalled by his home government, consequent upon which the promises were not met.

In the light of the above, I will be most grateful if you will kindly use your good offices on the new management of the Park to consider helping me in the education of my children named above.

Yours faithfully,

Chief Alimamy Idrissa
Of Dugutha

Figure 14: A letter written by the then chief of the Dugata section, Almamy Idrissa, who had grandchildren in nearly every village inside Outamba. This was kept in a clear plastic folder by his nephew, the chief of Kamasugula, and showed to me upon my arrival. While that man did not want to participate in a focus group interview, he did want to share his thoughts and memories about the establishment of the park with me.

calendar to an illiterate community, could convince one single person from said community to forsake his tight-knit social circle, and report them to local park staff (usually a one to two day walk away) for eating the wild game that has always supplemented people's diets in the area.

I was lucky that I had the foresight to utilise photo-flashcards for discussing specific topics and eliciting more open responses about specific species. Photo-elicitation has been proven effective in breaching cultural and linguistic barriers when conducting ethnographic research (Meo 2010). By showing the flashcards and asking which species were considered food-items (a method that had worked in the communities just outside the park borders) I seemed to ignite suspicion, or at the very least, more suspicion than I brought than just being the first white person to visit the area in the last several decades (if ever, in some cases, as I was emphatically told). The first community within the national park that I interviewed was Khatikoleya, a small village of about 60 people which had grown from a farming settlement to a permanent community originating from Yateya, which was until 2020 the Chiefdom Headquarters. I started by asking simply if people had seen the animals, not wanting to initially ask about consumption since it was technically an illegal activity, even if completely unenforced, and hoping only that it would come up naturally in conversation (retrospectively, not my best choice). I received short answers with no description, and people rarely wanted to elaborate on any animals.

I noticed quickly that any descriptive language about animals (aside from the simple, "yes, this is here", "no, we don't know this", or "we know it, but it lives far away") was in describing wildlife that caused crop or livestock loss in the community. It took me doing interviews in two communities to lean into this and open up the floor more for people to voice their frustrations with the wildlife they lived alongside to breakdown the wall of hesitancy between myself and the community members who had still graciously agreed to participate in the interviews.

It became clear through my interviews that people often understand their relationship with wildlife through the prism of their beliefs in taboos, talismans, and witchcraft. For example:

the relationship between people's family names and the taboo animals that come with that family lineage, witch-guns made from various animal parts (some more deadly than others), and wildlife used not as medicine so much as talismans. Until interviews began I had no notion they should be included to such a degree which resulted in those kinds of questions not being added into interviews until after the first few focus groups.

While understanding the taboos, talismans, and witch-craft surrounding wildlife might seem to be a step away from understanding people's perceptions of a sickness like the Ebola virus, I believe that with the heavy focus on wildlife as the source of Ebola portrayed in all forms of communication about the virus, from any and all sources of information, makes this information tightly linked to people's understanding of and response to the epidemic.

5.1.3 What's in a name?

In the communities where I conducted interviews, which largely consisted of people who considered themselves Susu by tribe, last names were often associated with animals that the person of that lineage could not touch or consume without negative consequences (usually a rash or sickness of the stomach). Even this, while mostly consistent, had outliers where people of the same name had different taboos to those in different villages with the same last name.

For example the last name Bangura was most frequently associated with the leopard:

> "The Bangura people, whenever they step in the footprint of the leopard they get sick, because their name is the same as leopard"

I will admit that the etymology of the Susu language evades me somewhat, as upon asking for the name of the leopard in Susu I have heard *gulumasay* as well as *barateh gulumasay*. It was explained to me that *barateh* actually means lion (or perhaps more generally, 'big cat') and that *gulumasay* indicates that it is specifically a leopard. A colleague mused if we had been given the Susu scientific name for leopard.

However, in Digi Digi, a community made up of people not originally from the Outamba section but of people who moved from Small Kamakwei during the Ebola outbreak in search of a better life and better farm land, they did not associate the Bangura name with that of the leopard:

> "This man is Bangura, he does not touch pythons or vipers. Leopard is fine."

My translator's last name is Sillah, and he is of Susu heritage but hails from the Kilimi section of the national park and states his last name means that he can not consume any animal who's stomach touches the ground, being snakes, monitor lizards, or crocodiles. In Kotor village, the Sumah's cannot touch lions, and I am told Kamara's have many taboos but the main one is a small brown bird locally called *dete*.



Figure 15: A Campbell's monkey (*Cercopithecus campbelli*) and sooty mangabey (*Cercocebus atys*) moving together around the Outamba tourist camp. This image was taken in 2018 in an attempt to highlight the frequent co-movement of these two species together.

There are differences in the way Western science has decided to name and categorise animals and the way that the people of Tambakka Chiefdom name and categorise animals. The differences largely stem from what is most important to each party when identifying these animals. While some people could give individual names for many of the locally abundant primate species, others would give the same name to multiple species if the destruction they wrought on their fields was similar enough.

For example, a Susu farmer in the rural village of Kortor can tell you the crops that elephants prefer, what time of the year they are most likely to show up, how many might be in a group, whether the tracks you have spotted belong to the locally rogue bull elephant, cast from his group but, when we showed a documentary about forest elephants, the residents of Kortor were surprised to learn that an elephants trunk is much like a hand. They have intimate knowledge of the things that are important to them and that directly affect them.

This knowledge emphasis is particularly apparent in the community of Digi Digi, which works as a juxtaposition for the communities which have been residing in the park with it's wild neighbours for generation. Digi Digi was the site of a once abandoned village, known to the people that would come to inhabit it again because it had been the village of the Chief's wife's father. The people of Digi Digi said that there were only a few species that they had trouble with on their farms: elephants, cane rats, and 'black monkeys'.

The black monkey, or *kakamasey* as it's locally known in Susu, is the name for the sooty mangabey *(Cercocebus atys*). In Outamba Kilimi National Park, it is very common to see mixed species groups of primates, in particular sooty mangabeys and Campbell's monkeys (*Cercopithecus campbelli*). Other primates have been recorded to forage with, or at least, nearby, sooty mangabeys. Being more terrestrial than Campbell's monkeys, they are often the first to loudly alert to terrestrial predators (and in Outamba, this includes humans). In Outamba, these species have been observed living more closely together than just foraging, with juveniles playing together, and groups traveling together as if one unit, on the ground and in the trees, as seen in the camera trap image above.

In Digi Digi, without the historic ties to the land, the residents used the names that were useful and relevant to them. In Digi Digi there was no Campbell's monkey and sooty mangabey. They moved together, ate the same crops together, slept in the same tree together. They were the black monkey. This only goes to further highlight the emphasis that human-wildlife conflict has on shaping people's perceptions of wildlife. It is also then no surprise that the majority of 'hunting' wild species came largely in the form of crop protection.

5.1.4 Where is the risk, really?

From the conversations I had with people in both urban and rural settings, I found that bats are largely considered to not be a preferred food item. People reported that they had minimal contact with bats, and usually that contact consisted of bats roosting in people's homes, or leaving half-consumed mangoes on the ground. Despite this, reports of consuming bats did occur in Kotor. In these informal conservations with younger members of the village, people described the foul taste of the bats that they hated eating, saying that only children consumed bats in the village. It was not made clear whether the children caught and ate the bats themselves, or were fed bat by family members. This could be a case of inequitable trickle down of resources throughout the household (Diggins 2017). From my own personal observations, particularly in Kortor, where I spent the majority of my time, children were rarely minded. Children attended school inconsistently, and were largely left to their own devices to such an extent that the language they spoke, an amalgamation of Susu and Krio (and possibly some other dialects I am too inexperienced to detect), which seemed to be more understandable to the other children than to the adults. Much like what Caroline Bledsoe encountered in Sierra Leone in 1995, it is clear that parents see paying school fees as a high risk, low reward type of situation. There are few, if any, cash paying jobs that require an education in the local area and unemployment with youths (under 35) across the country is thought to be higher than 60% (Alemu 2016). I personally know many Sierra Leoneans with college degrees and no steady employment, especially within their field.

Although reports of adults consuming bats were non-existent, bats are being handled in a way which could expose people to zoonotic disease transmission from bats. Kortor's head teacher described his interactions with bats:

> "You know, in fact, the communities don't have time for bats, but you know they [bats] love the houses… that is why some do make this wire mesh in the edges so the bats can't come in, so bat is dangerous. I was using bat as bait. I catch bat many many times and kill them and put them on hook to catch fish, but for now I will not do that again."

When I was conducting interviews initially I made an error and did not ask people if they handled bats, only if they consumed them. While the community members who participated in interviews and focus groups might not consume bats, there is a likelihood that they are still handling dead bats.

One issue that arose again and again with people's understanding of animal to human transmission of the Ebola virus, was that the sensitisation often told people not to consume animals like chimpanzee, monkey, and bat, but rarely, if ever, mentioned that the true threat of disease transmission comes from the handling of dead (and uncooked) animals, especially those that might have been scavenged. Bernard Seytre (2016, 2017) states that Ebola communication during this outbreak was filled with misleading messaging about bush meat. The impact on the communication strategies employed during the outbreak are discussed in depth in Chapter Four**.** Seytre also discusses the missed opportunity to discuss scavenging of wildlife, but in particular chimpanzees (or gorillas, if relevant), which was not mentioned by major organisations like UNICEF, WHO, or the United Nations USAID who lead the sensitisation campaigns across Africa for Ebola.

I personally encountered only one instance of scavenging during my time in Tambakha Chiefdom, when a long-dead common hippopotamus washed up on the riverbank about a mile away from the hippopotamus's regularly inhabited river spot. Two youths in their early twenties who were frequently used as translators by myself and other researchers, told us that while checking traps along the river they discovered a male hippopotamus

which bore the wounds of violent battle with another hippopotamus. They believed it was a younger male trying to oust the local alpha male in the group, who lost his life in the battle. By the time the hippopotamus washed ashore it was bloated and "spoiled". The park staff granted permission to the youths to take the hippopotamus back to the village. When we asked them about it later they said that the meat was very spoiled, but that it was cooked and consumed anyway.

The topic of scavenging was discussed with community members in one of the newer villages inside the Outamba section of the national park as well. The community members which made up the village of Digi Digi were all from the Sella Limba area, making them Limba by tribe, and had moved into this ethnically Susu area during the Ebola outbreak as a result of food insecurity. As a result they did not have a strong hunting culture or knowledge of wildlife. They lacked individual names for locally well-known species, and reported no use of wildlife or local plants in traditional medicine. They did report knowledge of the widely locally reported 'Monkey Sick', discussed in detail in the following section. At the end of each interview and focus group I gave people the opportunity to ask me any questions about any topic. Digi Digi was the only community which asked me to give them advice on how to avoid catching zoonotic diseases. Because I did not want to preach the dangers of consuming wild meats (when it is the handling of the dead animals that poses the actual risk), I instead touched upon the risks of scavenging, though I had no knowledge if the community took part in scavenging. With the help of a park ranger who was also my Susu to English translator, he helped me convey the idea that you should not consume an animal that you have found dead, and especially one that has no marks to tell you how it died. They had several follow-up questions, and it was clear that they had not seen any risk in this behaviour before. They had heard of this idea before from Ebola sensitisation teams, but the teams apparently only reported the dangers of not eating livestock that has died of unknown consequences (which is not a known way to catch the Ebola virus).

Due to the lack of education and understanding of how disease transmission works, I came to realise that many people's misunderstandings about disease transmission, especially

between animals and humans, comes from a fundamental lack of understanding of viruses, which is taken for granted by those conducting sensitisation schemes in the country. In the next section I explore how people may not understand the science of viral transmission, but have an awareness spread through culture of fluid to fluid transmission of sickness, as well as the relative safety of long-stewed or smoked meats they had long relied upon for sustenance. This section illustrates the considerable scope for miscommunication when translating between local and biomedical paradigms of zoonotic disease transmission, and the possible points of intersection which to build upon.

5.2 KNOWLEDGE VARIANCE SURROUNDING MONKEY SICK IN OUTAMBA COMMUNITIES

When asked about zoonotic diseases 65% of villages stated that monkeys (various spp.) could transmit Monkey Sick, the symptoms of which are consistent with those of epilepsy. Of the thirteen villages who cited Monkey Sick as a zoonotic disease, there were four different species/combination of species attributed to spreading the 'sick' and three different beliefs in how the sickness could be attained, and several villages who stated they did not know how the sickness was spread. These variations were not consistent among tribal groups (of which there are four within the park), location within the park, proximity to each other, or religious belief. Additionally, some villages held the belief that monkeys who responsible for spreading this sickness were safe to eat, as long as you did not step in the footprints of the species. This presents complications for disseminating information about zoonotic diseases, such as Ebola virus and Marburg virus, in an effective manner. The transmission of illnesses from animals to humans is not completely unknown in this area, however only two villages stated that you could get sick from eating primates, but only specifically the primates which could spread 'Monkey Sick'. Additionally, because there is no consistency, apart from the name and symptoms, it is unlikely that reliance on village to village communication about zoonoses would prove effective, though this strategy was employed in this region during the recent Ebola outbreak.

The symptoms of Monkey Sick included falling down, 'head turns' (which, after 'head turns' were acted out by informations were determined to be seizures), and foaming at the mouth. While there are several ways which people believe you can contract the sickness, it was generally understood that it is a sickness that is contracted either from birth or a very young age, or late in life. Sometimes it was reported that if pregnant women stepped in footprints or saliva of the monkey which that village believes carries the sickness, it would be passed down to the fetus and the child would be born with monkey sick, though the mother would remain unaffected. It is very likely that Monkey Sick is actually a form of epilepsy, and it is also very likely that this epilepsy is caused by childhood cerebral malaria (Ngoungou et. al, 2006). Sierra Leone has a very high rate of malaria within the country with approximately 7.6 million cases in 2017, when the country's population was about 7.557 million (WHO, 2018). A survey of 10,000 children admitted to a hospital in Sierra Leone in 1969 found that 23% of fatal malaria cases were specifically cerebral (Wilkinson, 1969), and more recent studies show that children in sub-Saharan Africa are the most affected with approximately 575,000 children in this area developing cerebral malaria annually (Idro et. al, 2010).

Monkey Sick is an example of the variation of knowledge found across the communities within the Outamba Section of the Outamba Kilimi National Park in Northern Sierra Leone. By accepting that taboos, knowledge regarding zoonotic diseases, and even crop defense methods vary widely within such a small area, all of which is within the same land-type mosaic, same section of the same chiefdom, and is made up of largely (60%) the same tribal affiliation, and whose inhabitants largely practice the same religion (91% Muslim), strategies for communicating with these communities can be better prepared for the variety in beliefs and understandings one will encounter. This has implications for both the public health sector, and for wildlife conservation. Outamba Kilimi National Park is an area of high ecological importance and also resides within an area where several species of bats have tested positive for both the Ebola virus (*Bombali ebolavirus*) and Marburg virus, two highly contagious and deadly hemorrhagic fevers.

Knowledge of Monkey Sick is inconsistent along each of the four main roads within the Outamba section of the Outamba Kilimi National Park. For example: The Northern Road in the Outamba Section of the Outamba Kilimi National Park has 8 villages, all of which are Susu. However, only 6 of those 8 villages have knowledge of Monkey Sick. When entering the park the first village encountered is Khatikoleya. Khatikoleya believes monkey sick is spread by green monkeys, the next village encountered, Yateya, stated that they did not know which monkey spread the sickness, though they agreed with Khatikoleya on the way the sickness was spread. The next two villages, Bambakeraya and Fansiga, also believe that green monkeys spread Monkey Sick but had differing beliefs in how the sickness was spread. The final two villages on this road that believe in the monkey sick both varied in belief of which species could spread the sick, Kondeta believed it was spread by Campbell's monkeys and Dunkuba believed that it was spread by both sooty mangabeys and green monkeys. They also differed in their belief of how the illness was spread. Dunkuba, the farther village, shared the belief in how the sickness is spread with the first three villages on this road, but not those of the villages closer by.

56% have reported knowledge of Monkey Sick, all villages with this knowledge reported the same symptoms of Monkey Sick, of those (13) 61% believe only green monkeys can spread the sickness, 15% believed green monkeys and sooty mangabeys could spread the sickness, 7% believed Campbell's and sooty mangabeys could spread the sickness, and 7% believed it was only Campbell's who could spread the sickness.

Of the 13 villages who had knowledge of the sickness, 53% were Susu, 30% were Madingo, and 7% were Limba. The total breakdown of tribal affiliation in the park is as follows: 60% Susu, 21% Madingo, 15% Limba, and 2% Temne (the remainder being of mixed origins).

Of the 13 villages who had knowledge of the sickness, they lived on 4 different access routes into the national park: Outamba North, Yembere Road, Outamba South, and Outamba East.

75% of the villages in Outamba North had knowledge of Monkey Sick. 80% of villages had knowledge of 'monkey sick' in Outamba East. 40% of villages in Outamba South had

"Which things?"

"No hand contact greeting, you should not go close to the sick, you should not move from village to village. So we all stay here steady and do not move anywhere."

The posters were not the first time the community people of Yateya had heard about Ebola. Not long before, the chief called a meeting to tell the people of Yeteya that there had been a sickness announced over the radio and that it was called Ebola.

Prior to asking people in Yateya about Ebola, I asked if any of the animals we had discussed on the flashcards were capable of spreading sicknesses to humans, as well as specific taboos.

"We have taboos here, for example the Bangura people wherever they step in the footstep of the leopard they get sick, because their surname is the same as the leopard."

The first thing that was mentioned when I asked about anyone in the village ever being made sick by the animals was hunger:

"Yes, we get sick. Because if you plant a crop and the animal destroys it, you are sick through hunger."

They also had a young teenage boy who they claimed was sick from monkeys. This was the first, but certainly not the last, victim of the 'monkey sick' that I met. As soon as an elder mentioned the boy in the village who had the monkey sick, a woman went to fetch him. He was brought in front of us to show the wound on his head, covered in a thick, dried poultice made from leaves from the forest.

"His head turns and he falls down. He gets white saliva and blood in his mouth. That's why this man has the wound on his face. He is always falling down… He has been sick up to 15 years now. We have tried all angles and don't have the medicine. He has been to Fintonia and even Makeni and they don't have the medicine."

People with monkey sick are not allowed to travel alone, bathe alone, do laundry alone, or tend a fire alone. The village must collectively help keep an eye on any individual so afflicted to prevent them from suffering from a seizure (head turn) and falling into any dangerous situation.

> "We can also get sick from the squirrel, the hernia (*anya*). The squirrel has a hernia in the system and it drops the squirrel, and if you don't know it is the hernia that drops the squirrel, you can get this sick. You can get this from the saliva."

This report of hernia's spreading through touching squirrels which have been found dead was the only report I have of anyone saying that some wild animals found dead could carry un-seen sicknesses.

This statement, only reinforces my argument that Ebola communication should have focused more on the dangers of fluid contact spreading the virus, and the dangers of scavenging, rather than a message blanketing a risk over things like 'bushmeat consumption'. Either those communicating public health messages about Ebola believed that people would make the association themselves between saying things like "bushmeat can carry Ebola" and "Wash your hands" with the fact that Ebola can be spread through fluids, or they assumed that people wouldn't understand viral transmission via fluids, which the people of rural Sierra Leone quite obviously would have understood.

knowledge of 'monkey sick'. 20% of villages reported knowledge of monkey sick on Yembere Road, however no information on this topic was collected from two of the five Yembere Road villages due to heightened conflict with the park.

5.3 IMPLICATIONS OF MONKEY SICK BELIEFS FOR CONTROLLING THE SPREAD OF FUTURE ZOONOTIC DISEASES

With this ethnographic data, I reveal a complex and variable understanding of zoonotic disease, which has several implications for developing appropriate sensitisation campaigns in the context of any future zoonotic disease outbreak. Firstly, of villages stated that the primate species responsible for the sick was not considered a bushmeat item, only two villages (Digidigi, Fansiga) cited Monkey Sick as the reason for avoidance. Several communities who had the knowledge of Monkey Sick continued to consume the primate(s) associated with the sickness. This has implications for understanding risks and avoidances (or lack-there-of) of animals which are associated with illnesses.

'Monkey sick' is most likely some form of epilepsy which means that contact with primates of any kind is not leading to the 'sickness'. Even so, it is one of the more commonly held beliefs in this area, and still, few avoid eating primates because of this perceived health risk. The belief in Kawono was that you could not step where the monkeys played, but that the monkeys were safe to eat. Additionally, Kawono is a Muslim village (as are 91% of villages in the study), and the consumption of any primate is generally accepted as against the teachings of the Islam. Avoidance of eating animals which were cited as being apart of some cultural or religious taboo was low. Some communities would state that they did not consume primate or bushmeat, but various skulls of a variety of species were frequently found in rubbish piles surrounding the village.

When asked, one young man who described himself as a devout Muslim, stated that Allah would forgive him for eating monkey, crocodile, or other animals not considered halal. While the Shari'ah states that haram (unlawful) meats can be consumed in cases of extreme urgency (2:173), this particular informant also stated that he consumed primate on almost a weekly basis. However, most hunting was reported to occur only during the protection of farms, rather than on hunting expeditions into the bush. Snares, slings, and pitfall traps were used on the edges of fields to protect crops, and when animals were caught in these traps, they were consumed as bushmeat.

Working with communities with inconsistencies among their own belief systems only heightens complications of disseminating information about zoonotic diseases. The example of monkey sick shows two things: Firstly, that communities in this region who

believe primates can transfer diseases to humans do not associate consumption as heightening risk, and, secondly, that the understandings of zoonotic diseases and transfer can vary significantly from village to village. The understanding that primate saliva (through partially eaten fruits or stepping in it) poses a transition risk is probably the most relevant information to come out of this understanding of Monkey Sick. This is much more in line with the realities of how a sickness like Ebola could spread from wildlife to humans, whereas the consumption of long-stewed meat is not a risk.

With this research I also identify the difficulties associated with gathering data on eating practices which may be stigmatised for environmental or cultural reasons. However important this data might be for understanding the potential spread of future zoonotic disease, when people fear being judged — or even punished — for their livelihood practices they are unlikely to be entirely frank with unfamiliar researchers.

Throughout my interviews, some community people who stated that they had no way to catch the primates, so therefore could not eat it, had primate skulls in rubbish piles on the edges of their villages. I believe that due to the translator being a national park ranger, despite him never having had contact with the majority of the villages, reporting on the consumption of certain animals was reported lower than actual consumption. In addition, because the villages are aware that primate meat is not halal, they frequently do not openly admit to consuming it, but continue to do so anyway.

When the Ebola epidemic occurred in West Africa the three main affected countries (Liberia, Sierra Leone, and Guinea) outlawed the consumption of bushmeat. The purpose of the above chapters is to understand the cultural perceptions of wildlife and historic reliance on bushmeat so that education about zoonoses can be conducted in a culturally sensitive way to decrease distrust and misunderstanding of diseases. Even now, with the COVID-19 outbreak, some countries in West Africa purported early on in the pandemic that anyone who came in contact with livestock or undercooked eggs was at risk of catching the virus. When health campaigns are drowned out by less important and more general health advice, the realities of transmission are lost.

CHAPTER SIX: RURAL PERSPECTIVE ON THE EBOLA OUTBREAK

"That chlorine is very powerful. I don't believe this Ebola. Only that people come here to give it... [My wife went] to the hospital. She is sprayed with chlorine and they tell me she have Ebola. This is why I don't believe. I always be with my wife. I never get Ebola... I just don't believe Ebola. I don't believe Ebola. Chlorine is the Ebola." — Resident of Tambakha Chiefdom

In this chapter I discuss what I learned about peoples views not only on the Ebola outbreak, but on wildlife as a vector for sickness, as well as delve deeper into some specific conspiracy theories surrounding the Ebola outbreak in Sierra Leone. I believe by understanding peoples knowledge base and current belief system are instrumental to building and effective disease sensitisation campaign. Some well intentioned strategies, like treating every death like an Ebola death, with little explanation to surviving loved-ones, created distrust between health officials and the general public.

There were spaces within Sierra Leonean culture which could have more readily accepted sensitisation about the virus, if the sensitisation had taken into account things like the general understanding and acceptance of bodily fluids as a way to contract an illness, as well as knowledge that *some* dead animals can carry certain sicknesses (though not once cooked). Building off of this knowledge instead of utilising sweeping blanket statements, like 'if you consume any bushmeat you will get Ebola and die' (often repeated to me as a well remembered Ebola message) could have lessened the tension, misunderstandings, and distrust between officials and local peoples and resulted in more effective disease sensitisation.

6.1 THE IMPACT OF SENSITISATION

Because of the lack of medical facilities and the geographic difficulties in reaching Tambakha Chiefdom, it would be classified by the WHO as a 'shadow-zone' (WHO 2018), meaning that the number of cases reported is most likely lower than the actual number of cases. Tambakha Chiefdom also presents an interesting study area because there is a very clear border between the communities which received sensitisation, and those which did not: the border of the national park.

Throughout this chapter I will show that communities which did not receive official sensitisation from the government or NGO's (i.e. UNICEF) showed a much higher likelihood of believing that the Ebola virus was real. This supports the idea that

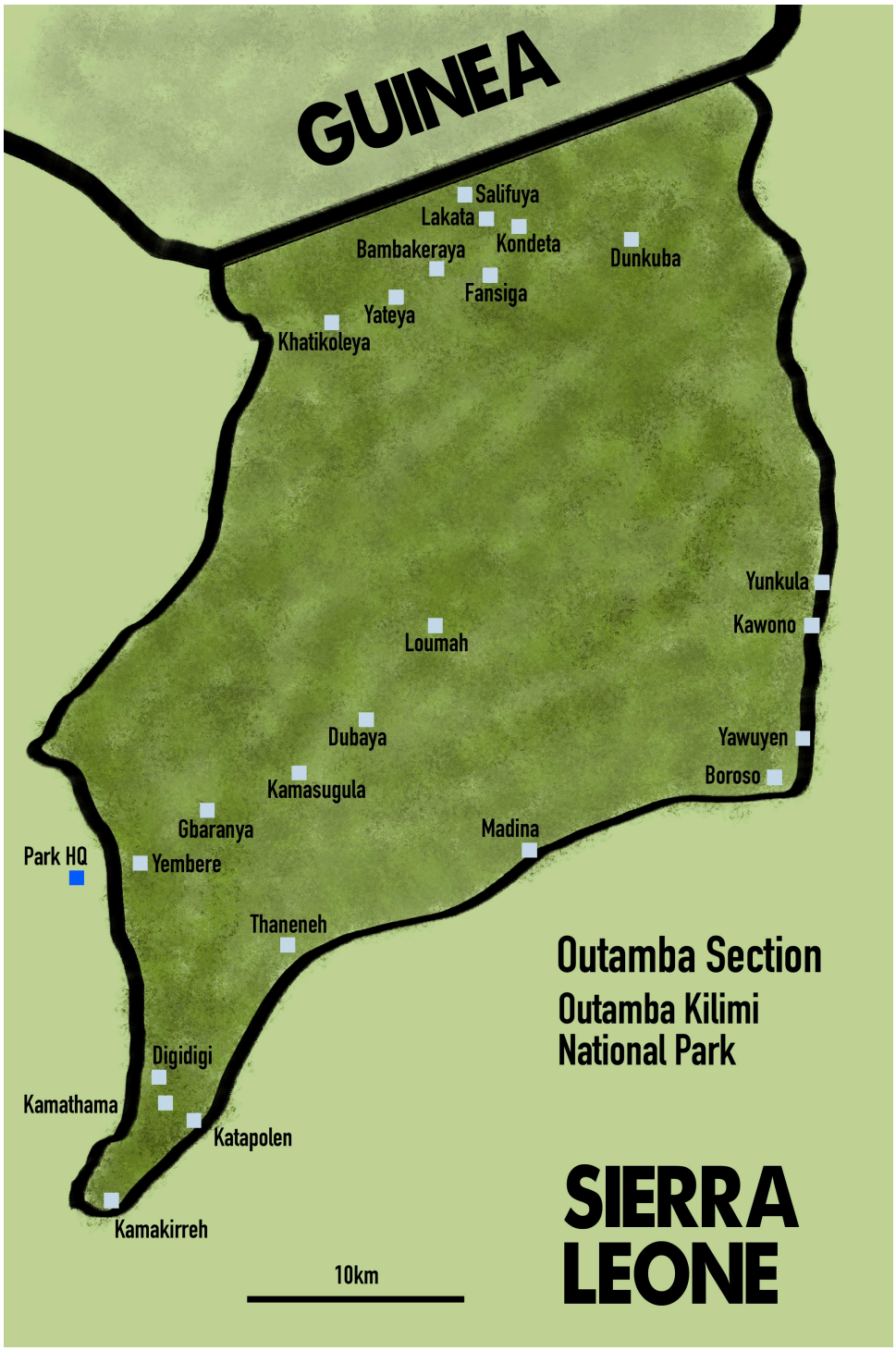


Figure 16: This map shows the border of the Outamba Section of the Outamba Kilmi National Park. This border is the same as the border for the Dugata section of the Tambakha Chiefdom. The park shares its northern border with the country border and touches Guinea. Each of the communities was visited at least once, but more were visited upwards of three times, sometimes with stays of over a week.

sensitisation which lacked a coherent and non-inflammatory approach to discussing disease prevention, proved to be more harmful than no sensitisation at all. This is because it increased the likelihood of supporting conspiracy theories whilst alienating the people who should have been benefitted from this sensitisation. If the sensitisation which is undertaken by the government or by non-governmental organisations is done in a haphazard, or condescending manner it is likely to cause significantly more harm than good.

One of the main villages included in this study, Kortor, reported that there were no cases of Ebola in their village, but did report 8 deaths, four elders and four children, over the course of the Ebola epidemic. They reportedly died (unofficially diagnosed by other members of the village) of things like malaria, diarrhoea, or old age, though the early symptoms of the Ebola virus are similar to many common ailments as it includes fever, chills, vomiting, and diarrhoea.

Although everyone I spoke to in Kortor believed the Ebola epidemic was fake, or stated that they felt unsure of its validity, they still followed some guidelines like not touching the deceased. Instead, the community did call the Ebola burial teams when community members passed away. After the first death, the community waited four days and had to abandon a section of the village due to the smell of the decomposing body left inside the recently departed's home, though they reported that every other body that was reported after the first was dealt with much more quickly.

6.1.1 A Chlorine Conspiracy

The stories I was told of bodies and loved ones disappearing, most likely being moved to mass grave sites, from urban areas are not reflected to the same extent in rural areas. In Kortor, the community was given the opportunity to prepare the grave site as they saw fit, but had to wait for the burial team to move the body. The burial team also disinfected the deceased's home using chlorine spray.

A repeated theme that raised suspicion in the best of time, and at its worst caused genuine fear, was the chlorine spray used by health workers and burial teams. It is a widespread belief that the Ebola virus and the chlorine spray are one in the same. I was told by individuals from different communities, both rural and urban, that the sickness was spread by the chlorine spray and that individuals who were sprayed with this would die soon after.

> "The person was sick, they called an ambulance. They believed he had malaria, but the ambulance said it was Ebola, so they spray spray him with the chemical we have [in Freetown]… he die… they said any person who was sick it was Ebola, every person died. He does not believe, he wants to believe but he doesn't. Some people believed, some people don't. They heard people who got sick and were never seen again because Ebola kill them."
>
> [Katapolen Youth]

The idea that people could be contaminated through a mysterious chemical spray with a strong scent was held fast by interview participants. If chlorine was mentioned, it was mentioned with suspicion. One man, who was living in Makeni at the time of the outbreak but was, at the time of the interview, residing in Kortor recalled the loss of his wife during the epidemic:

> "The other day she tell me that her pressure is coming up so she go to the hospital and she meet so many guys there who start spraying the chlorine… within one-hour time, my wife is dead… That chlorine is very powerful. I don't believe this Ebola. Only that people come here to give it… She go to the hospital. She is sprayed with chlorine and they tell me she have Ebola. This is why I don't believe. I always be with my wife. I never get Ebola… I just don't believe Ebola. I don't believe Ebola. Chlorine is the Ebola."

In both of these examples, the youth from Katapolen, and the older man from Makeni, both who share their time between rural communities and urban ones, not only mention their extreme skepticism of the chlorine spray, but also mention that 'any person who was sick it

was Ebola'. I was told repeatedly that a person could die of nothing but Ebola during the pandemic. I attribute this thought mostly to the notion that the burial teams wanted to be called for every death, because the symptoms of Ebola are so similar to other common ills in Sierra Leone, like malaria, typhoid, and other sicknesses with flu-like symptoms. Rather than the idea that every death should be treated *like* an Ebola death, people were told that their loved ones, even those who had, to the family, what appeared to be other types of sicknesses, died from Ebola rather than a more likely underlying condition (like this man's wife referred to in the quote above). One instance was recounted of a woman who went in for a scheduled hernia operation, and within a few hours her husband was informed she died of Ebola. This 'inability' to die of anything other than Ebola during the pandemic was a well-intentioned measure aimed at reducing the transmission from the deceased to family members or others who might interact with the body, as is typically common across Sierra Leone. However, it was misconstrued either by those conducting the sensitisation, those informing the families of the deaths of their loved ones, or by those hearing the news. This is an example of how people's lived experience, here being that the people in these communities believed that no one died of the Ebola virus over the course of the epidemic, being in direct contrast to the outbreak narrative being purported by health officials, that every death needed to be treated as though the person had died of Ebola.

During a conversation with a casual acquaintance in Makeni, who is an engineer at Lungi airport, he told me that he believes that nine out of ten people who ended up in Ebola treatment centres were brought there without having the virus, and contracted it there. A few months later I found myself in a small hospital in Makeni under the care of a Dutch doctor who had been in the country for eight years at the time. She recounted her experience running a clinic during the Ebola outbreak, the loss of many of her nurses, and her eventual repatriation to the Netherlands that she fought against. When I recounted the conversation I had had with the engineer, she told me that his estimate 'sounds about correct'. They had limited capacity for testing those who came in and for keeping them quarantined from other patients. She described a medical system in disarray, and that, even though the clinic she was managing was not set to become an Ebola treatment centre, that it

Village Name	Reported Population	Interview Group Dynamic
Khatikoleya	60	7M, 3F
Yateya	600	8M, 4F
Bambakeraya	100	3M, 4F
Fansiga	120	15M, 4F
Lakata	40	2M, 1F
Salifuya	60	13M, 8F
Kondeta	200	10M, 6F
Dunkuba	70	3M, 3F
Yembere	44	N/A
Gbaranya	150	5M, 2F
Thaneneh	120	16M, 4F
Kamasugula	8	N/A
Dubuya	400	4M, 3F
Loumah	428	7M, 7F
Digi Digi	75	4M, 2F
Kamathama	6	2M, 1F
Katapolen	50	4M, 3F
Kamakirreh	50	10M, 4F
Madina	300	14M, 7F
Boroso	200	17M, 8F
Yawuyen	500	13M, 2F
Kawono	150	8M, 2F
Yunkula	125	6M, 3F

Table 6: These are the villages listen in the Outamba section of the Outamba Kilimi National Park. While I visited all communities in 2018, some did not participate in focus group interviews for reasons outlined below. Key: M = Male, F = Female. Population reported in 2018.

was not long before it was one of the few medical facilities in Makeni that was still capable

of intaking patients.

6.1.2 The Isolation of Life Inside a National Park

Along with masters student Joseph Taylor, I conducted focus group interviews in 21 communities. Two communities did not participate in focus group interview, Kamasugula (the town of the notoriously grumpiest man in the park) and Yembere, the community closest to the park entrance and with the most tension with the park staff. The inhabitants of Kamasugula also did not want to participate in a focus group interview, but did share valuable information with us anyway, though more about their own reasons for distrust. The chief of Kamasugula, a generous title as he and his family live removed from other communities due to his cantankerous nature, was the nephew of the late section chief Almamy Idrissa, the same man who had repeated conflict with Geza Teleki during the establishment of the National Park. He and his aunts and uncles had been promised a fully paid university education courtesy of a Peace Corps volunteer who absconded when the Civil War broke out. Despite the decades that had passed, he was certain I would be able to track this man down and have him pay for schooling, since we were both American.

The construction of the successful focus groups usually included the chief, but if he was away we would either be asked to wait for his return or an elder would step in. Those who were in the village at the time were invited, but not required to participate. Often times people would be away at their farms and we would have to wait for enough to return. Other people with positions of power within the community would also be invited by the elders such as the youth leader, who speaks for those under 35, and the chairlady, who speaks for the women. Sometimes focus group participation was shaped by precipitation; the high number of participants in Salifuya was directly linked to the fact that it had been raining and no one was at their farms when we arrived.

When conducting the focus-group interviews with Joseph Taylor, the questions usually followed the pattern of starting with the flashcards of the animals and asking if people had any issues or problems caused by this animal, if any (or any other, if some were mentioned) animals could make them sick, if they knew what Ebola was, then more in-depth questions

The following is an in-depth look at a single community: Yateya

In 2019 Yateya was the section headquarters for the Dugata Section, though at the time of my first visit, the Section Chief was too ill to meet with us. Upon his death, power transferred to a younger man (estimated mid-40s) and the section headquarters moved to Loumah.

Yateya was, in 2019, the largest community inside the Dugata Section, and the elders reported that the population was around 600 people, though with many residents living part-time in farming settlements.

Because Yateya was the section headquarters during the Ebola outbreak, it was the only community in the Dugata section which reported receiving sensitisation from a government official. This sensitisation included being brought a poster.

> "They brought posters of the Ebola sick where they describe the Ebola sick… A man brought them from the government. They give them to the paramount chief and he distributes them to the local authorities… They just gave us the posters without telling us anything. We just saw the pictures. There was a picture of someone that has diarrhoea, someone that is vomiting, someone that has blood on their skin, someone that has lesion on his system and skin. We saw all of those things on the poster."

Through Alhassan, the masters researcher, Joe Taylor, and I asked more questions about the posters, and what knowledge they gained from them:

> "Do you know how Ebola can spread?"
>
> "We don't know."
>
> "Do you think the posters were a good idea or would you have rather someone spoke to you?"
>
> "We benefit from the posters because they told us certain things we should not do, so that was very important."
>
> "Which things?"

> "No hand contact greeting, you should not go close to the sick, you should not move from village to village. So we all stay here steady and do not move anywhere."

The posters were not the first time the community people of Yateya had heard about Ebola. Not long before, the chief called a meeting to tell the people of Yeteya that there had been a sickness announced over the radio and that it was called Ebola.

Prior to asking people in Yateya about Ebola, I asked if any of the animals we had discussed on the flashcards were capable of spreading sicknesses to humans, as well as specific taboos.

> "We have taboos here, for example the Bangura people wherever they step in the footstep of the leopard they get sick, because their surname is the same as the leopard."

The first thing that was mentioned when I asked about anyone in the village ever being made sick by the animals was hunger:

> "Yes, we get sick. Because if you plant a crop and the animal destroys it, you are sick through hunger."

They also had a young teenage boy who they claimed was sick from monkeys. This was the first, but certainly not the last, victim of the 'monkey sick' that I met. As soon as an elder mentioned the boy in the village who had the monkey sick, a woman went to fetch him. He was brought in front of us to show the wound on his head, covered in a thick, dried poultice made from leaves from the forest.

> "His head turns and he falls down. He gets white saliva and blood in his mouth. That's why this man has the wound on his face. He is always falling down… He has been sick up to 15 years now. We have tried all angles and don't have the medicine. He has been to Fintonia

and even Makeni and they don't have the medicine."

People with monkey sick are not allowed to travel alone, bathe alone, do laundry alone, or tend a fire alone. The village must collectively help keep an eye on any individual so afflicted to prevent them from suffering from a seizure (head turn) and falling into any dangerous situation.

"We can also get sick from the squirrel, the hernia (*anya*). The squirrel has a hernia in the system and it drops the squirrel, and if you don't know it is the hernia that drops the squirrel, you can get this sick. You can get this from the saliva."

This report of hernia's spreading through touching squirrels which have been found dead was the only report I have of anyone saying that some wild animals found dead could carry un-seen sicknesses.

This statement, only reinforces my argument that Ebola communication should have focused more on the dangers of fluid contact spreading the virus, and the dangers of scavenging, rather than a message blanketing a risk over things like 'bushmeat consumption'. Either those communicating public health messages about Ebola believed that people would make the association themselves between saying things like "bushmeat can carry Ebola" and "Wash your hands" with the fact that Ebola can be spread through fluids, or they assumed that people wouldn't understand viral transmission via fluids, which the people of rural Sierra Leone quite obviously would have understood.

about their knowledge of Ebola.

From the focus group interviews held in 21 villages inside of the Dugata Section, the entirety of which comprises the Outamba Section of the Outamba Kilimi National Park I found people in the majority of the villages (18), believed that Ebola is a real disease. Two of the remaining three villages had citizens that voiced the idea that they were unsure of the

validity of the epidemic, and some individuals in one village stated outright that they did not believe in the sickness. This stood in stark contrast to the interviews conduct even just a few kilometres outside the border of the park in communities like Kortor, where disbelief in the Ebola virus was widespread.

The villages within the Outamba Kilimi National Park borders received no official sensitisation. Leaders from the villages were called to the chiefdom headquarters for Tambakha Chiefdom to meet with the Chiefdom chief who was sensitised and expected to share this sensitisation with the individuals who arrived to represent their villages. At the time of the Ebola epidemic, travel within the Dugata Section was difficult, and most of the journey would have had to have been completed on foot (which could take up to two and a half days). Not every village would have received the message in time to send someone, or might not have had someone to spare to send to the chiefdom headquarters, as is what usually occurs when chiefdom meetings are called (Pers Comm Tambakha Chief).

I fully support the decision to utilise local leadership in sensitisation However, the idea that the facts about a deadly virus could be accurately shared through several people in several different languages, sounds like an idea from those who never played the classic childhood game of 'telephone' where every whisper gets more and more distorted as a message is shared around a circle of people. The messages that were shared largely focused on keeping strangers away, and encouraging people to wash their hands. I was told that a few villages along the central road in the Dugata Section received buckets for hand washing which were delivered by a local teacher, who left not long after.

There are no schools in the Dugata Section of Tambakha. Several had been illegally built within the national park boundaries by the UK-based charity Street Child, but were left unfinished and were not provided teachers, or if a school was provided a teacher, I was told they did not stay long. Teachers do not like to live in such rural areas, which makes providing education to anyone in these areas all the more difficult.

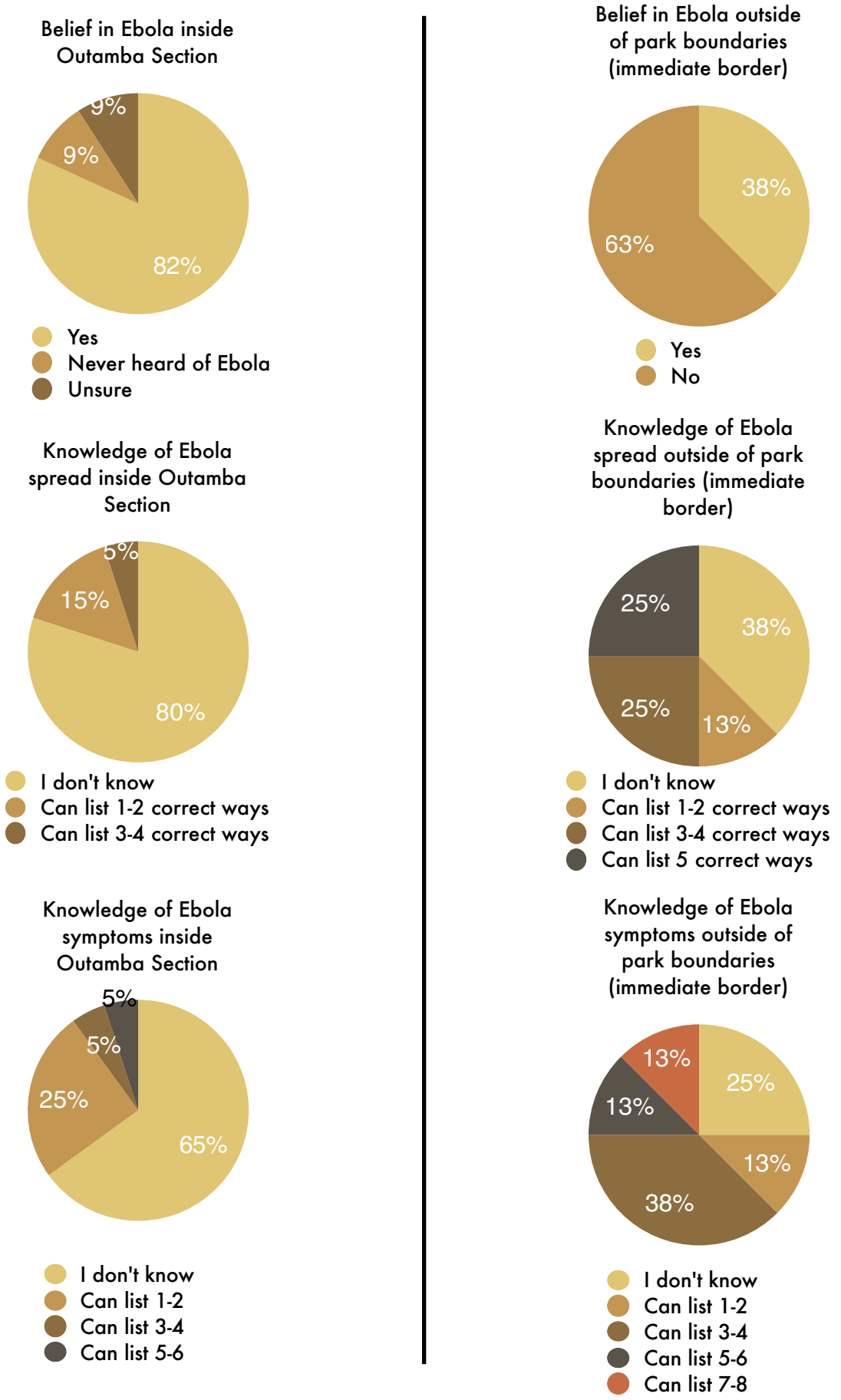


Figure 17: The figures on the left show the knowledge of ebola and its symptoms and spread reported by people from within the park, and the fires on the right show the same information as presented by formations who came from outside the parks boundaries.

What is the most interesting about the fact that the majority of the people interviewed inside the Dugata Section reported that they believed in the Ebola epidemic is that their view is a stark contrast to the ideas of anyone living outside of the Dugata Section (an area synonymous with the Outamba Section of Outamba Kilimi National Park). There was such an abrupt change from inside the section to outside that even residents of Kortor village, which sits only about two kilometres from the Dugata Section border, did not report that they believed in the Ebola sickness. Most people I spoke to could parrot back some of the information that they were given during sensitisation, only to tell me after they really were not convinced of the truth of the information that was given to them nor did they believe that the sickness was real.

This contrast has led me to believe that one of the major contributing factors to the mass disbelief in the Ebola epidemic was the sensitisation itself, which was problematic, oftentimes incorrect, and lacked consistency and cohesion.

Inside the Dugata Section is a village called Gberenya. It sits six kilometres from the border of the section, and is the second village on the central road leading into the section. The chair lady for the village, who had also run (unsuccessfully) for local office worked as a contact tracer in the town of Kamakwie during the Ebola outbreak. She attended training and sensitisation to learn about the virus, and then worked in the community to track community spread of Ebola. Because of her knowledge, the individuals who participated in the focus group in Gberenya were the most knowledgeable about the virus. However, when asked about the animals that could transmit the virus, her answer epitomised the usual level of confusion. The chair lady stated that she had been told about the monkey that can spread this sickness, and was shown a picture of it during her sensitisation. There was no such monkey capable of spreading the sickness in Sierra Leone, she was sure of that. She had seen the image of the monkey, and even though I carried with me a fold out of every primate species in West Africa, she said that none of them were the monkey that could

transmit the sickness. Therefore, she had told her village this, so they did not feel like they needed to stop hunting or consuming any type of bushmeat.

I speculated in Chapter 1 that by using unidentifiable images of unknown primates, or images of primates that were not native, might cause confusion in those receiving the sensitisation, which seems to have happened in Gberenya. The chair lady was adamant that no primate that was found in the area locally could transmit the virus, which enabled her and her fellow community members to continue hunting and consuming primates from the forest without feeling like they were engaging in any risky behaviour. This is not the only example I have found of people shaping their beliefs to allow for flexibility when it comes to consuming whatever food items are readily available, and rings similar to a conversation I had with Osman, a youth from Kortor who would eventually become a good friend (in 2022 he sent me a photo of his new son telling me that there was a new member of the team and he was a future conservation researcher). Osman and I were sitting on his veranda in Kortor, where he ran a small shop that sold things like soap and soft drinks, having one of those lazy conversations on a hot afternoon where one talks about everything and nothing. We often volleyed questions about each others lifestyles back and forth. He was interested in what life was like in England, and I often asked him questions about his religion. He and Morlai were some of the more devoted Muslims of his age that I had met. Unlike many people in the area, they did not drink, smoke, or take drugs recreationally. We talked about the river, and I asked if there were many crocodiles, as I had never seen one. He told me how the young men often dug pits near the rivers edge to capture the large reptiles.

"You can eat crocodile if you are Muslim?" I asked.

"Yes. It is a fish."

"Aren't there things you are not supposed to eat?"

"Yes, things like monkey. But we here suffer from hunger, and especially the monkey causes hunger when it comes to the farms. Sometimes we catch the monkey and I eat it. We are hungry, so Allah will forgive."

Meeting a traditional healer in Thaneneh

The village of Thaneneh was so visually different from the other communities in the Outamba Section of the park. Rather than a relatively random placement of homes which seemed to spring up organically around the space the village had developed, upon entering Thaneneh one walked down a neat little avenue of wonderfully crafted traditional round homes made of wooden frames filled with mud and clay, and low swooping palm frond roofs. It felt like a whimsical storybook village complete with a dedicated father building an impressively intricate top school bus from wood, complete with opening doors and functional steering wheel.

Another unusual appearance in Thaneneh was a fully-trained traditional healer. Joseph had arranged to meet with some healers in the not-too-far away town of Kamakwei (a few hours from the park and the nearest town of any size), but we had yet to meet someone whose profession was healing. Usually they were traditional recipes and usages for forest plants that would be collected and utilised by most anyone in the park. When we excitedly asked if he would tell us about different species that could cause, or cure, sickness he politely declined without payment. We explained (not for the first time) that our goal was to talk to many many people and had rules that prohibited us from paying people to get information. He thoughtfully accepted this explanation and countered with his own. He had spent not only years, but millions of Leones to pay for his training and knowledge. He could not simply give away all of his knowledge for free. This, we also found acceptable. A small compromise was found and he gave us two different examples of animal parts being used in medicine. He also offered to take one of us on as an apprentice, if we paid the normal fees involving a reasonable amount of money and a goat each year of the training, a tempting offer I often wish I'd accepted.



Figure 18: The top image shows the main stretch of homes in Thaneneh village, and the aforementioned father with his handbill bus. The image below is of Loumah and shows a more standard visualisation of the communities inside the park.

After I finished my Apple Teaser (yes, I spelled that correctly) Osman walked me around his veranda to show me the bones of an old Imam, once buried and now uncovered by time and foot traffic. Every day the busy people of Kortor stepped through his bones, just showing on the surface of the earth. I think about his bones often, and the causal nature with which they accepted into the daily life of the people in Kortor, treated neither with reverence or disrespect. They simply are. Some rules they are able to follow more devoutly. Abstaining from alcohol was easy, but abstaining from forbidden meats could mean loosing out on a valuable source of protein. Monkey was not sought out, but was a frequent pest and wouldn't be snubbed if one was killed in the fight to keep a farm safe[12].

The communities who live in and around the Outamba Kilimi National Park survive on local wild game to add much need protein and variety to their diet, especially in the raining season when crop-destruction by wildlife increases, and food is hard to come by. There are a few hungry periods in these areas, and without being able to consume plants and animals from the forest around them, the residents of the Dugata Section would struggle much more to survive than they already do. Wild meat is consumed multiple times per week, and fish from the local river is probably the most consumed source of meat.

Because of the banning of guns people rely more heavily on traps and snares to catch animals to consume. By not allowing guns, it causes people to be forced to hunt more indiscriminately, as there is only so much control you can have over what is captured in a snare or pitfall trap.

6.2 ALIENATING COMMUNITIES

Many Sierra Leoneans rely on traditional medicine. This is especially true in rural areas such as the Karene District and Tambakha Chiefdom, which were described by the Justice and Peace and Human Rights Commission as having the poorest level of health care

[12] In 2020 the topic of consuming monkeys came up again and he recounted a story of an event that happened in my absence. A young sooty mangabey had been caught in a snare on a farm, but that day he stepped in and insisted the monkey be freed and it was allowed to return to its group.

available to residents (Justice and Peace and Human Rights Commission: Decentralisation Process in Sierra Leone Northern Region 2008). Even the hospital in Kamakwei, which was once run by a foreign mission, is avoided by residents. The dark joke which always accompanies this statement runs along the lines of, "you'll get sicker from that hospital than if didn't seek treatment at all."

Traditional medicine from the forest, in the form of plants *and* animals, has long been noted to be of great importance to Sierra Leoneans (Dowson 1966; Macfoy, Sama 1983; Macfoy 2013; Jame et al. 2020). During my research, and that which was on-going by Oxford Brookes University MSc students within the same communities during my 2018 field season, showed that while many animals had uses in traditional medicine, only a few were frequently used (Amieli-Cooper, 2018). The frequency tended towards what was more available, and because the majority of hunting occurs in defence of farms, it also means that animals which crop raid more frequently are more likely to be killed and therefore used in traditional medicine. One of the primate species which farmers claimed were one of the worst offenders when it came to crop destruction was *gorillas*, which is the Krio word for baboons. Farmers would often exclaim they were the "chief destroyer" of the animals, perhaps coming only second to wild pigs. They come in large groups, will chase off the children often stationed around fields to protect them and feast upon cultivated fields.

This is supported by the frequency of baboon (*Papio papio* or *Papio anubis*) parts in communities across Tambakha Chiefdom, which is obvious once you know how to identify their use. However, this example does call into question the fine line between witchcraft and traditional medicine. I have been hesitant to refer to the use of baboon fur and bones as traditional medicine. While doing this research, I encountered a wide array of practices employed to intervene in the physical and biological world, such as the use of magic, spirits, soothsayers, and witch-guns. Some of these practices I could see fell clearly into the side of what I had always considered witch-craft. Examples included the use of 'thief fire' (which only would burn the hand of the thief), or the calling upon of witch hunters (to beat the 'witches' from people's stomachs). On the other hand, some traditional medicine exist more for support and protection than to heal an active ailment.

The baboon fur and bones are a perfect example. Necklaces are made of bits of fur, bone, or ash from the baboon, and are wrapped in plastic and worn by children to make them grow fast and strong. These are not necessarily given to ailing children, but seemingly almost all children in these communities are sporting plastic wrapped pendant necklaces. From my own perspective, because this is an attempt to harness the strength and speed from the baboon, rather than healing a health-related issue, I would view it within the realm of witch craft. Previous ethnographic studies conducted on witch-craft, secret societies, and traditional medicine in Sierra Leone would have dubbed this 'fetish medicine' (Wright 1907, Gray 1916, Jedrej 1976). However, this term feels dated and awash with negative connotations about these practices which only serve to further alienate those with different cultural beliefs which might seem abnormal or fetishised. I would say that more accurately this culturally falls within traditional medicine as it wouldn't require the aid of someone who has links with the spirits or knowledge of magic. I never asked questions about the secret societies, though, so it is possible that the knowledge is somehow linked to one or more of the societies[13].

When I conducted field work in Sierra Leone in 2014 for my undergraduate degree I spent time in the centre of the country (Tonkolili District) which does not have any baboon populations. However, many community people there reported great losses from chimpanzee crop foraging. In these communities it was more common to hear of chimpanzee bone or hair being used to help children grow strong.

Quite a few of the species capable of transmitting the Ebola virus are used in traditional medicine, witchcraft and cultural ceremonies in the Tambakha Chiefdom. However, few

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[13] There are many secret societies across Sierra Leone, segregated sometimes by tribe and always gender. They often control different forms of specialist ritual knowledge, as well as have coming of age ceremonies (Bosire 2012). I asked about more general-use witchcraft, or any which I encountered, but I did not seek out much information on the secret societies. While the people in this region were open to the anthropologist Migeod in the 1920's in describing secret societies, the attitude towards discussing these things with strangers (and a woman at that) today, are much more tight-lipped. I felt like I would upset people more by asking about these parts of their culture than I would gain in information and insight.

uses pose a risk of transmission for zoonotic diseases, past the initial risk of touching the un-prepared deceased animal. The preparation of such animals for traditional uses would be more limited than the people using the products. Most animal parts would be burned to ash, the fat drippings collected during cooking, or bone or hair from a potentially long deceased individual being used. The use of wildlife for such purposes seems, in Tambakha at least, to be more limited to the wildlife already being caught for other purposes.

For example, a 2014 paper by Boakye et al. regarding the use of pangolin (*Phataginus tetradactyla, Phataginus tricuspus, Manis gigantea*) by traditional healers in Bombali District (now Bombali and Karene District) stated that due to the many different ways in which pangolin parts could be used, and were known to a large percentage of the healers which were interviewed, they must be regularly used. However, I found that pangolins were rarely captured, even if a wide variety of uses existed for their parts. When someone would mention that pangolins were used for some purpose, I would ask how many had been captured in the last year. The answer was usually one, or none. They were not targeted, but would be captured if spotted on the road if someone had to travel at night. Additionally, Boakya (2014) states that scales are of high value for traditional purposes, though I only heard of two uses: making them into rings to increase the chance of pregnancy, or scattering them around a house to repel army ant invasionsNeither destroys the scales, so I would believe that, in a similar fashion to the common re-use of animal skins and bones, the scales would be reused in many settings. This also indicates that even if there are many people using prepared pangolin scales for something like rings, there is probably a low number of potential spillover events for any disease transmission between pangolins and humans (since the risk is in the initial touching and preparing of the deceased animal).

The initial link between the Ebola outbreak and traditional healers in Sierra Leone was extremely unfortunate and only highlighted the dissonance between the outbreak narrative and peoples lived experiences, as traditional healers are often the only accessible option for healthcare in remote areas. As discussed in chapter one, the blame for the outbreak entering the country was placed on a traditional healer from Sierra Leone's southern Kenema District. Painted as somewhat of a Typhoid Mary figure by the WHO, they reported (2015a)

that she crossed over to Guinea to treat those (unknowingly) infected with the Ebola virus, and ultimately succumbed to and died from the virus herself upon return to Sierra Leone. She was a very well-known healer in her district, which meant that a large funeral was held which involved carrying the body through multiple communities ultimately resulted in as many as 365 Ebola-related deaths. I heard reports of a similar outcome in a Makeni suburb, where a healer's body was carried through multiple villages, touched by grievers along the way, which ultimately became, what is now known in our own COVID-19 landscape, a 'super-spreader event'.

6.2.1 Creating an Enemy Where There Should Have Been a Friend

Despite the unfortunate outcomes relating to traditional healers and the spread of the virus, one of the great mistakes in the handling of the Ebola epidemic in Sierra Leone was the choice by the government to ban all traditional medicine and enforce fines on traditional healers across the country. The risks to traditional healers working without proper understandings of how specific diseases can be transmitted are great. Most likely the shock of the Kenema healer who was linked to over 360 Ebola related deaths (though largely through her own funeral), kickstarting the spread of the virus in Sierra Leone, shocked lawmakers into this decision. Rather than working with these people who already have standing enough in the community, especially rural communities where any other type of healthcare is non-existent, the government alienated them and those who relied on these traditional cures for treating ailments.

The impact of this was still felt during the interviews in 2018, where community members, more-so inside the park, were largely hesitant to discuss traditional medicine saying that they knew it had been outlawed during Ebola. Some people disclosed the use of a few plants from the forests for small ailments, but said that for anything else they would try to reach the clinic in Fintonia.

> "So they [the government] ban every traditional healing system. Whenever someone is sick unless we take them to a clinic or health centre, we should not cure them in

> the house… Everyone has their own knowledge, depending on traditional believe. Everyone has their own knowledge of how to heal themselves… Since Ebola it is agains the law to use traditional medicines." - Khatikoleya resident

If the government had included locally recognised healers and trained them to recognise the signs and symptoms of Ebola, how to directly avoid transmission, and provided them with proper personal protective equipment (PPE) they probably could have made more headway in controlling the spread of the virus in the WHO recognised 'Shadow Zones'. Additionally, the likelihood that another zoonotic disease will appear in a rural community first is higher than it occurring in a major city where the patient might have access to trained physicians. If traditional healers could be seen as a path to access to rural healthcare instead of a hindrance, countries like Sierra Leone stand a better chance at catching a zoonotic disease spillover event before it reaches major transportation hubs.

6.3 THE IMPACTS OF ISOLATION

When I started my fieldwork, I spent much more of my time in the Tambakha Chiefdom, feeling that it would take more time and consistency to get people to be willing to talk to me. It also meant that it was not until I was into my second field season that I began to notice how drastic the difference was between the views and opinions of the people living in the Outamba Section of the Outamba Kilimi National Park and almost every other person that I spoke to. Because this chapter's focus is on the rural perspectives, I have compared the individual interview responses from Tambakha with those I attained during the focus group interviews which were more readily accepted in the more isolated areas inside the park boundaries. The beliefs of the people in a community like Kortor are more similar to those found in urban environments than they are similar to the communities only a few kilometres away.

The differences in these communities' experiences during the Ebola epidemic is clear from these few charts, comparing people's knowledge and belief in Ebola that the access to

information and sensitisation had a marked impact on people's belief in the Ebola epidemic. Perhaps surprisingly, it seems that the communities which were not subject to any sort of sensitisation and were generally less aware of the scope of the epidemic, were *more likely* to believe that the epidemic was real. These communities did make changes to their lifestyles, though not many. They did not allow strangers to come to the village, and no one was allowed to travel[14].

> "Someone will come from another village maybe the person come here, as soon as the person arrive here they will be told to go back unless they sleep in the bush because they will not let them sleep in any settlement or any village. There were checkpoints. That's why we don't know anything about Ebola. We just hear Ebola. We don't know how Ebola kills. We don't know how someone can get Ebola. We are just poor farmers. We don't know anything." [Dubaya Chief 2018]

People inside the park were aware of new measures that most likely had a negative impact on them, being the outlawing of traditional medicine, but still continued to accept the existence of the virus. However, it seems that when people were exposed to official sensitisation he community people were more likely to believe that the virus was a hoax. In the example of Kortor: UNICEF, Oxfam, and the Steward project all conducted Ebola sensitisation in the village and levels of skepticism about the existence of the virus was extremely high.

One project that has had a large scale and lasting impact on the perception of outside support in the Tambakha Chiefdom was The Steward Project. The Steward Project was also known as the Sierra Leonean Biodiversity Conservation Project which was intended to be a five year project implemented by the Government of Sierra Leone through the National Protected Areas Authority. However, the entire project budget was spent by year two, and the project did not accomplish much. Indeed it's abject failure deepened the divide between the community people and the Tambakha Chiefdom as promises went unfulfilled once

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[14] This practice would have been similarly used during the civil war, where people stopped maintaining forest paths so that strangers could not follow them and find the communities

again, strengthening distrust in outsiders to fulfil promises of improved livelihoods in the region.

After mapping the communities within the Outamba section of the park I calculated the distances needed to be traveled for each community for different types of necessities that could have improved access to disease communication. I determined the distance between each village and the edge of the park (on the road nearest that community), as well as the distance to a clinic (limited medical care available), a hospital, a market hub, as well as the distance from both the Tambakha chiefdom headquarters and the Dugata section chief as these two individuals are often responsible for the dissemination of information to their citizens.

Figure 16: Ranking isolation of Dugata section villages inside Outamba Kilimi National Park

Village Name	Rank Edge of park (1 closest, 23 furtherst)	Rank Clinic (1 closest)	Rank Hospital (1 closest)	Believe in Ebola Y/N
Bambakeraya	9	15	13	y
Beria	6	3	3	y
Boroso	11	13	15	y
Digidigi	7	4	4	y
Dubaya	17	10	9	y
Dungkuba	23	23	20	y
Fansiga	13	17	14	Never heard of Ebola
Kamasugula	12	7	7	
Kamathama	8	5	5	y
Kamatirreh	1	1	1	"in-between" – heard but never seen
Katapolen	10	6	6	y
Kawono	20	19	22	We can't tell if it's a lie or if it is true
Khatikoleya	4	12	11	y

Village Name	Rank Edge of park (1 closest, 23 furtherst)	Rank Clinic (1 closest)	Rank Hospital (1 closest)	Believe in Ebola Y/N
Kondeta	16	20	19	y
Lakata	14	18	17	Never heard of Ebola
Louma	21	11	10	y
Madina	2	9	16	y
Salifuya	18	21	18	y
Thanehneh	15	8	8	y
Yateya	5	14	12	y
Yawuyen	19	16	21	y
Yembere	3	2	2	y
Yunkula	22	22	23	y

Table 7: During my visit to the communities in 2018 I also tracked our movements along the various roads in and out of the park. I wanted to note the distance that people in different communities had to travel to access basic things like a clinic, or a hospital. Here I wanted to specifically highlight the role of the park border in stopping the disbelief of Ebola in a fairly regular way across the park.

The closest an interior community came to reporting disbelief in the Ebola outbreak was, unsurprisingly, Kamatirreh. This community ranks number one in being closest to a hospital, clinic, and the edge of the park. It was also the only interior community which was close enough to a school in the buffer-zone for children to be able to attend without needing to move away from home.

The people in the village of Kamathama heard about Ebola by word of mouth from a nearby village outside of the park boundaries. But the brief sensitisation that they acquired left the people of the community feeling unsure of the reality of the situation:

> "Always when some died they said it was Ebola. No matter how someone died they said it was Ebola. They said because the Ebola burial team buried the person. When

someone dies that is what they said, but they don't understand. Wherever some dies, they say it is only the Ebola burial team… Even if a person was sick for more than one year, as soon as they die, it is Ebola." [Kamathanta Chief translated by Alhassan, 2018]

While those in Kortor who received actual sensitisation from multiple trained teams shared even muddier understandings of Ebola:

> "Sometimes they say you have got the Ebola through by the insects. Some say that you got Ebola through from the mosquito. Some say you have got Ebola through by fish." [Kortor Volunteer Teacher, 2018]

6.3.1 Shadow Zones, Friend or Foe?

The reality of the Ebola in Tambakha Chiefdom is that the isolation that might have created the perfect shadow-zone where the virus could roam unchecked, was instead stopped in it's tracks by decades old tradition of isolating with one's community during times where a deeper connection with the outside world could prove deadly. The less sensitisation the people in these communities had, the less chance for misinformation to spread. These communities might have been spared from twisted truths that were the root causes of conspiracy among urban Sierra Leoneans, but at what cost? These communities are so completely isolated from those most basic support systems that so many societies rely on to function. Going forward what will be most important with regards to disease sensitisation will be to see if the lack of conspiracies in this area will mean an increased uptake in vaccinations, as they become available. However, I am not hopeful that the *maklate* (vaccines) offered will be so readily accepted. While Ebola vaccines are only in their infancy, global vaccine roll-out for the COVID-19 virus has begun, and vaccination rates, especially in rural Sierra Leone are very poor. I am not currently aware of anyone from the Tambakha Chiefdom who has received a vaccine. When I spoke with elders from the area they expressed hesitancy especially in that the vaccines being offered to him, or so he believed, were only those of Chinese manufacturing origin (and not WHO approved). He was aware

that politicians and those of more means had been vaccinated in Freetown and expressed he would be more comfortable if the same type of vaccine could be offered to him as well.

If we as a global community can have any hope of vaccines being viewed positively, we must first acknowledge that in places like northern Sierra Leone, where health sensitisation was so completely bungled during the Ebola outbreak it will take years of consistency and trust building. This type of trust does not come from a sensitisation team popping up during a crisis, but in continued outreach and education on health topics.

Sensitisation effort must be clear and not take a fire-hose approach with an attempt to include many health messages during something like a specific disease outbreak. It was both the inconsistency in messaging, inappropriate consolidation of information (not discussing that it was transmitted via fluid-to-fluid contact), and the abrupt cessation of all sensitisation after the end of the outbreak that increased suspicion of the messaging around the Ebola outbreak in Sierra Leone. This chapter highlights that community people who were not bombarded with mis/irrelevant information were better served and used their traditional knowledge and methods to protect themselves and their community members. While I did not expect it, the impact of isolation was ultimately a beneficial one. In the following chapter I will juxtapose the experiences and lack of sensitisation from the rural perspective with those living in an urban setting, and show how those living in urban environments still value the experiences and struggles of those who live away from cities like Freetown and Makeni. These stories and experiences highlight how such a culturally disconnected approach to the Ebola epidemic ultimately caused harm and led to disbelief and misunderstandings. In chapter one I discussed the role of the control over care paradigm as proposed by Farmer (2020), and here we can begin to see the ultimate consequences of 'us' controlling the virus over caring for 'them'; those at risk as real people with real past experiences and beliefs.

CHAPTER SEVEN: URBAN PERSPECTIVE ON THE EBOLA OUTBREAK

"Well, like you said. You have your own theories, and I have mine. We have been hearing stories of people saying like Ebola came to Sierra Leone because of some scientists doing some research, they came and injected some animals in the bush like monkeys, and some people ate it and they got the disease." — Makeni Law Student

I had originally intended to focus on the urban environment in Makeni, rather than include Freetown. When I had initially designed this research, Makeni and the Outamba Kilimi National Park were all part of the same district: Bombali. However, I discovered when I returned to Sierra Leone in 2018 that Bombali had been divided into two districts, with the northern part separated and named Karene District. Despite this, the two districts remain close, as the newly established Karene District has no town larger than Kamakwei, which is very isolated compared to a place like Makeni. During the start of the COVID-19 pandemic, for example, when concerns about viral transmission were once more at the forefront of everyone's minds.

However, due to multiple complications, largely involving the aforementioned COVID-19 pandemic, I was not able to undertake the surveys and interviews I had intended to in Makeni. I was inside the Outamba Kilimi National Park at the time the national borders were closed, and due to this isolation I did not know until after the fact. Because of my knowledge of the measures taken during the Ebola epidemic (before the word 'lockdown' became so widespread), I predicted that an inter-district travel ban would soon follow. In case of any medical emergencies that could arise, I decided to decamp for the Western Area District, where Freetown is located. I stayed in a small beach community about an hour away from Freetown called Bureh Beach Village. The implications of this on my research are numerous. One, which is glaring, is that a decent amount of my information collected about people from urban areas' experiences with Ebola and thoughts on wildlife transmission, was collected during the COVID-19 pandemic.

I watched as conspiracy theories were spread before my eyes. National park staff would gather around someone's phone; someone who had just returned from an area with cell reception, and listen to the soliloquies sent via WhatsApp. At first, I had been the primary source of information about the COVID-19 pandemic for the park staff, with updates being sent to me multiple times per day as the sickness creeped its' way across the globe. I would usually listen to the forwarded conspiracy theory audio messages with the park staff, and we would discuss what was being said and what they thought about it. However, the messages focused on the idea that Corona was a white man's sickness, and

could not be caught by Africans, unless injected. The messages told people to stop anyone giving injections, especially to children.

While not as numerous, some audio messages or even videos (one news clip from an Australian local news station) were shared via WhatsApp, focused on the other extreme. Audio messages from people gasping for breathe saying that the sickness is so terrible and must be taken seriously were spread. However, the people who received these two different types of messaging were not within the same social circle. The young men from Kortor mostly showed me messages of sickness, or in the case of the Australian news story, asked me if it was true that bats might be responsible for *corona*. The messages of fraudulent vaccines and a white man's sickness came from park staff.

I provide this context because many of the feelings which surfaced around the Ebola epidemic were heightened once again. Many people at first thought it would bring more medical workers and foreign aid to Sierra Leone, but as repatriation flights took back so many foreign workers in the aid and development sector, those hopes turned to dismay as instead the tourism at Bureh Beach lightened significantly, and riots broke out in protest to stay-at-home orders. People became angry with the government for putting such harsh measures in place for a sickness that no one in the country had yet seen. One foreign resident of Bureh speculated that people would not take COVID-19 as seriously because it was not as visual as Ebola had been. During the Ebola epidemic graphic images of bloody eyes had instilled a fear of the sickness, but Corona, on the surface (and certainly so early into the pandemic) seemed like a heavy cough. This just wasn't concerning enough to a country where so much of the male population smokes, and the seasonal '*fresh colds*' that come with the change from dry to raining season every year (coincidentally around the time COVID-19 arrived in Sierra Leone).

Conspiracy theories thrive in situations marred by uncertainty (van Prooijen & Jostmann, 2013), and anyone can argue that a health crisis in a country with little to no health care system or infrastructure outside of the capitol city certainly would breed uncertainty in that country's citizens. Conspiracy theories are more likely to be accepted when they are

purported to explain large-scale events with seemingly unsatisfactory explanations, and especially if there is a need for cognitive closure.

In a paper by Van Bortel et. al (2016), the authors state that Ebola is a very traumatic illness due to the severity of symptoms experienced and/or witnessed as well as the high mortality rates that occurred in the West African outbreak (Van Bortel et al, 2016; Hall et al, 2008). The authors continued to argue that the Ebola outbreak had profound psychosocial implications at individual, community and international level, all of which would contribute to the population being more likely to accept conspiracy theories, which reinforces the idea that these conspiracy theories were probably supported by the need for cognitive closure during and after such a traumatic event.

7.1 CONSPIRACY THEORIES

In 2021 I was discussing my research with a Dutch friend I'd known since childhood. It was a very brief and vague discussion, as I knew they didn't have really have much interest in what I was doing. I pulled out a few of my oft repeated phrases I like to use, usually to try to remind people to break down self-imposed ethnocentric barriers that tend to look down upon Sierra Leoneans (I very frequently use McGovern's quote for this purpose; "bushmeat is to game…"), but the one I chose seemed to strike much closer to home than I realised:

> "One of the things I learned is that just because something is a conspiracy theory doesn't mean it is not true."

Before I knew it they were off like a shot and my inbox was filled with more COVID conspiracy theories than I knew what to do with. I had unwittingly pitted myself as an ally, and a shoulder to lean on, in this fight against the new world order. While they told me many things, with updates after each police-thwarted protest, one of the first stuck with me. So much of this thesis I spend discussing what this 'cornerstone' of the conspiracy theories that dominated in the wake of public health messaging during the Ebola outbreak are. I really believe that there are small missteps, or misunderstandings, that happen early on in someone's more personal arc of a disease narrative that becomes the cornerstone

which helps support the other arcs (political distrust, scientific misunderstandings, etc.). For my friend I believe it was this: some governments had run a mock pandemic scenario years before the COVID-19 outbreak and used a coronavirus in their model.

From their perspective this was proof that the powers-that-be had not only created this situation, but that *they had practised it for the whole world to see*. From my perspective, especially with Wald's (2008) narrative on SARS fresh in my mind, practising a global pandemic with a coronavirus made sense. My friend didn't understand why something in the same family as the common cold would provoke so much of a global response when Ebola had not.

I am saturated in knowledge on this topic. The foundation from which I build my notions of how the COVID pandemic, and the Ebola epidemic, began are drastically different from theirs. Ebola is a notoriously difficult sickness to spread, it is relatively straightforward to treat given access to proper medical facilities, and it rarely results in dramatic bleeding from tear ducts. COVID is almost certainly airborne, even almost three years in we know very little about treating COVID and the anomalies it seems to enjoy throwing at physicians, and it is mutating at a rapid rate. As 2021 comes to a close more than 4.26 million people have died globally from COVID-19, and my friend argues that they would be much more willing to get a vaccine for something *actually* dangerous, like Ebola.

Conspiracy theories are explanations for significant political or social events that places responsibility on malevolent and secret forces. For a conspiracy theory to take hold it requires the proper zeitgeist. For West Africa, the conspiracy theories that surrounded the Ebola epidemic were the result of a perfect storm of generations of exploitation, corruption, and modern communication tactics that were not in sync with lived experiences.

For a conspiracy theory to take root in a society it must be, first and foremost, easy to spread and difficult to refute. However, it is important to remember that just because something is a conspiracy theory, does not mean it is necessarily false. This is important to consider when we look at the actions and reactions that emboldened conspiracy theories in Sierra Leone during the West African Ebola outbreak.

While the conspiracy theory that the US government is responsible for spreading the Ebola virus in West Africa was a very popular belief from those raised in more urban environments in Sierra Leone, it has one of the major hallmarks of being, most likely, a false conspiracy theory. Dentith and Keeley (2018) state that one of the things to look for in a conspiracy theory to conclude whether or not it merits investigation is to ask the question: How many people would have had to collaborate on this, secretly, for it to have happened? The more people involved in something, especially on an international scale, the less likely it is to be true.

7.1.1 Follow the Money

A conspiracy theory which was frequently reported was the idea that epidemics brought in a lot of funds to the government, which meant that there were more funds available to be misappropriated.

> "They were bringing the cases up so that they would get more money, more foreign aid coming in, like this IMF thing, and World Bank. They are expecting aid from them. They know when crisis like this before, they will be sorry and start sending money for them to take care of the sick…
>
> If we check back history, this country, we have all the leaders when they are in power, in office, they will have one disease that will spread. One disease. I can't recall all. But I can tell you that Milton Margai brought that blindness, from a fly bite you, that it was here and we fight it and then it's not. And we have Albert Margai that brought leprosy and I don't know, whatever. Momoh brought cholera. A lot of people were dying of cholera at that time. Strasser brought measles. After Strasser is Tejan Kabba. It was HIV that they announce, that was the first time we hear about that disease and you know some people are tested positive. And Ernest [Bai Koroma] came with Ebola. If you are saying this and that and Maada Bio and Corona was not here and now they are announcing. So people are getting suspicious that

> maybe you know they don't have some disease. And also maybe that just because the West are instructing them what to do, so thats what they are doing. Whatever they are asked to do, because of the West." (Business owner, 2020)

This conspiracy is significantly less of a stretch to follow as Sierra Leonean national auditors' later released a report that stated that $3.3 million (USD) from government accounts had gone missing and a further $2.5 million (USD) in disbursements had incomplete documentation. Indeed, this type of conspiracy against the government of Sierra Leone was only strengthened during the COVID-19 pandemic, as the first of the government funds to be used in the fight against the virus went to purchasing new SUVs and motorbikes while nurses went over 5 months without pay, and as of April 2020, hospital janitorial staff across Freetown has still not received a salary since the start of the pandemic. A larger report on the region showed that around one-third of the $2.9 billion that had been pledged by international donors had not reached Sierra Leone, Guinea and Liberia by the end of 2014, according to France-Presse (2014).

I had known 'L', the business owner, since early 2019 where he occasionally ran in the same circles as some of my friends at the University of Makeni. He had been introduced to me as a law student, but when we chatted for his interview I asked how to categorise what he does. He had been a part time law student, but was taking some time off, and mostly worked selling various, largely construction, items. 'L' was always good conversation, and I was glad to find that, like me and my friends, had chosen to come to Bureh from Makeni for the lockdowns. He owned some land just up the hill and had been building a house for he and his fiancee to live in, but she had unfortunately passed away only a few weeks before we both arrived at Bureh. His grief was palpable and in moments he would get lost in his thoughts, but at other times he was still the energetic and engaging person I knew. We had all been talking nearly nonstop of COVID while at Bureh, sitting around the wooden table painted bright blue, with our feet in the sand and the ocean only feet from us. We would stay up late, all cooking and eating together, usually a group anywhere from seven to eleven of us, talking about the government, healthcare, Sierra Leone, Europe, the United States, and China. Different people would join us over the weeks, coming in and out

of our circle of conversations and debates, sometimes friends of friends visiting the village, or other tourists needing a break from the city lockdowns. I chatted with doctors, aid workers, people on the Sierra Leonean government council for the COVID response, students, surfers, and vendors. Whenever 'L' came from down the beach to join us at the blue table I knew the conversations would be interesting and engaging, and I felt fortunate he was willing to sit down with me formally for a long interview. 'L' gave me so much to think about when it came to understanding Sierra Leoneans relationship with *Papa Govment*[15].

> "The thing is, Sierra Leone is a very very small country and it has gone through a lot of struggles, like you know during the intervention, the revolution, the Ebola, mudslide. We have learned a lot through our deaths. Also our leaders should learn to maintain their prestige. Like if something like this is happening they should just learn to put measures in place to keep it from spreading, but they don't need to go on air and start saying "please this this this"… And also! Why I'm not all the way convinced: the day that the attorney general was sacked, and they hired another one, he took up office like today, then the other day they announce the first case and the very day they close all the schools. So it's like a plan. It's awkward. I think the guy was just trying to show off that he's working but even this guy that they said was the first case, they first said he had TB and this and that and then after they released him they said he had corona.
>
> So I think that the guy is just trying to show that he is working, because that day he announced our first case and they very next day he shuts down schools. It's all set up. I think we should have learned from our lessons that we should not put ourselves in a situation… why shutting down everything? The country doesn't have much and we say we have independence, but we are still dependent. Also this is the time Africa should make their economy strong because you never can tell what will happen tomorrow. See France, they are holding down every African aid. They're not sending any money anywhere until they finish what they're doing. So, I think we

[15] A phrase 'L' taught me, the Krio satirical nickname given to those in power, much like 'the man' in American English

> need to agree now that this thing is happening, so that anything happens in the future we can sort ourselves out. Also, the world, like people in the West and here should know that all of us are from the same race and we need to have the same equal medical facilities and rights because in America for you guys if you are not rich you will not have certain medical facilities and it's the same here. If you go to the hospital and you don't have money you will just die. The doctor will say 'you need to pay before I start treatment' or else he will not even look at it. So, I think they need to fix that and make it one earth one health." (Business owner, 2020)

Kanu (2014) reported that early on the epidemic there were many rumours that the virus was allowed to get out of control by the APC political party leaders to de-populate opposition areas. This type of conspiracy was reflective of people's experiences with the Foday Sankoh war, when another APC party leader was in charge and the war was largely ignored from the on-set (Kamara 2014, Wilkinson & Fairhead 2017). In a comparison of the state of the Ebola response in both Guinea and Sierra Leone, anthropologists Wilkinson and Fairhead concluded that conspiracy theories in Sierra Leone focused more on money-making and less on ethnically motivated genocide, which was a more widely held conspiracy theory in Guinea (Wilkinson & Fairhead 2017).

Conspiracy theories used to be considered relatively harmless, and purported largely by unorganised cultural fringe groups. However with the growth of technology, social media, and the ability for anyone to have a platform, information and misinformation can spread much more quickly and become much more widespread. A term more recently suggested by scholar is "conspiracy thinking" or "conspiracy mindset" (Douglas et al, 2019; Brotehron et al, 2013; Imhoff & Bruder, 2014; Moscovici, 1987; Uscinski & Parent, 2014) which is the idea that people who already believe in particular conspiracy theories are more likely to believe in others, even if they are unrelated. There are some who speculate that the people who are within a conspiracy mindset may prefer conspiracy explanations because of a dislike of powerful groups (Woo et al,2012; Imhoff & Lamberty, 2018).

The underlying current which sparks the relationship between the Sierra Leonean people and the state (and those who represent it, like the police) was a repeated motif throughout

my conversations with people about Ebola, and in what I saw of people's reactions to COVID-19 restrictions.

> "The sick [Corona] isn't here! It's a lie! We Sierra Leoneans know our country. They [the government] just want money so they try to say the sick is here. But everyone is conscious. But during the Ebola time a lot of people died because of a lack of knowledge, but this time everyone is conscious.
>
> I believe Ebola was real. I lost my man to Ebola. He left me with six children. So during Ebola, everyone says 'Where did Ebola come from?" because here in Sierra Leone is Ebola, and it's destroying. But now they say Corona and everyone is cautious. But more than 11,000 people died during Ebola! And the flooding, ah! The people that died. So this sick, Corona, no, all people are conscious. If you go to Freetown, Waterloo, all people say "it's a lie! It's a lie, it's not true". But now, we are going to sit for three days [lockdown]. Sunday, Monday, Tuesday… Wednesday we are all free. Everyone will sit and eat and this coronavirus in Sierra Leone? No. God will rise up. We don't need coronavirus in this country." (Imported Snack Vendor, 2020)

I met 'M', the imported snacks vendor, on my first visit to Bureh Beach in 2018, as I am sure have most tourists visiting for a day out. She is broad and short and carries a seemingly impossible amount of weight on her head, up and down the beach most days. Whenever I would visit Bureh I would buy a snack that I found far too exciting, and 'M' would sit, groaning and often requiring assistance to take her wide plastic basket full of biscuits, chocolates, crisps, protein bars, and anything else you could possibly imagine, off of her head. She would tell me about interactions with other visitors and share some snack I'd bought. Sometimes she would tell me about her life in the nearby city of Waterloo and her seven children. By 2020 'M' would come and lounge with me and my friends as we waited for news about 'the Corona sick'. 'M' is loud and opinionated, and had a lot of thoughts about the COVID-19 pandemic.

After there started to be reported cases of the infection in Sierra Leone, we had decided to do a large market run in Waterloo and then avoid such crowded places as best we could for as long as the rice would hold out. We asked people to sanitise their hands when they came to spend time in our outdoor common areas, and stopped hugging our friends coming in and out of the village on a regular basis, which happened to include 'M'. However, 'M' had other ideas. When I stepped back from her hug, she laughed saying, "No coronavirus!" and wrapped me in a big hug.

Survivors of Ebola in Sierra Leone reportedly spoke with higher levels of conspiracy, and that this mistrust translated into people being afraid of certain sanitation practices, namely chlorine (Schwerdtle et al. 2017). This complete mistrust and misunderstand of the role of chlorine was often repeated through my conservations with people across Sierra Leone, but the direct link between chlorine and Ebola was discussed more frequently in rural settings than it was with urban counterparts, though the fear of the chlorine spray was still present in urban environments.

> "I think 117 will end up killing the people. Because when they come with that car, they just put you inside while you're very weak, they will put you inside the car and spray the chlorine and close the door. And they take the people when they are alive, but as soon as they take you and spray you with chlorine and close the door and take you where ever they are going to take you, the ebola centre, you're dead." (Business owner, 2020)

While I have not placed much focus on the Sierra Leonean civil war which lasted from 1991-2002, the collective trauma felt by all Sierra Leoneans certainly impacted people's reception of messages from government and foreign health care officials. The social stress theory was introduced by Aneshensel (1992) and can be applied here. Aneshensel (1992) emphasises the link between societal roles with the occurrence of the stressors to the later mental health outcomes of individuals. Betancourt et al. (2010) adapted the local stress model to highlight the relationship between social stigma and war experiences for child soldiers, which could also be adapted to view the stigmatisation felt by those afflicted with the Ebola virus. During the Sierra Leonean civil war, both sides recruited children, some

estimates putting the total at 15,000, to fight in the war. The Revolutionary United Front (RUF) was, in particular, known for forcing children to commit murder, often against family, neighbours, or other loved ones, to break the ties within their own community. Many were then forced to take drugs like cocaine (which is readily available in West Africa, as this is a well-known stopping point for cartels from South America who are importing the drug to Europe) to increase their reliance on their commanders (through addiction), and were also usually repeatedly raped (McKay & Mazurana 2004, Betancourt 2013). This war, much like the struggled faced by the country during the Ebola outbreak, were symptoms of the country's long-standing struggle with structural violence and kleptocratic government officials and societal elite, that led to distrust, the irrelevance of the state in rural communities, and widespread impoverishment throughout the country (Zack-Williams 2001; Bordonaro 2009; Denov 2010). All these things greatly contributed to the cultural response to the Ebola outbreak.

7.1.2 "They know they can just do whatever they want here"

While it is all well and good to understand the links to structural violence and distrust of the state, it is important that we examine the specific conspiracy theories that were espoused during the outbreak to target the root causes that led to this distrust and misunderstanding so that this situation can be avoided in future disease outbreaks. If more communication strategies surrounding the Ebola outbreak took cultural practices and societal history into account, then healthcare workers and government officials would have stood a much better chance and working with the people of Sierra Leone to stop the spread of Ebola rather than fighting them like a fish swimming upstream in torrent of conspiracy theories.

> "Well, like you said. You have your own theories, and I have mine. We have been hearing stories of people saying like Ebola came to Sierra Leone because of some scientists doing some research, they came and injected some animals in the bush like monkeys, and some people ate it and they got the disease. Some people say it was

> transferring from Liberia or Guinea or the neighbouring countries, Ebola is transferring from one of these countries they said. I can't remember. Guinea or Liberia." (Makeni Law Student, 2019)

This is a very apt description of the core of the conspiracy that was most often told to me about how Ebola arrived in West Africa. Some gave me specific places where the injecting of animals might have happened: A retired politician told me he believed that Tacugama Chimpanzee Sanctuary was responsible, as he believed they had been testing on the animals there for years. Some people told me it was a specific lab in Kenema. Many blamed the US government, largely via the CIA. This last sentiment was mirrored during the COVID-19 pandemic as many people believed that masks, aside from those handmade from familiar fabric, were from China, and were purposefully laced with the virus. This was believed to such an extent that some people discussed on social media not being picked up by taxi drivers because of the white mask during a time when masks were legally required.

One of the most striking conversations I had where someone expressed the idea that the virus had been brought by the CIA, which I had heard many times at that point. Although, there was a part of this conspiracy I didn't understand, largely through what seems like my own naivety in hindsight: What purpose would spreading a sickness like Ebola through West Africa would serve the US? This young man had a very quick response for me: an opportunity to "test a bioweapon" on a population of people that "they (the US) don't care about".

During an interview in 2020, just after the start of the global COVID-19 pandemic, I had asked 'L' about his beliefs about the origins of COVID-19 and Ebola. When referring to Ebola he said:

> "Well we heard that there is a lab at Kenema where they bring the disease to test, and they said they got. disease from monkey and they want to test it if how it reacts on humans and I don't know how they spread the sick. It was part of that lab and then it was spreading in Kenema. So, it started in Kenema."

I asked about what the lab in Kenema's motivation might have been:

> "Well you know when they want to test a vaccine or these things, they come down here because they know they can just do whatever here and send money to the government to take care of it. So I think because of that lab is one of the best in West Africa so they decided to use it here and the president will tell them they just have to follow."

His suspicions about the origins of COVID-19 followed a similar line to his beliefs about the Ebola outbreak in West Africa:

> "I think its a chemical weapon that China is using to bring America now, especially, it's so sad that it goes out and spreads all over the world. What makes me convinced that this is China doing that to bring America down is that the place where the Corona started, never reached Beijing, and you know when Xi Jing Ping visited that area of the city he didn't wear a lot of protective gear, he just put a face mask. This means Xi Jing Ping knows that corona is there, and he knows that he can be cured if he has it, so he doesn't care a lot. And Trump started the trade war with them so they want to get back at him. So they made all this things, and now its spreading out to the world and everyone is suffering because of that."

Not every person I spoke to believed that the Ebola outbreak was created by malevolent forces, but many people did. I stayed in Bureh Village, a beach town and quiet tourism spot known for surfing, during the start of the Coronavirus pandemic. Conducting interviews in this community had not been something I planned on doing, but circumstances required flexibility and I was fortunate that quite a few of my Sierra Leonean companions and acquaintances from Makeni also came spend the periodic lockdowns at the beach.

Bureh Town is an example of a town where sensitisation worked during the Ebola outbreak. It was a microcosm where the zeitgeist aligned in almost the opposite way it had 'upline' in Karene District and even Makeni. Bureh is about an hour outside of Freetown proper. Close enough to benefit from the city, and far enough away not to suffer from the wealth inequality seen there. Bureh Town is frequented by ex-patriates who often end up

supporting small efforts within the community, and the constant rotation of international contracts means that there are always new groups of people coming to the sanctuary of a beach, less crowded than the famous River Number Two beach, and interacting with the community in a non-hostile way. Many of the surfer boys in their late twenties have girlfriends or wives from the USA or Europe.

There was not a single case of Ebola in Bureh Town. No strangers were allowed to enter the village during the outbreak, and any resident who had to leave and return for any reason was required to walk into the ocean with all of their clothes on to cleanse themselves. Hand washing was done regularly, and befriending the medical staff who took their holidays at the beach left the community well connected.

The community members there have a significantly different relationship with international development projects than the citizens of Tambakha Chiefdom. While organisations like Street Child left Kortor with a half-built school and no teacher, Bureh Town has access to all levels of education for their children, and even a clinic which can help treat things like infections, malaria, or provide injection birth control. The state is seemingly irrelevant in Tambakha Chiefdom, but during the most recent local elections a member of the opposing party came and provided Bureh Town with the infrastructure for the village to eventually have access to running water (and still lost the election). Though international development still continues to infantilise Africans, no matter how much their employees enjoy the beach view.

A born and raised resident of Bureh Town told me:

> "We are like children. They [sensitisation teams] come and they give us ideas and knowledge. They give you the sense to know that Ebola is real. Even though I didn't see anyone affected by Ebola, I heard a lot, a lot, a lot. It affected other countries, not just Sierra Leone. Liberia, Guinea, Congo, so it affects all those countries, so I think it's a real thing. It affected all of these neighbouring countries including our own Sierra Leone. I think it's real. A real, real thing." (Guesthouse Chef, 2020)

This attitude of gratefully received information was not shared by local health professionals. Farmer (2021) writes that as Ebola invaded towns and cities across the country doctors and other healthcare professionals absconded from their posts out of fear as their colleagues were dying around them. Farmer writes,

> "these doctors and nurses had ample reason to believe that inferior care was being delivered to their colleagues, but this wasn't a surprise, nor was it what really rankled. These were angered by the fact that a lower standard of care was *fixed as policy*, or was felt to have been fixed as policy, through treatment protocols elaborated by humanitarian organisations and by public-health experts" (487-488, Farmer 2021).

I was personally faced with massive discriminations in health care on multiple levels while I spent time in Sierra Leone. The incident that stands out most clearly in my mind involves a close (white, British) friend who was in an accident, and while they were in the hospital their (black, Sierra Leonean) partner tried to visit them on a regular basis. The problem was, that they would not allow him in to visit during the highly restrictive hours unless he first agreed to donate blood to the hospital. Unfortunately for him, or the hospital, he has tattoos which made him a poor candidate for blood donation. While he was willing to donate blood in order to see his partner in her life-threatening state, the hospital would not allow it, so would not allow him entry until he found a more suitable blood donor to stand in for him. This charade continued every time he wanted to visit her in the hospital. However, when a (white, British) colleague visited my friend in hospital, no such request was made of him. It was an unjust policy that made an incredibly stressful time in our lives all the worse. The refuted blood donor/hospital visitor was, for a brief time, the only means of contact between my friend, myself, and her family and while his partner fought for her life he had to scour his friends for someone willing to donate blood on his behalf just to visit her.

Despite the disconnect between wildlife living in a 'wild' state (not a pet or in captivity) that exists in urban populations in Sierra Leone, the traditional link that existed between their forefathers and wildlife still culturally resonates with the urban youth of Sierra Leone.

7.2 URBAN RELATIONSHIP WITH WILDLIFE

When visiting Sierra Leonean cities like Freetown and Makeni, you will be hard pressed to see any mammalian wildlife, aside from the fruit bats which roost in the culturally important cotton tree's, often marking the historic city centre. Once I learned the smell of bats, or really, of their excrement, I could smell it drifting on the wind while driving past small villages on the highway between Freetown and Makeni. The bats tend to stay in Sierra Leone and roost in urban spaces, clustered by the hundreds, if not thousands in the case of the historic cotton tree in Freetown.



Figure 19: The Freetown Cotton Tree shown during the dry season while it is used as a roost for many bats. The tree fell due to a combination of fire damage and wind in 2023

This tree, which is said to be the place where freed slaves, returned by the British government, settled and beneath it's branches, founded the city of Freetown, now sits in the centre of a concrete jungle, towering over the municipal buildings around it. In the dry season, when the bats reside in Sierra Leone, many roost in this tree. The smell of it rises over the pollution of this constantly congested area of Freetown, mixing with the faint acrid scent of the burning dump only a few blocks away. A tree which was meant to be a symbol of a new beginning for the first residents of Freetown has been left to become, at best neglected relic, and at its worst, a health and safety hazard (the tree also caught briefly on fire in 2020 from poor electrical work surrounding the base of the tree).

Besides these roosting bats, the only other wildlife you're likely to spot are the occasional leashed monkey, destined to become monkey pepper soup. While it would be a bit of stretch to say that Sierra Leone has a booming internal trade in wildlife for consumption, it is not an infrequent occurrence. I have never seen wild meats like monkey or deer sold in any large scale, or even at any markets. I spoke with owners of some monkeys, who were considered pets by their owners. However, just because an animal is viewed as a pet by some does not mean that it loses it's status as a food source. Some people will keep their monkeys as pets until they become to large and unruly, and then they will eat them. More often though, they will be sold to be eaten, as people do have some distaste in eating their own pets. That kind of an act happens but is usually lamented and seen as an act of desperation when hunger is particularly great.

7.2.1 The 'J' Brothers: A Monkey's Tale

I met a young woman in Makeni who lived with her family, who ran a print shop from their home. After walking back and forth past the home, which was between the market and my accommodation, I decided to introduce myself. She and her mother gave me a lot of insight into how the sale of local species happens in a place like Makeni. Monkeys or monkey meat, is not something you will find at markets. It is not supplied regularly, but when someone travels from the rural areas, they might bring some animals they have killed which might fetch a better price in an urban environment as a specialty meat, rather than

the most widely available and affordable protein source, as it is viewed in rural areas. The mother described to me how she much prefers to eat monkeys than keep them as pets. They are troublesome, especially when they are adults. She told me that monkey is the sweetest meat because they eat so much sweet fruit. Her daughter on the other hand, who had just returned from winning a beauty pageant, loved monkeys and keeping them as pets. The largest of her three monkeys, all of whom had named which started with the letter 'J', was a sooty mangabey (*Cercocebus atys*) who she said had been owned by a woman in her church who ran a small shop. The mangabey, doing what bored mangabeys do, trashed the shop, ate eggs and candy, and caused a lot of mayhem when left alone at the shop. The owner had decided that she had had enough and that it was time for the troublesome monkey to become soup, but the sooty's new owner did not want to see him killed, and so purchased him to join with her two green monkeys. She said that she is well known to the local traders who know to bring her any infant monkeys that they might have with them, as she usually buys them.

When I asked the mother if she believed that she could get sick from the monkeys, she scoffed at me: "Look at it, these monkeys don't have Ebola. Look! They are healthy." But she went on to describe what it was like during the Ebola outbreak:

> "We had three monkeys before the Ebola. But when Ebola came no one wanted to come to our shop because of the monkeys. People would even cross to the other side of the street because they were fearful. We were afraid the police would come and take the monkeys because everyone is saying that monkeys have the Ebola sick."

I asked her what happened to these three monkeys, and she simply responded that they ate them.

7.2.2 "They Don't Have Fish"

Wild meat consumption in urban areas is not so drastic. From my own perspective the keeping of pet primates or other odd animals was not a common trait, and it is seen as more of a slightly out-of-the-norm behaviour by people who particularly like animals. Most

younger (under 50) people I spoke to did not have any preference for wild meats, for a variety of reasons.

Makeni law student:

> "I've never eaten bushmeat before… Well like I said, I'm a Muslim. Someone told me, that was a Muslim, and I don't know if it is scientifically accurate, that for a monkey to be digested in your stomach it can take like seven years. I don't know if its true, but that's what I was told. So I don't even have the idea to eat a monkey. And I don't eat any other type of bush animal. I don't think I know that many bush animal that people eat."

Business Owner:

> "I've only had monkey twice in my whole life. It's rare, it's hard to see monkey or anything. A lot of my friends won't eat it because they are not used to it. They see it as something they should not eat."

This general distaste or lack of presence for wild meat was usually not to do with any associated health risks regarding disease transmission when consuming wild meat:

> "Do you think animals can give Ebola?"
>
> "Well, I don't think so because recently I had monkey. A friend of mine bought a monkey and he brought it down to Mama Beach, and I was not there, so they sent me a bowl and I ate it and I'm fine up until now."
>
> "Do you think any animals can give a sick to people?"
>
> "No, because I know dogs used to have rabies and we still touch them and we don't have rabies. They don't transfer rabies to us. Dogs we play with but I'm not used to playing with chimps or monkey, but even during Ebola, I know someone that has monkey and walks around with the monkey all day and he still doesn't have Ebola! So I don't think those animals can give us any disease. Because if animals can give us disease we would all be dead with rabies before."

(Conversation with a business owner in 2020)

Despite most of the younger generation not having developed a taste for wild meats, everyone was still conscious of the necessity of it as a food source for those further inland:

> "I wouldn't feel happy if they made a law banning bushmeat. Not because of me, but other people, they don't have fish, so they are supposed to eat the bushmeat. You can see there are some villages that have no river, anywhere, or no market to buy fish, nowhere, so then they depend on the bushmeat." (Guesthouse Chef, 2020)

This attitude towards wild meats shows that ultimately people's reliance on them is a means of survival. Most peoples in rural Sierra Leone live well below the poverty line and have survived by using what is available to them, as anyone would. As the landscape of Sierra Leone shifted, and money came into the country only to fuel the extraction of, firstly, the very Sierra Leoneans who are now vilified for their means of survival, and more continuously the natural resources on which these people rely upon. This interaction reminds me of my friend Osman telling me of why he would eat monkey even though it was not Halal: "We are hungry, so Allah will forgive" (though it seems Allah will be quicker to forgive this action than the foreign conservationist).

The moment that the chef above says "they don't have fish" highlights the fact that the majority of Sierra Leoneans rely on fish as their main source of protein, something which is being stripped away from the country at an alarming rate. While large-scale fishing operations could bring jobs and money to the local area, these fishing vessels are operating illegally, with almost none of the funds, or fish, ever reaching Sierra Leone (Thorpe et al. 2009; Golub & Varma 2014).

So now the country is faced with another dilemma: The rest of the world has decided that the large scale killing of African wildlife is no longer appropriate, despite the trade being driven by foreigners for centuries, so local hunting is being vilified by media outlets and conservation organisations. Now, the last reliable protein source available to Sierra Leoneans is being taken from their very seas. Will the West next turn to small scale

fishermen and blame them for the loss of biodiversity in these once-rich marine ecosystems?

In this chapter I have highlighted that despite the distance between urban areas and wildlife populations, they maintain the cultural ties which are more actively relevant to their kinsmen living in the remote rural areas in and around national parks in Sierra Leone. Because the people of Sierra Leone have observed the stigmatisation from (largely) non-Africans, they can not separate these from the way in which Ebola sensitisation was conducted in the country which resulted in a high support of conspiracy theories, greatly influenced by the actions of conservation and health organisations in the response to not only this, but other health crises.

CHAPTER EIGHT: LOOKING FORWARD

"You know, maybe we underinvested in research on human behaviour. I never imagined a year ago when those vaccines were just proving the be fantastically safe and effective that we would still have 60 million people who have not taken advantage of that. Because of misinformation, and disinformation that somehow dominated all of the ways in which people were getting their answers. And a lot of those answers were in fact false, and we have lost so much as a result of that." — Dr. Francis Collins to Judy Woodruff in a December 2021 Interview on PBS

8.1 THE REALITIES OF THE BUSHMEAT TRADE IN NORTHERN SIERRA LEONE AND FREETOWN

Throughout this thesis the realities of the bushmeat trade in Northern Sierra Leone are shown to be exaggerated and vilified by non-Africans. This discourse has created a chasm between zoonotic disease sensitisation, conservation efforts, and the people living in Sierra Leone which has drastically negative consequences for all three. In Chapter Three I outlined the history of exploitation of wildlife by foreigners in Sierra Leone, and the drastic reduction in the numbers of keystone species being funded by international zoos, the British colonial government, and the biomedical testing industry over the span of hundreds of years. I also showed evidence gathered by many scientists that indicated the spread of Ebola in West Africa was, after the initial spill-over incident, completely human-to-human. In Chapter Four I gave evidence that the media disproportionately placed the blame on bushmeat, and specifically the types of bushmeat that inspire disgust in the Global North. In Chapter Five I explored the relationship between wildlife and the people who live in proximity to it, and found that the main driver behind hunting wildlife is to protect farms.

When I returned to Tambaka Chiefdom in rural Sierra Leone in 2020, I also saw the impacts of foreign driven natural resource extraction on hunting inside the Outamba Kilimi National Park. With the increase of illegal loggers in the park, often from more urban areas, came more hunting, and even less traditionally acceptable hunting practices. In Chapter Five the disconnect between Sierra Leoneans and bushmeat grew even wider, and the upcoming generations show no inclination towards eating it or trying to make it a regular part of their diets. Of course there will always be people who have more exotic tastes than others, or people who simply cannot afford to consume meat in any other way, but on the whole, hunting for bushmeat trade happens on a small scale, and largely focuses on species that can survive the hunting pressure.

The species which is most commonly targeted for consumption is the greater cane rat (*Thryonomys swinderianus*). This rodent can weigh up to 7kg (15lbs) and grow to 61cm (24in) in length. It's a commonly eaten wild meat across it's range (which is widespread) and is

not known to carry any hemorrhagic fevers. Cane rats, locally called *grass cutter*, can have two litters per year and are frequently caught in small pitfall traps used on game trails entering farms. This method of hunting seemed to be the most widespread in the Tambaka chiefdom, and is of little threat to species that might suffer more significantly from hunting pressure. These pits usually catch things like the cane rats, African crested porcupine (*Hystrix cristata*), any of the three wild pig species found in the area (*Phacochoerus africanus, Potamocheorus porcus, Hylochoerus meinertzhageni ivoriensis*), and occasionally small duiker.

Primates are killed with some regularity, but due to the fact that the predominate religion in the area is Islam, these killings mostly occur in defence of farms. Because monkey and other primate meat is not considered Halal it is not a preferred food item. However, people in this region often suffer from food shortages and hungry periods due to crop loss by primates, and the meat of a monkey would provide a family with food, it would not be thrown away. The species most commonly killed are those which also cause the most destruction to farms: green monkeys (*Chlorocebus sabaeus*), sooty mangabey (*Cercocebus atys*), and Guinean baboon (*Papio papio*).

Other primate species, like the king colobus (*Colobus polykomos*) hold a different place in the minds of the people of Tambaka. The king colobus does consume plants of value to people, but the situation is completely different from that of a group of 200 baboons descending upon a farmer's field. The kola nut (*Cola nitida*) is an important nut in Sierra Leonean culture. A gift of kola nuts was traditionally given during greetings, but the word has become synonymous with a small gift. A song became popular during one of my field seasons in Sierra Leone by a local artist called Arkman with the lyrics:

> "So baby ar wan go put kola
> Kerr me go to u mama ar want go
> Put kola Kerr me go to yu papa ar want go put kola"

All of this cultural significance, here, a man wanting to give gifts to the woman he likes' family, is derived from this wild, caffeinated, and incredibly bitter nut called *kola*. When I traveled throughout the rural communities of Tambaka chiefdom, I was expected to pay a small *kola* to the community chiefs (usually around LE30,000) as a way to pay my respect to

the community. Unfortunately, the young *kola* is favoured by the king colobus. In addition to having a taste for a very culturally important plant, the skin of the king colobus is used in Limba coming-of-age ceremonies.

Because of these two factors I would have assumed that the local king colobus would face some significant hunting pressure, but if it exists, it is very slight. There are stories (legends? Myths?) about king colobus, and how they can never touch the ground. People have said that it is even a waste of time to try to kill one when it is in the trees because even if you are able to kill it, it will cling so tightly to the tree that it will not fall. When I further investigated the use of king colobus skins in Limba coming-of-age ceremonies I found that they are not hunted for this purpose, and even the skins are not present in every community. Instead, there will be a community which has a skin which is then rented out to other communities so that they may use it for their year's ceremonies.

This stands in stark contrast to the attitude of the British colonial government's attitudes towards primates, where any person to bring the tail of monkey, including colobus, would receive a cash reward to help protect cacao intended for export.

As I have highlighted above, as well as extensively throughout this thesis, there is a marked difference in the way Sierra Leoneans interact with wildlife and the way they are perceived to interact with wildlife by foreigners. This has persisted throughout Sierra Leone's history and is still visible today through conservation efforts in the country. While I was concluding this thesis, I felt I was leaving the narrative on a bit of a high note: Despite the mistakes made throughout the Ebola epidemic, Sierra Leone was one of the few countries where the dangers of interacting with local animals was not linked in the spread of COVID-19.

An analysis of COVID-19 messaging coming from African WHO offices was recorded by Bernard Seytre (2019):

> "Of the 15 countries surveyed, 11 had communication messages warning against an alleged risk for COVID-19 from contact with wild and domestic animals (mammals, fish, birds, and reptiles). For example, "It [COVID-19] has been found in many animals including bat, cat, camel and cattle" (Liberia); "Thorough cooking of meat

and eggs" and "No unprotected contact with live wild or farm animals" (Nigeria); "Thoroughly cook meat, fish and eggs before eating them" (Mali); "Avoid



Figure 20: A billboard in Freetown about the dangers of bushmeat created by the largest conservation organisation in Sierra Leone. It features several species which are not found in Sierra Leone, and others with no known zoonosis capable of transmissions to humans.

unprotected contact with wild or breed animals and with surfaces in contact with them" (Togo); "When visiting fairs and markets, avoid direct contact with live animals and surfaces where live animals have been handled" (Guinea Bissau). These messages were illustrated with drawings of animals and/or food (bats, chicken, pigs, ham, steaks, fish, eggs, pangolins, grasscutters, or snakes). Among the documents I examined, those from only four countries (Benin, the Gambia, Ghana, and Sierra Leone) did not have these messages…These messages have no scientific

> basis, as the animal spillover of the coronavirus that causes COVID-19 was presumably a unique event that occurred in China, probably from a bat species that is not present in Africa." (Seytre 2019)

However, the country's largest wildlife conservation organisation invested in two billboards in Freetown in November 2021, as well as conducting surveys about people's attitudes towards bushmeat. While this may sound like a positive on paper, their chosen strategy of communication falls back into the trap of vilifying local people and being hyperbolic to the extreme of inaccuracy. Not only does the above billboard imply that Sierra Leoneans are at risk of catching COVID-19 by consuming locally caught game species, the billboard even highlights species which are not found in the country at all.

The simple message "DON'T EAT BUSHMEAT. IT CAN MAKE YOU SICK" is false. Cooked meat, even from that of an infected animal will not make you sick (any more than poorly prepared food of any kind can make you). The misinformation is pushed further by one of their survey questions referenced in the organisation's social media post: "Most interviewees denied having ever felt sick after eating bushmeat, with many not realising it can make one sick." The question in itself is leading the interviewees towards the information that the organisation is looking for. Rather than questioning if contact with wildlife has ever made them sick, they focus wholly on the consumption of prepared and cooked meals. This campaign makes no mention of how to safely handle meat or, what should be most pressing in this type of zoonotic disease awareness campaign: the threat posed by scavenging.

Figure 13: Billboard in Freetown about the 'dangers' of bushmeat

8.1.1 A Legacy of Extractive Industries

Sierra Leone is not a country where you will walk through a food market to find a wide array of biodiversity on display for consumption. Indeed, even trekking up-line and out of the cities will not guarantee that you could find a monkey for your pot. Therefore, it is time messaging stopped treating the Sierra Leonean people like this is the reality. Young, urban

Sierra Leoneans have little interest in consuming wild meats, but they recognise its importance for their countrymen who do not have access to any other reliable protein sources.

Even with the large-scale wildlife trade out of Sierra Leone's interior having ended some years ago, it is still international trade and resource extraction that drives much of the hunting of wildlife. When I returned to the Outamba Kilimi National Park in the early months of 2020, the landscape had been drastically changed by the massive influx of loggers who were targeting the African rosewood that grew in the park. In 2018 the park was still largely impenetrable even to motorbikes, and I visited many of the communities on foot. By 2020 wide roads to accommodate logging vehicles were present throughout the entire park. Communities had doubled in sizes and, when before the villages had been devoid of Krio speakers, there were 'strangers' everywhere. In fact, the temporary logging camps with clapboard tents were shrinking, as the loggers brought their families and built new homes in the park. Even the quiet and small village of Fansiga, which had seemed impenetrable at the top of hill so steep it was like climbing stairs, had wide flat roads, and more than four new multi-roomed homes being built. During my previous camping trips to the interior of the park gunshots were heard rarely, maybe 4 or so over an multi-month visit. Gunshots could now be heard every night, and hunters with packs of dogs moved alongside the logging camps. On one hike in 2020, I had requested we use the smaller trails, away from loggers, that went some 10 kilometres between communities. On this trip I didn't see a single chimpanzee nest, despite being so far from communities. But I did see Guinean logger camps, and a single smoked chimpanzee skulls at a logger's camp in Fansiga (our final destination).

This rosewood is not destined to build the houses of community people, it is being export *en masse* to China, some legally, but entire lumberyards near the docks seem to empty and re-fill with logs with no mention on CITES export lists. It is incredibly frustrating to have visited communities which were having a small impact on their natural surroundings to return less than two years later to see the ecosystem irreparably altered to fuel international trade. However, I can assume that anyone who will be arrested for the activities in the park

will not be those at the top who are ultimately profiting from the destruction of Sierra Leone's oldest national park, as well as the communities which are crumbling alongside these illegal extractive activities.

8.2 THE FUTURE OF DISEASE COMMUNICATION

The quote that begins this chapter is from Dr. Francis Collins, head of the National Institute of Health in the USA, reflecting on poor vaccination uptake in American citizens at the end of the second year of the COVID-19 pandemic. Despite Dr. Collins lack of foresight on this issue, it is not new to the anthropological community that research on sociocultural dimensions of disease outbreaks are vital to a proper health campaign. Wilkinson et al. (2017) stated that the West African Ebola outbreak in particular highlighted the critical role which community engagement plays in successfully ending an epidemic.

Around the world we have seen an unfortunate parallel to the Ebola epidemic playing out in the form of the COVID-19 outbreak. The lack of trust in health officials and political players in West Africa exacerbated the Ebola outbreak as people rebuked health orders, often brought by outsiders dressed in full personal protective equipment (PPE). Across West Africa people were told that the ever-present fevers that plagued their communities during this time *must* be Ebola, and that they must isolate from friends and family members to protect themselves, and their loved ones who succumbed to any illness were to be carted away to be buried in a mass grave. People rebelled at these ideas that well-intentioned international health organisations had intended to keep them safe. People began to fear and distrust health officials, and the things that came with them, like chlorine sprays. While riots were taking place outside of Ebola treatment centres, with people desperate for news of loved ones, the world watched disdainfully.

Several years later the same instances would be played out on an international scale. As I write this, only yesterday a test and trace centre in Oxfordshire was ransacked by protesters with equipment and supplies being stolen and destroyed. Despite the rise of anthropologically minded voices surrounding the West African Ebola outbreak, which saw

meetings held in Washington DC, special issues of peer-reviewed journals noting the need for community engagement and trust building within disease communication, we have obviously not learned our lessons quickly enough.

8.2.1 Lessons to Learn from the West African Ebola Outbreak

The world is in a constant state of argument on how to best spread information about the current global health crisis, and I am sure future graduate students will be writing many more theses on health communication surrounding COVID-19 as we move forward. However, I will keep my focus relatively narrow and discuss some steps that might mitigate some of the issues which occurred during the West African Ebola epidemic.

The first step is to understand what people's general understandings of diseases, for instance, zoonotic diseases. Do people already understand that some animals can carry diseases? Do people already understand that illnesses can be spread through things like body-fluids? By meeting people at their level of understanding, disease communication strategies can be better planned to address gaps in knowledge, or work off of knowledge bases which already exist. For example: when the Ebola outbreak was being communicated to people, wildlife was shown as a sort of blanket threat; don't touch it, don't eat it. This was interpreted as people believing they were being told that, all of a sudden, all animals, many of which they'd been having regular interactions with their whole lives, were chock full of the Ebola virus. I found that when I sat and explained a few things (as would often happen after interviews, if people asked for my beliefs), people found less to disbelieve in what I told them. I would focus on the idea that some animals (primates, duiker) react like humans, and shows signs of illness and then usually die of the sickness, so you should never touch a sick animal, or an animal that you find dead. Then I would highlight the differences with bats: they do not show symptoms, and they do not get sick like humans, so maybe a bat has Ebola and maybe it does not, but we cannot tell with our eyes.

Based on my research I knew that people, even those in rural areas without access to education or sensitisation, believed that things like the saliva (a body fluid) from monkeys could spread a sickness to humans. There was already a stigma against eating fruit chewed by wildlife. These basic concepts of disease transmission are already known, even if they are applied to situations that are not completely scientifically founded (Monkey Sick). I believe that despite the fact that scavenging is a relatively normalised activities in rural communities across Sierra Leone, that a sensitisation campaign that was targeted at highlighting the risks associated with scavenging, this would be a significantly more success method of reducing the risk of spillover events than attempting a blanket-ban on the consumption of wildlife.

I additionally believe that in addition to sensitisation campaigns focused on scavenging, additional long-term projects involving providing free training to traditional healers that could instigate better identification of easily communicable diseases, as well as impart a basic knowledge infection prevention and control, including how and when to use things like personal protective equipment or sanitation to keep themselves and their other patients safe. I also believe that community level livestock health training could be a massive asset to communicating zoonotic disease health risks in the future. By stationing people in communities who have understandings of how to identify illnesses in animals it is imparting a digestible level of continuous health messaging to people: that animals can get ill, and can sometimes be treated.

With my continued work with the people of Tambakha Chiefdom I have come across a community where farmers will not keep any sheep because they believe that there is a devil that kills them. They keep goats and chickens, but no sheep. While a community livestock health officer might not be able to expel all links of devils to animal deaths, I do believe that people would believe a livestock health officer who was from their own community but received outside training.

The future efforts of wildlife and environmental conservationists cannot be forgotten in the role of zoonotic disease mitigation. Many are adopting the One Health approach which

recognises that the health of people is closely related to that of animals and the environment. By including disease surveillance in wildlife populations, the people monitoring these species could work with health professionals in organising an early warning system for potential zoonotic disease outbreaks. I have highlighted some of the issues in identifying risky behaviours and contacts with potential vector species in this thesis, with the notable example being that while people did not consume bats, dead bats were still handled with frequency for use as fish bait. If conservationists and ecologists could be included more heavily in early monitoring of zoonotic disease outbreaks in wildlife, health professionals would have more time to prepare and instigate prevention methods.

In Uganda, during Ebola outbreaks, environmental health practitioners were used to reduce morbidity and mortality from the outbreaks by inspecting animals before and after slaughter, inspecting butcheries, and to control vectors and vermin (Sikakulya et al. 2020). These all might seem like distant ways to prevent a health crisis, but this is real world action that can be taken to mitigate spillover events without completely alienating people on a cultural level. This type of training and monitoring also reduces the risk of conservation messaging overriding the realities of zoonosis, which should always be balanced with a reality of the socioeconomic situation that humans living alongside wildlife are facing.

I believe that with a combined effort of health professionals, conservationists/ecologists, and anthropologists we can solve many of the problems facing people at times of health crises, but it can not be done by any one group alone, and indeed this thesis highlights the risks of these groups operating independently. Above all, those involved with health messaging must do all that they can to stay away from the vilification of those most at risk and seek to end the control-over-care paradigm that was pervasive in the West African Ebola outbreak.

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APPENDIX

The appendices of this thesis is contain in this order:

- Full ethics submission for all research included in this thesis
- Examples of questions asked to participants
- Research permit in Sierra Leone
- Examples of photo flashcards used
- Grant reports for related funding for this research, including maps of camera trap locations
- Sarah Bell's CV as of June 2023

OXFORD BROOKES UNIVERSITY

UNIVERSITY RESEARCH ETHICS COMMITTEE

APPLICATION FOR APPROVAL OF A PROJECT INVOLVING HUMAN PARTICIPANTS, DATA OR MATERIAL

Registration No. *(office use only)*

This application form should be completed by Staff, MPhil/PhD and other professional doctoral researchers at Oxford Brookes University and external researchers wishing to seek approval to recruit participants from the University. Taught postgraduate and undergraduate students should seek approval via Faculty procedures: https://www.brookes.ac.uk/Research/Research-ethics/Review/UG-Masters/

Further details about the process, including deadline dates, templates for participant information sheets and consent forms are available at: https://www.brookes.ac.uk/research/research-ethics/

To ensure a high standard of research ethics review there is a limit of **12 applications** at each UREC meeting. Once this limit has been reached, applications will be held over to the next meeting date. A list of dates and deadlines are available at: https://www.brookes.ac.uk/Research/Research-ethics/Review/Staff/University-research-ethics-committee#dates

Applications must be completed on the form; answers in the form of attachments will not be accepted, except where indicated. Applicants should contact the appropriate Research Ethics Officer (REO) to establish procedures for ethics review in the Faculty: https://www.brookes.ac.uk/Research/Research-ethics/Review/Research-ethics-officers/

Applicants must go through Faculty or Directorate procedures and applications must be signed off by the relevant Research Ethics Officer before being submitted to the University Research Ethics Committee.

Once the application is complete and has been signed off by all parties (see page 2 of this form) it may then be submitted, along with the relevant accompanying documentation, to the UREC Administrator. **Please do not staple the original documents as they will be scanned for committee use.**

Potential research participants must not be contacted until written approval has been received from the Committee

PROJECT TITLE:	Perceptions of zoonotic diseases in Sierra Leone

THIS PROJECT IS:		**Staff Research Project**

(tick as many as apply)		**Research Student Project** Has your research degree programme already been approved by the relevant Research Degree sub-committee: **Yes** No	
		Project by External Researcher *(please give details)*	
			Project by member of staff at another institution (*please give details of Post and Institution, including address)*
			MPhil/PhD or professional doctorate student at another institution (*please give details of Department and Institution, including address)*
			Masters student at another institution (*please give details of Department and Institution, including address)*

RESEARCH TEAM: *PhD and doctoral students SHOULD be listed after their supervisors. The Director of Studies should also be identified.*

TITLE & NAME	*POST*	*DEPT & FACULTY / DIRECTORATE*	*PHONE*	*EMAIL*
Professor Vincent Nijman	Professor in Anthropology, DoS	HSS	6070	vnijman@brookes.ac.uk
Dr Jennifer Diggins	Senior Lecturer in Social Anthropology, 2nd Supervisor	HSS	07817607373	jdiggins@brookes.ac.uk
Dr. Magdalena Svensson	3rd Supervisor	HSS		m.svensson@brookes.ac.uk
Sarah Bell	PhD Student	HSS	7494703270	sarah.bell-2017@brookes.ac.uk

DECLARATION BY INVESTIGATORS

The information contained herein is, to the best of my knowledge and belief, accurate. I have read the University's Code of Practice for Ethical Standards for Research Involving Human Participants, and accept responsibility for the conduct of the procedures set out in the attached application in accordance with the University's Procedures.

I and my co-investigators or supporting staff have the appropriate qualifications, experience and facilities to conduct the research set out in the attached application and to deal with any emergencies and contingencies related to the research that may arise.

Signatures of the research team are required before submission to University Research Ethics Committee

OXFORD BROOKES UNIVERSITY

Signature(s) of the Research Team:

Vincent Nijman, BSc, MSc, PhD, FRBS, FRGS



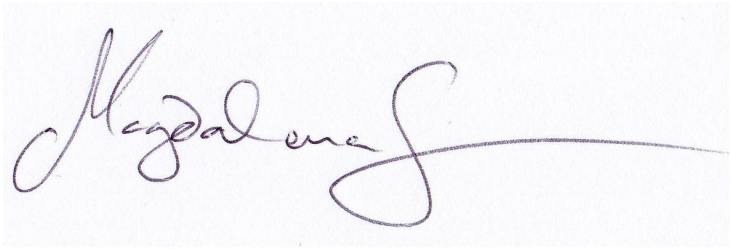
Date 11/01/2020

Jennifer Diggins, BA, MA, MSc, PhD.



14/01/2020

Magdalena Svensson, FdSc, BSc, MSc, PhD



15/01/2020

Sarah Bell



11/01/2020

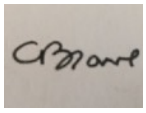
DECLARATION BY RESEARCH ETHICS OFFICER

DATE APPLICATION RECEIVED: 13/01/2020

DATE ETHICS REVIEW COMPLETED 13/01/2020 (1ST REVIEW) 25/01/2020 (2ND REVIEW)

The Faculty/Directorate Research Ethics Officer or Committee has reviewed this project and considers the methodological/technical and research ethics aspects of the proposal to be appropriate to the tasks proposed and recommends approval of the project. The Faculty/Directorate REC or REO considers that the investigator(s) has/have the necessary qualifications, experience and facilities to conduct the research set out in the attached application, and to deal with any emergencies and contingencies that may arise.

Comments/Provisos: Comments have been provided on two drafts.

Signature of the Research Ethics Officer 

Date 25/01/20

UNIVERSITY RESEARCH ETHICS COMMITTEE USE ONLY

Date application received: *...../...../……*

Date of meeting: *...../...../……*

1. PROJECT DETAILS

1.1 PROPOSED DURATION OF DATA COLLECTION COMPONENT OF PROJECT From: 1 April 2020 To: 31 May 2020

1.2 LAY DESCRIPTION, JUSTIFICATION AND AIM OF THE RESEARCH: *Provide a brief outline of the project, including what participants will be required to do. This description must be in everyday language which is free from jargon. Please explain any technical terms or discipline-specific phrases and explain any acronyms or abbreviations. You should also state the aims and significance of the project and a justification as to why this research should proceed and an explanation of any expected benefits to the community.* ***Please provide full references for any work referred to****. (No more than 600 words):*

The aim of this research is to understand the link between human's perceptions and uses of wildlife and how this interplays with their understanding of zoonotic diseases in Northern Sierra Leone. I am aiming to answer the questions: "Has the way resources are used and what resources are used (plant and animal species) changed, and are any of these changes a result of the 2014 Ebola epidemic?" And "Have people's perceptions of wildlife impacted their understanding of zoonotic diseases?"

With my current understanding of the bushmeat trade in Northern Sierra Leone, market surveys alone will not be sufficient for gathering the necessary data for this research. I propose to conduct interviews in three different locations: Inside the Outamba Kilimi National Park, within the buffer zone of the Outamba Kilimi National Park (Tambakka Chiefdom), and in the city of Makeni, the closest city to Outamba Kilimi National Park. These three areas represent differing socio-economic groups of people and can provide an understanding of perceptions of wildlife capable of transmitting zoonotic diseases (chimpanzees, monkeys, bats, rodents, and duiker) across all types of settings in Sierra Leone (rural, small town, city). It is important to engage with people from different socio-economic groups, as rural populations have significantly different interactions with wildlife than do the people in cities.

Participants from all three settings will be asked for individual interviews. I will involve men and women of varying age groups and various professions. During the semi-structured interviews the participants will be asked, with the use of photo flash cards, to identify the species which they believe can cause them illnesses, and to identify the species that are a preferred food source. Then they will be asked a series of questions about the Ebola epidemic so that I can understand their knowledge of the notable zoonotic disease. (ex. What is Ebola? What are the symptoms of Ebola? How does Ebola spread?)

In the city of Makeni I will use a structured survey modelled after Vinck et al. (2019) which measured institutional trust and misinformation in the response to the 2018-2019 Ebola outbreak in the Democratic Republic of Congo and Blair et al. (2016) which measured public trust in Liberia during the 2014 Ebola epidemic. This will be aimed at creating a similar and comparable quantitative data-set to these studies to examine distrust, misinformation, and obstacles to public health programmes, though my survey will also include questions surrounding perceptions of wildlife capable of transmitting zoonotic diseases.

I have also been placing non-invasive camera traps triggered by motion inside the Outamba Kilimi National Park. There is no updated list of species which inhabit the park, and therefore it is unknown which species capable of carrying zoonotic diseases in the park. Due to on-going camera trapping I already have a positive relationship with all communities in and around the Outamba Kilimi National Park as I have travelled extensively inside and around the park. In addition to conducting a species assemblage inside the park, I have also completed a survey of national newspaper articles written before/during/after the Ebola epidemic across the affected West African countries to gain a better understanding of the large-scale perceptions of chimpanzees in West Africa surrounding the Ebola epidemic. No photos of humans captured during this study will be used or shared.

1.3 PROPOSED METHOD: *Provide an outline of the proposed method, including details of data collection techniques, tasks participants will be asked to do, the estimated time commitment involved, and how data will be analysed. If the project includes any procedure which is beyond already established and accepted techniques please include a description of it. (No more than 500 words):*

To gather both quantitative and qualitative data I will be undertaking a survey of around 300 participants, as well as a smaller number of semi-structured interviews with individuals from communities across Northern Sierra Leone, to better understand their knowledge of zoonotic diseases.

Beginning with the semi-structured interviews: these will be conducted by myself, in some cases with the aid of a translator. The official language of Sierra Leone is English, and the lingua franca is an English-based creole (Krio), though languages within the Outamba Kilimi National Park vary between Krio, Susu, and Limba. I have achieved near fluency in Krio, but I will use a translator in remoter villages, where Susu and Limba are more commonly spoken. Due to my previous work in the park (between 2017 and 2019) I have already visited each village in the park and have developed a positive working relationship with them through my camera trapping. In interviews with rural participants, to reduce the amount of misidentification, I will use photo flashcards when discussing wildlife. The use of photographs in interviews is widely used by anthropologists to attribute social meanings to photographs rather than relying solely on verbal communication for interviews (Ruby 1995; Harper 2002) and can be used as a way to develop a rapport with interviewees (Bignante 2010). Interviews in Makeni will be conducted in English or Krio without the assistance of a translator. Each interview session will last about one hour and, with the consent of interviewees, will be audio-recorded. It will take place in whatever area the interviewee feels most comfortable and with privacy in mind.

In Makeni I will conduct a structured survey modelled off of Vinck et al. (2019) and Blair et al. (2016) which measured mistrust relating to Ebola outbreaks (DR Congo, and Liberia respectively). My aim with this survey is to create a comparable data set to these studies to expand upon the understanding of distrust surrounding public health crises. I will additionally include questions regarding wildlife capable of carrying zoonotic diseases. This survey will be anonymous, voluntary and no compensation will be given. I will hire two 2-person teams of native Sierra Leoneans (one female and one male team), as well as a translator, to aid in conducting this survey. I plan to recruit students from the University of Makeni to act as survey teams and train them accordingly before asking them to visit different parts of Makeni to conduct at least 100 interviews per team (3 teams, including myself) for a total of 300 participants over a one-week period using a survey form with check boxes. The surveys will be conducted orally by the team members and the female team will survey eligible adult women and the male team will survey eligible adult men. My team will survey both men and women, as I will use a male translator to accompany me to ensure all participants understand the survey questions in their entirety. It will be recorded on the survey whether or not I was present for the survey to measure if there is a different response to a survey conducted by a national or a foreigner, though participants will be told who the interview is for and will not be deceived at any time.

1.4 INVESTIGATORS' RELEVANT RESEARCH EXPERIENCE AND SKILLS: *List the relevant experience and outline the skills relevant to this project that the researchers, their supervisory team and any supporting staff have in carrying out the research and in dealing with any unexpected outcomes that may arise* (Please do not include links to profile pages or copies of CVs):

Prof. Vincent Nijman
1999-2001 University of Amsterdam (PhD Ecology and Conservation Biology)
1995-1996 Manchester Metropolitan University (MSc Behavioural Ecology)
1990-1996 University of Amsterdam (BSc Biology / MSc Ecology and Evolutionary Biology)

Prof. Vincent Nijman is an expert in wildlife trade and publishes his reports on his research about the dramatic impacts trade can have on populations, species and whole ecosystems in peer-reviewed reports for TRAFFIC and the global wildlife trade network. He also works on a wide range of primatological topics, though the most relevant to this study is his experience working to predict and mitigate levels of crop raiding by primates.

Dr. Jennifer Diggins
Dr Jennifer Diggins carried out longterm ethnographic fieldwork in Sierra Leone, between 2010 and 2015, and has published a monograph and several articles in leading social anthropology journals based on this research. She, therefore, has a good understanding of the political, cultural and social nuances that recur in many Sierra Leonean communities. Although her experience is primarily of coastal fishing communities, her work intersects with Sarah's in their shared focus on fragile livelihoods and natural resource use.

Dr. Magdalena Svensson
Qualifications
2004 - 2006: FdSc Wildlife Conservation, Nottingham Trent University
2006 - 2007: BSc Animal Science, Nottingham Trent University
2007 - 2008: MSc Primate Conservation, Oxford Brookes University
2017: PhD by Published Work - Primate Conservation, Oxford Brookes University

Experience/skills
I am currently working as Associate Lecturer and Lab Technician for the Primate Conservation MSc/MRes at Oxford Brookes University. I am an active research member of the Nocturnal Primate Research Group and the Oxford Wildlife Trade Research Group. My research over the last decade has focused on nocturnal primates, mainly in Africa (Angola, the Gambia, Rwanda and Uganda) and the Neotropics (Argentina and Panama). My research interests has shifted from pure ecology and population distribution surveys to involving more on the trade in and usage of these nocturnal primates along with other animals. I am also involved in research on tool use behaviour of long-tailed macaques in Thailand since 2016 in collaboration with the University of Oxford.

Sarah Bell
Qualifications
2011-2014: BSc in Anthropology with a minor in Journalism, Southern Methodist University, Dallas, TX
2014-2015: MSc in Primate Conservation (Merit), Oxford Brookes University, Oxford, UK

Experience/skills
I have previously conducted research in Sierra Leone in 2014 with the Tonkolili Chimpanzee Project where I studied river-crossings in chimpanzees using interview data. I have returned to Sierra Leone every year since 2017 and I am accustomed with living in rural settings in Sierra Leone, have obtained a Sierra Leonean drivers license and have achieved proficiency in the Krio language. I have a positive standing relationship with the government agency overseeing the national parks, the National Protected Areas Authority, and aided in the establishment of the first Outamba Kilimi National Park Education Centre and Community Library in 2018/2019.

1.5 PLEASE EXPLAIN WHEN, HOW, WHERE AND TO WHOM RESULTS WILL BE DISSEMINATED, *including whether participants will be provided with any information on the findings or outcomes of the study:*

Results will be written in my thesis and reports for the government where necessary. They will also be published in scientific journals and presented orally at conferences. All participants are given contact information to obtain the results of the study. The results would be disseminated in all communities where participants live through presentations in their local language after the submission of my thesis.

1.6 WILL THE RESEARCH BE UNDERTAKEN *ONLY* ON-SITE AT OXFORD BROOKES UNIVERSITY (including all campuses)?

YES, only on-site **NO**, not only on-site **Overseas**

*(**If NO**, give details of off-campus location, including other sites where research is being undertaken and other countries providing data):*

Sierra Leone's forests are part of the Upper Guinean Rainforest Ecosystem, which was identified as a biodiversity hot-spot and is said to have 1,800 endemic species, including 416 mammal species (Mittermeier et al. 1998, 2004). This impressive biodiversity is highlighted in the Outamba Kilimi National Park, which lies at the edge of the Upper Guinean Rainforest Ecosystem, and represents an important transition zone where grassland, woodland, and dense wet forest zones intermingle. The park is also home to the Kolenten and Kaba River watersheds, which supply two of the nine rivers of Sierra Leone. Within the park there are an estimated 13 primate species, including the Critically Endangered western chimpanzee (Pan troglodytes verus). Within the Outamba Section of the national park there are 22 known vil-lages (23 in 2018, but one has since dissolved). There are an unrecorded number of buffer zone communities, but inter-views will be conducted in 2 communities near the edge of the park: Kotor, and Fintonia which are of different sizes. Fin-tonia is where the section chief resides and is considered an important community locally. Makeni lies about four hours' drive south of the park and is the closest city to the park. It is also the third largest city in Sierra Leone.

1.7 OTHER APPROVALS REQUIRED

Has permission to conduct the research in, at or through another institution or organisation (e.g. a school or a business) been obtained?

YES

***If YES**, please specify from whom and attach a copy:*

Approval from the National Protected Areas Authority to be working in and around the Outamba Kilimi National Park has been obtained. Due to the NPAA's lack of email facilities a letter is printed in country by the NPAA after the initial meet-ing. I am attaching my most recent receipt (which rolls over to 2020) for my research permit.

Is clearance required from the Disclosure and Barring Service (DBS check)?
(https://www.brookes.ac.uk/human-resources/working-here/employment-policies/dbs-certificate-information/)

NOT APPLICABLE

If Yes, confirm this has been undertaken by the Faculty / HR department:

Please note: Due to the confidential nature of the DBS check, UREC does **not** require a copy of the application or cer-tificate for DBS clearance and this should be stored securely by the researcher.

2. PARTICIPANT DETAILS

2.1 DO YOU INTEND TO RECRUIT:

	YES	NO
a) students or staff of this University (i.e. recruitment on-site at Brookes)		X
b) adults (over the age of 16 years and competent to give consent)	X	
c) children/legal minors (anyone under the age of 16 years)		X
d) patients or clients of professionals		X
e) anyone who is in custody, custodial care, or for whom a court have assumed responsibility		X
f) any other person whose capacity to consent may be compromised		X
g) a member of an organisation where another individual may also need to give consent		X

2.2 NUMBER, AGE RANGE AND SOURCE OF PARTICIPANTS

Provide number, age range and source of participants and state any exclusion or inclusion criteria:

I intend only to recruit individuals over the age of 18 who are currently living in Northern Sierra Leone, or were in Northern Sierra Leone during the Ebola outbreak. I will not include any individuals who's consent or capacity might be compromised or legal minors. There is no upper age limit to those who will be included, though I will aim to cover all age ranges present.

I aim to include 300 individuals, chosen at random by dividing the city of Makeni and ensuring the survey is conducted across different socio-economic neighbourhoods in Makeni.

I aim to include in-depth interviews from approximately 10 people from two villages in the Outamba section of the Outamba Kilimi National Park (villages to be decided, most likely Fansiga and Kondeta), about 5 people from the village of Kotor, and 5 people from the village of Fintonia. I will aim to include an even number of male and female participants representing all age groups in these rural communities. In Makeni I aim to conduct about 10 in-depth interviews with people of various age groups, socio-economic statuses, and professions. I will aim to include an even number of male and female participants.

2.3 MEANS BY WHICH PARTICIPANTS ARE TO BE RECRUITED

Please provide specific details of how you will be recruiting participants. How will they be approached and asked if they are willing to participate? Please explain how you have obtained or will obtain names and contact details. This information will need to be included in the participant information sheet. If a recruitment advertisement/poster is to be used, please ensure you attach a copy to this application:

For the formal survey, the city of Makeni will be divided into walkable areas and teams will be assigned an area. There will be three teams of two team members each. One team will be comprised of myself and a translator, one team will be two female students from the University of Makeni, and the final team will be two male students from the University of Makeni. These teams will be used in an attempt to understand if there is a bias between information collected by a foreigner versus by Sierra Leoneans. The male team will only interview male participants, and the female team will only interview female participants to encourage more open and honest responses from those participating in the survey. I will interview both male and female participants equally. Please see the attached survey, participant information sheet, and consent form for more details.

For the semi-structured interviews: In the city of Makeni I have made contacts across the city who are of a wide age range, socio-economic class, and of varying employ. Many have agreed that they would participate in a semi-structured interview at a later date. I will revisit these contacts and provide them with the appropriate information and obtain the correct consent if they are still willing to be interviewed. Please see the attached Independent Interview Information Sheet. The information sheet will either be given to them or read aloud if necessary. Interviews will be audio recorded if permission is granted.

I have spent the last few years conducting a camera trapping survey inside the Outamba Kilimi National Park, and during this time have built up a relationship with all villages inside the national park, as well as Kotor and Fintonia. Participants will be approached who appear to represent all aspects of life and work in the village. Formal meetings will be gathered when arriving in a village, as is customary, and everyone in the village will be informed of my work and I will seek permission from village elders and chiefs. All residents will be informed that they are welcome to approach me if they should want to be interviewed independently at a later date. I will spend some time staying in the two interior villages while I continue my camera trapping study and to gain a closer relationship with people in these villages. After I feel that my presence is no longer an obstruction (which should be less time given that my presence is already known) participants will be approached and interviews will be conducted. Consent will be acquired orally as almost all residents of these rural areas are illiterate. For more information see the attached Independent Interview Oral Information Sheet. Interviews will be audio recorded if permission is granted.

2.4 WILL PARTS OF THIS PROJECT BE CARRIED OUT BY INDEPENDENT CONTRACTORS? *(for example transcription of interviews)*

YES

If YES, *please explain who the independent contractors are, what their role will be and how their work will be monitored. Responsibility for proper conduct of the project remains with the lead researcher. The completion of the data compliance template may be required (https://www.brookes.ac.uk/Documents/Research/Ethics/Confidentiality-template)*

I will recruit four students from the University of Makeni to assist in the formal survey in Makeni, as this is scripted and the questions are not open ended. They will receive training before they commence and all data will be handed over to myself upon completion of the day's work. We will meet in the morning and afternoon of workdays to go over protocol before beginning and review the surveys completed that day.

I will work with a translator and in Makeni. Most likely they will be a student at the University of Makeni as I have connections with many students there. They will be fluent in English and Krio and preferably male to create a gender balance during the survey.

Within the national park I will employ a translator when necessary to translate to English from Krio and Susu. I will not employ park staff for this role to avoid any possible conflict of interest with participants. I know several individuals who could be used as a translator in this area and will employ them while in the area.

Before approaching any participant, all individuals involved will be made fully aware of the importance of confidentiality and the possible implications of the research to the participants and will be required to sign a confidentiality agreement.

2.5 ARE ANY OF THE PARTICIPANTS IN A DEPENDENT RELATIONSHIP WITH ANY OF THE INVESTIGATORS, PARTICULARLY THOSE INVOLVED IN RECRUITING FOR OR CONDUCTING THE PROJECT?

Research involving persons in dependent or unequal relationships (for instance, teacher/student) may compromise a participant's ability to give free consent. Therefore UREC recommends that, where possible, researchers choose participant cohorts where no dependent relationship exists. If, after due consideration, the investigator believes that research involving people in dependent relationships is justified, then UREC will require additional information detailing how risks inherent in the dependent relationship will be managed. UREC will also need to be reassured that refusal to take part will have no impact on a participant's position or studies.

NO

If YES, *please explain the relationship (e.g. teacher/student, student/lecturer, employer/employee) and the steps to be taken by the investigators to ensure that participation is purely voluntary:*

2.6 **PAYMENT OR INCENTIVES: DO YOU PROPOSE TO PAY OR REWARD PARTICIPANTS?**

NO

If YES*, what type of incentive and for how much?*

3. RISK AND RISK MANAGEMENT

3.1

DOES THE RESEARCH INVOLVE:	**YES**	**NO**
• Accessing, using or downloading security sensitive material or activity? **(If yes please complete section 3.2 below)**		X
• Research overseas?	X	
• Use of a questionnaire or similar research instrument or measure? (attach copy)	X	
• Use of written or computerised tests		X
• Interviews or focus groups? (attach interview questions)	X	
• Diaries? (attach diary record form)		X

• Participant observation?		X
• Observation of participants (in a non-public place) without their knowledge?		X
• Wearable technology (e.g. bodyworn cameras, biometric devices etc.)		X
• Monitoring devices		X
• Audio-recording interviewees or events?	X	
• Video-recording interviewees or events?		X
• Access to personal and/or confidential data (including student or client data) without the participant's specific consent?		X
• Administration of any questions, tasks, investigations, procedures or stimuli which may be experienced by participants as physically or mentally painful, stressful or unpleasant during or after the research process?		X
• Performance of any acts which might diminish the self-esteem of participants or cause them to experience embarrassment, regret or depression?		X
• Investigation of participants involved in illegal activities?		X
• Procedures that involve deception of participants?		X
• Administration of any substance or agent?		X
• Collection of body tissues or fluid samples? (in line with the Human Tissue Act 2004)		X
• Collection and/or testing of DNA samples? (in line with Human Tissue Act 2004)		X

3.2 SECURITY SENSITIVE RESEARCH OR ACTIVITY:

Security sensitive materials are defined here as materials that are covered by the Official Secrets Act 1989 and the Terrorism Act 2006, materials that could be considered 'extremist' according to the Counter Terrorism and Security Act 2015, defined as 'vocal or active opposition to fundamental British values, including democracy, the rule of law, individual liberty and mutual respect and tolerance of different faiths and beliefs', and materials that require security clearance before accessing.

The University guidelines and notification form are available at: https://www.brookes.ac.uk/Research/Research-ethics/Review/Security-sensitive-research/

If you are unsure whether or not your research falls into the security sensitive categories, please talk to your Research Ethics Officer before proceeding.

	YES	NOT APPLICABLE
If your research involves accessing, using, or downloading security sensitive material or activity, have you completed and attached the notification form (url given above).		X

3.3 POTENTIAL RISK TO PARTICIPANTS AND RISK MANAGEMENT PROCEDURES
Identify, as far as possible, potential risks to participants (e.g. physical, psychological, social, legal or economic), associated with the proposed research. Please explain what risk management procedures will be put in place:

There has been no risk identified with interviewing participants outside of the National Park. Inside the National Park, technically all communities are illegal settlements, but they are not identified as such or treated as such by the government. The government encourages sustainable style farming inside the park and differentiates between hunting and trapping. Even so, no direct questions about hunting/trapping animals will be asked and no information regarding illegal activities observed by participants will be recorded. The questions will focus more around the cultural importance of specific animals, their knowledge about certain animals, traditional farming practices, and their knowledge of zoonotic diseases. All information will be treated anonymously at all times.

3.3 ARE THERE ANY SPECIFIC RISKS TO RESEARCHERS THAT ARE GREATER THAN THOSE ENCOUNTERED IN NORMAL DAY TO DAY LIFE? (Where research is undertaken at an off-campus location, whether in the UK or abroad, researchers should consult the University guidelines regarding risk assessment. The Dean of Faculty or the Director has the overall responsibility for risk assessment regarding the health and safety of researchers. Useful advice for the safety of researchers is available on the Social Research Association website at: *http://the-sra.org.uk/sra_resources/safety-code/* or consult the guidelines of the relevant professional and/or academic organisation.

YES

***If YES**, please describe:*

Increased risks include tropical diseases, harm from wildlife, and limited access to healthcare facilities. I will consult my travel doctor to ensure I am up to date on all vaccinations and will take the prescribed malaria prophylaxis. I will take care when traveling in farms or in the forest not to tread on snakes and will wear appropriate clothing and foot protection. In addition, to minimise road accidents I will travel in a privately owned 4x4 vehicle. I will take precautions to sterilise all drinking water. When travelling throughout the country I will be with my partner who has previously lived in Sierra Leone and when I am in Makeni I will have a local guide/translator with me so I will not be entering any unfamiliar neighbourhoods alone. I will check in with my supervisors after all interviews and keep them informed of my schedule. During the surveys in Makeni all teams will check in with each other every two hours by text message.

3.4 ADVERSE / UNEXPECTED OUTCOMES
Please describe what measures you have in place in the event of any unexpected outcomes or adverse effects to participants arising from involvement in the project:

Should our presence be determined by the village elders or chiefs to be unwelcome we will leave the village and exclude all data collected there out of respect. I will also contact my supervisory team for any recommendations, in addition to consulting elders in different villages with whom I have a close relationship. Any injuries involving myself or any team members will be treated with alacrity at the nearest hospital. While in more remote areas I have a GPS with SOS feature than can supply air support if required.

3.5 DEBRIEFING, SUPPORT AND/OR FEEDBACK TO PARTICIPANTS (as appropriate)
What debriefing, support or feedback will participants receive following the study and when? Participants may need to talk about issues it has raised for them. The offer of additional support for participants during/after the study (e.g. external counseling may be advisable. How the results of the research will be disseminated to participants should be outlined).

All participants are welcome to ask questions at any point and will be given my contact information to follow-up if they should desire. They can also request to be added to a list of those who wish to see the final results of the study. Ideally, the results of the study will be publicly disseminated in free-to-attend events in any village which had residents who participated in this study after the completion of the study. This can be easily arranged through a partner organisation. They will be reminded that they can withdraw their participation, with no explanation required, up until the time of analysis.

3.6 MONITORING
Please explain how the conduct of the study will be monitored, for example via your Associate Dean for Research and Knowledge Exchange or supervisory team, (especially where multiple people are involved) to ensure that it conforms with the University's Code of Practice and any guidelines published by your professional association:

The study will be monitored by my supervisory team, Prof. Nijman, Dr. Diggins, and Dr. Svensson, who will all be kept up to date with all research during my time in the field, via WhatsApp and email, as well as via a satellite phone to ensure we can communicate even when I am working inside the National Park.

4. INFORMED CONSENT

4.1 **HAVE YOU ATTACHED TO YOUR APPLICATION A COPY OF THE PARTICIPANT INFORMATION SHEET?**
Guidelines for drafting this are provided on the UREC web page at: https://www.brookes.ac.uk/Research/Research-ethics/Review/Guidelines-for-informed-consent/. *Whenever possible, Oxford Brookes University letterhead or logo should be used for information sheets*

YES

If NO, please explain:

4.2 HAVE YOU ATTACHED TO YOUR APPLICATION A COPY OF THE CONSENT FORM? *if you are not obtaining consent in **writing** please explain how the informed consent process is to be documented. Guidelines for drafting this are provided on the UREC web page at* https://www.brookes.ac.uk/Research/Research-ethics/Review/Guidelines-for-informed-consent/. *Whenever possible, Oxford Brookes University letterhead or logo should be used for consent forms.*

Following the implementation of GDPR in May 2018, participants MUST give their active consent to take part. Opt-out consent is not an option.

YES

If NO, please explain how consent will be documented:

5. DATA CONFIDENTIALITY / ANONYMITY AND PRIVACY

5.1 WILL THE RESEARCH INVOLVE:

	YES	NO
• Complete anonymity of participants (i.e. researchers will not know the identity of participants as participants are part of a random sample)?	X	
• Anonymised samples or data (i.e. an irreversible process whereby identifiers are removed from data and replaced by a code, with no record retained of how the code relates to the identifiers?		X
• De-identified samples or data (i.e. a reversible process in which the identifiers are removed and replaced by a code. Those handling the data subsequently do so using the code)?	X	
• Participants having the option of being identified in any publication arising from the research?		X
• Participants being referred to by pseudonym in any publication arising from the research?	X	
• The use of personal data? (If YES, please ensure that all processing of personal data is in accordance with UK law and specifically the Data Protection Act (2018), prior to any research commencing. It is essential that the processing of personal data is compliant with the University's Data Protection Policy.		X

Important considerations about data confidentiality:

1. Where the sample size is very small, it may be impossible to guarantee anonymity/confidentiality of the participant's identity. Participants involved in such studies need to be advised of this limitation in the participant information sheet.
2. Where research studies involve the collection of large personally identifiable datasets or use privacy-intrusive technology (e.g. biometrics, bodyworn cameras, monitoring devices) it may be necessary to complete a privacy impact assessment. A template is available (.brookes.ac.uk/WorkArea/DownloadAsset.aspx?id=2147586227). The IT Services Information Management Team will review these if needed to determine whether or not a comprehensive privacy impact assessment is required (contact info.sec@brookes.ac.uk).

5.2 WHICH OF THE FOLLOWING METHODS OF ASSURING CONFIDENTIALITY OF DATA WILL BE IMPLEMENTED? Please select all relevant options.

• data and codes and all identifying information to be kept in separate secure locations	X
• access to computer files to be available by password or other appropriate levels of protection	X
• other *(please describe)*:	

5.3 **LEGAL LIMITATIONS TO DATA CONFIDENTIALITY:** Are p*articipants being informed that the confidentiality of the information they provide can only be protected within the limitations of the law - i.e. it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.*

YES

NO (please explain):

6 DATA PROTECTION, ACCESS AND SECURITY

6.1 WHO WILL BE RESPONSIBLE FOR THE SECURITY OF DATA COLLECTED?

(Provide details of who in the research team will have the overall responsibility for the security of the data collected during the life of the study):

6.2 ACCESS TO DATA

• Access by named researchers only	**X**
• Access by people other than named researcher(s) *(Please explain and identify):*	

6.3 STORAGE OF DATA

By data, the University means not just datasets but artwork, recordings, images, videos or any other form of data that researchers collect in the course of undertaking their research. Staff and students should be aware of research data management information and tools, available at: https://www.brookes.ac.uk/research/research-support/data-management/	
• **Stored at Oxford Brookes University** If **YES**, please provide the following information:	
➢ How will the data be stored?	
➢ Where will the data be stored?	
➢ In what format will the data be stored?	
• **Stored at another site** *Please explain where and for what purpose. Data stored in the field should be on a password protected device or stored and shared via Google Drive for which the university has a security agreement.* See the data sharing and file management matrix for advice	**Password protected device and external hard drive which remains locked when not in use**
• **Stored in a secure shared repository – after completion of the project, e.g RADAR or a subject specific repository** *(This should be explained to participants in the information sheet and privacy notice)*	

6.4 DOES DATA STORAGE COMPLY WITH THE UNIVERSITY'S GUIDELINES FOR THE MANAGEMENT OF RESEARCH DATA AND RECORDS? *(See Oxford Brookes University Code of Practice for Academic Integrity, at:* https://www.brookes.ac.uk/Documents/Research/Policies-and-codes-of-practice/academic_integrity

YES No **If NO**, please explain:

6.5 PRIVACY NOTICE

In line with the EU GDPR, now passed into UK law as the Data Protection Act 2018, research participants must be adequately informed about why they are providing information, how it will be used and who will have access to it. A privacy notice must be created for each research study and made available to participants. A template is available at: https://www.brookes.ac.uk/Documents/Research/Ethics/Privacy-notice-for-researchers/ (If the data being collected is completely anonymous or does not include information that can be combined with other data to identify an individual, this privacy notice is *not* required).

Have you attached a copy of the privacy notice for this study?

YES

7. FUNDING

7.1 IS THIS PROJECT BEING EXTERNALLY FUNDED? *(This does not include funded PhD programmes)*

YES NO *(skip the remaining questions in section 7)*

7.2 SOURCE OF FUNDING *(This must be stated in the participant information sheet*):
Frederick Soddy Trust, Margot Marsh Biodiversity Fund, Primate Action Fund

7.3 DOES THE PROJECT REQUIRE APPROVAL BEFORE CONSIDERATION BY A FUNDING BODY?

YES **NO**

If YES, what is the deadline for the funding body?

8. CHECKLIST

Please check that the following documents are attached to your application. Please note that where questionnaire or interview questions are submitted in draft form, a copy of the final documentation must be submitted for final approval when available.

	ATTACHED		**NOT APPLICABLE**
• Recruitment advertisement (question 2.3)			X
• Participant information sheet (question 4.1)	**X**		
• Consent form (question 4.2)	**X**		
• Privacy notice (question 6.5)	**X**		
• Evidence of external approvals related to the research (question 1.7)	**X**		
• Questionnaire (question 3.1)	draft X	final	
• Interview Schedule (question 3.1)	draft X	final	
• Other (please specify:	**SURVEY DRAFT**		

For further details about completion of this form, please contact your Research Ethics Officer in the first instance.

Sarah Bell email: sarah.bell-2017@brookes.ac.uk
Department of Social Sciences
Oxford Brookes University
Headington Campus
Gipsy Lane, OX3 0BP

CONSENT FORM

Full title of Project: Perceptions of zoonotic diseases in Sierra Leone

Please initial box

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.

3. I agree to take part in the above study.

4. I agree to the interview / focus group / consultation being audio recorded

5. I agree to the use of anonymised quotes in publications

Name of Participant	Date	Signature
Name of Researcher	Date	Signature

Sarah Bell email: sarah.bell-2017@brookes.ac.uk
Department of Social Sciences
Oxford Brookes University
Headington Campus
Gipsy Lane, OX3 0BP

Perceptions of zoonotic diseases in Sierra Leone

Privacy notice for research participants

This privacy notice provides information on how Oxford Brookes University collects and uses your personal information when you take part in one of our research projects. Please refer to the research participant information sheet for further details about the study and what information will be collected about you and how it will be used.

Oxford Brookes University (OBU) will usually be the Data Controller of any data that you supply for this research. This means that we are responsible for looking after your information and using it properly. The exception to this is joint research projects where you would be informed on the participant information sheet as to the other partner institution or institutions. This means that they will make the decisions on how your data is used and for what reasons. You can contact the University's Information Management Team on 01865 485420 or email info.sec@brookes.ac.uk.

Why do we need your data?
Information like your age group, ethnic background, and religious views are used to ensure people from a diversity of backgrounds are included in this study to better represent the Sierra Leonean people as a whole. This study will help inform future zoonotic disease communication strategies in an effort to minimise mistrust and misinformation.

OBUs legal basis for collecting this data is:
- You are consenting to providing it to us; and / or,
- Processing is necessary for the performance of a task in the public interest such as research

If the university asks you for sensitive data such as; racial or ethnic origin, political opinions, religious or philosophical beliefs, trade-union membership, data concerning health or sexual life, genetic/ biometric data or criminal records OBU will use these data because:
- You have given OBU explicit consent to do so; and / or
- Processing is necessary for scientific or research in the public interest.

What type of data will Oxford Brookes University use?
Information on ethnic origin, religious beliefs, employment, and limited questions regarding diet, lifestyle, and education will be collected in the forms of qualitative and quantitative data.

Who will OBU share your data with?
No third party processors will host or have access to the data collected here

Will OBU transfer my data outside of the UK?
No

What rights do I have regarding my data that OBU holds?
- You have the right to be informed about what data will be collected and how this will be used
- You have the right of access to your data
- You have the right to correct data if it is wrong
- You have the right to ask for your data to be deleted
- You have the right to restrict use of the data we hold about you
- You have the right to data portability
- You have the right to object to the university using your data
- You have rights in relation to using your data in automated decision making and profiling.

<if the data being collected is completely anonymous **or** does not include information that can be combined with other data to identify an individual, this privacy notice is **not** required>

Where did OBU source my data from?
The data for this research has been sourced directly from participants.

Are there any consequences of not providing the requested data?
There are no consequences of not providing data for this research. It is purely voluntary.

Will there be any automated decision making using my data?
There will be no use of automated decision making in scope of UK Data Protection and Privacy legislation.

How long will OBU keep your data?
In line with Oxford Brookes policies data generated in the course of research must be kept securely in paper or electronic form for a period of time in accordance with the research funder or University policy.

Who can I contact if I have concerns?

If you would like to know more about this study, or if you have any questions, please contact me, Sarah Bell. Email: sarah.bell-2017@brookes.ac.uk

In the event of any questions about the research study, please contact the researchers in the first instance (contact details in the study participant information sheet). If you have any concerns about the way in which the study has been conducted, contact the Chair of the University Research Ethics Committee at ethics@brookes.ac.uk. For further details about information security contact the Data Protection Officer at: brookesdpo@brookes.ac.uk or the Information Management team on info.sec@brookes.ac.uk

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OXFORD BROOKES UNIVERSITY

Verbal Information Sheet

Independent Semi-Structured Interviews Tambakka

Perceptions of zoonotic diseases in Sierra Leone

The following information will be given to participants verbally if they are unable to read the information sheet:

"Firstly, I want to thank you for taking the time to listen to me.

My name is Sarah Bell, I am here with [translator/research assistant's name]. I am an anthropology student of the Social Sciences, Oxford Brookes University, UK. I am in Sierra Leone to conduct my PhD research. The overall aim of my research is to understand how people and wildlife live together in Sierra Leone, the risks to people that are living close to wildlife, and what role wildlife plays in Sierra Leonean culture. I hope that by understanding this, I can better inform how to teach people about wildlife and sickness in a way that minimises mistrust and misunderstanding. I am also conducting a survey of what wildlife lives inside the Outamba Kilimi National Park in Tambakka Chiefdom. I will be conducting fieldwork periodically from May 2018 to May 2020, and then I will return to the UK for another year to write and submit my thesis.

I am here with you now because I would like to invite you to take part in my research study. The reason why I would like to ask you some questions is because I think your knowledge will be important to help me understand the significance of wildlife to Sierra Leonean culture, how wildlife impacts your life, and how you feel about the information presented to you about wildlife and the Ebola epidemic. I am interviewing a large number of people, men and women, across villages in Tambakka, as well as in Makeni. I hope to have over 300 people participate in this study through interviews or surveys.

Please take all the time you need to choose whether to participate or not. You can either contact me later on, through my mobile phone or by letting [translator/research assistant's name] know, and we can arrange the interview at a time most suitable for you. It is important for you to understand that taking park in this study is entirely voluntary. Therefore, it is up to you to decide whether to participate or not. If you decide to take part, you have the rights and freedom to stop at any time, without the need of giving me any explanations.

If you agree to participate in my study, the interview will run like this: I will first ask you some questions about yourself, then I will show you some images of animals and ask you some questions about your eating and/or farming practices, what animals you share your landscape with, any issues that arise from living in proximity to these animals (including sickness and crop destruction), about your experience with the Ebola epidemic, and how you felt about the information told to you about Ebola and wildlife. The interview should last about one hour.

The information you provide will remain completely confidential and will be anonymous. I will not write down the names of any participants in my computer, and no participant names will appear in any of the documents I will produce based on this research, including my thesis, published papers, government reports, and any oral presentations. Data will be stored securely, meaning that no one but myself will have access to it.

Do you have any questions? For example about my research or about participating in this study?

Thank you for taking the time to listen to me."

At the end of each interview I will again thank the participants for their contribution.

Sarah Bell email: sarah.bell-2017@brookes.ac.uk
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Oxford Brookes University
Headington Campus
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OXFORD BROOKES UNIVERSITY

Participant Information Sheet

Independent Semi-Structured Interviews Makeni
Perceptions of zoonotic diseases in Sierra Leone

Invitation:

You are being invited to take part in a research study. This study only requires you to answer several questions, and I will keep your identity private. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully:

What is the purpose of the study?

The aim of my research is to understand how humans and wildlife co-exist in Northern Sierra Leone and, in particular, what role wildlife plays in the lives and in the cultures of Sierra Leoneans. For this study, I have conducted wildlife surveys with motion cameras in Outamba Kilimi National Park, Tambakka Chiefdom, to learn what animals still live here. I am interviewing people in Outamba Kilimi to understand how they live alongside wildlife, and any risks that living with wildlife could present. I am also conducting a survey in Makeni, to understand the perspective of those who live in the city. I hope this information will help create a better response to any future health risks to humans that might involve animals, and to minimise the spread of misinformation and misunderstanding. The data collection for the entirety of this study began in May 2018 and will end in May 2020. I will then return to the UK to write up my PhD thesis, which I aim to submit January 2021.

Why have I been invited?

You are receiving this information sheet because you have expressed interest in my research or because, after I approached you and discussed my research with you verbally, you requested a written information sheet. You have been chosen because you are over 18 years of age and reside in Northern Sierra Leone. I am hoping that, in total, over 300 people will participate in this study (through surveys, interviews, and group discussions), and that this will give a well-rounded understanding of people's experiences living alongside wildlife, and any risks presented by wildlife (including sickness and crop destruction).

Do I have to take part?

No. It is completely up to you. This study is entirely voluntary, and you are not required to take part. I will ask you to listen to or read the information which is given here so that you may make an informed decision on whether or not to participate. You are welcome to ask any questions at any time. Then I will ask you, verbally, if you want to take part in my study, and if you consent to have the conversation audio recorded. I will keep a written record of your verbal consent, including date and time, and what you gave consent to, which will be kept separately from any interview data. If for any reason you wish to withdraw from the study you can contact me to let me know prior to analysis. You do not need to provide a reason for why you wish to withdraw, if you decide to do so.

What will happen to me if I take part?

If you agree to participate, we can decide on a time and place to undertake the interview. Then, at the interview, I will turn on the audio recorder and ask you questions about yourself, wildlife, your eating and/or farming habits, the Ebola epidemic, and cultural practices involving animals. You are free to request the audio not be recorded or be stopped at any time.

What are the possible disadvantages and risks of taking part?

There is no risk to your person or property by participating in this interview. No identifying information will be associated with your interview and any quotations used in any final documents will be anonymous. No reports containing identifying information will be given to the government. The interview will last approximately one hour. No questions regarding the participant's actions involving illegal activity will be asked and if information about illegal

activities is offered it will not be documented to ensure that there is no risk to the participant.

What are the benefits of taking part?

There are no direct benefits in participating in this research. However, I am hoping that the results of this study, which you will contribute to, can be used to help spread helpful information regarding wildlife and human health in the future. We need Sierra Leoneans to participate so that the information gathered can correctly reflect the feelings and values of Sierra Leoneans.

Will what I say in the study be kept confidential?

Yes. All information which is collected for this study will be kept confidential and private, subject to legal limitations. Any information which you provide will be kept anonymous and your interview will not be directly linked to your name, but to a participant number. Your name will not appear in any notes, documents produced from research; including my thesis, any reports and scientific publications or oral presentations.

In the course of my research I will retain the data in accordance with Oxford Brookes University's policy of Academic Integrity. I will keep all hand-written material securely locked, and I will keep data encrypted in my computer and external hard drives. I will also store data generated during this study for a period of 10 years, during which time it will remain securely stored inside an external hard drive.

What should I do if I want to take part?

If you want to participate please contact me or my research assistant to set up a time and date which is best for you to conduct the interview. You will then need to provide verbal consent when prompted, and will be told that your participation in voluntary, and you will be reminded that you can opt out of the survey at any time, even after the survey is complete up to analysis. Then you will be asked questions by myself, possibly with the assistance of a translator.

What will happen to the results of the research in this study?

The results from this survey will be written up in the form of my PhD thesis and research reports. In addition, the results of this study will be published in a scientific journal. The results of this study may also be included in oral presentations. However, there will be no information included in any of the previously listed activities that could suggest the identity of any participants. If you are interested to know about the results of this research, please let your interviewer know, and I will make sure to contact you once the study is completed.

Who is organising and funding the research?

I am conducting this research as a PhD student at the Department of Social Sciences, Faculty of Humanities and Social Sciences, Oxford Brookes University, Oxford, UK. This study has been supported with fieldwork grants from the Frederick Soddy Trust, Margot Marsh Biodiversity Conservation Fund, and the Primate Action Fund.

Who has reviewed the study?

This research has been approved by the University Research Ethics Committee, Oxford Brookes University.

Contact for further information:

If you would like to know more about this study, or if you have any questions, please contact me, Sarah Bell. Email: sarah.bell-2017@brookes.ac.uk
If you have any concerns about the way that this study has been conducted, please contact the Chair of the University Research Ethics Committee. Email: ethics@brookes.ac.uk

Thank you for taking the time to read this information

Sarah Bell email: sarah.bell-2017@brookes.ac.uk
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Participant Information Sheet

Formal Survey in Makeni

OXFORD BROOKES UNIVERSITY

Perceptions of zoonotic diseases in Sierra Leone

Invitation:

You are being invited to take part in a research study. This study only requires you to answer several questions, and will keep your identity private. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully:

What is the purpose of the study?

The aim of my research is to understand how humans and wildlife co-exist in Sierra Leone, and in particular, what kind of role they play in the lives and in the cultures of Sierra Leoneans. For this study I have conducted wildlife surveys with motion cameras in Outamba Kilimi National Park, Tambakka Chiefdom to know what animals still live in Sierra Leone. I am also interviewing people from Tambakka to understand how they live alongside wildlife, and any risks that living with wildlife could present. I am now conducting a survey in Makeni with the help of

_____

[name of translator or research assistant(s)]

to understand the perspective of the people who live in the city. I hope that this information will help to create a better response to any health risks that might involve animals to minimise misinformation and misunderstanding. The data for the entirety of this study began in May 2018 and will end May 2020. I will then return to the UK to write up my PhD thesis, which I aim to submit January 2021.

Why have I been invited?

You are receiving this information sheet because your home was chosen at random to be involved in this study and, after verbally discussing the research, you have requested a written information sheet. You have been chosen because you are over 18 years of age and reside in Makeni. We want to involve men and women across Makeni to fully represent the city in this study. We aim to survey about 300 people in total.

Do I have to take part?

No. It is completely up to you. This study is entirely voluntary, and you are not required to take part. I will ask you to listen to or read the information which is given here so that you may make an informed decision on whether or not to participate. You are welcome to ask any questions at any time. You will then receive a consent form which will outline what you are agreeing to for you to sign. I will keep your consent form on file and you will keep a copy with my contact information. If for any reason you wish to withdraw from the study prior to analysis you can contact me to let me know. You do not need to provide a reason for why you wish to withdraw, if you decide to do so.

What will happen to me if I take part?

If you agree to participate, then after you sign the consent form you will be asked questions and the responses will be recorded by myself or a research assistant. You will be asked questions about yourself, your eating habits and other interactions with animals, and some questions about how much you trust the people who give you information about your health. The survey should last around 30 minutes.

What are the possible disadvantages and risks of taking part?

There is no risk to your person or property by participating in this interview. No identifying information will be associated with your interview and any quotations used in any final documents will be anonymous. No reports containing identifying information will be given to the government.

What are the benefits of taking part?
There are no direct benefits in participating in this research. However, I hope that the results of this study, which you will contribute to, can be used to help spread helpful information regarding wildlife and human health in the future. It is important that willing Sierra Leoneans participate so that the information gathered can correctly reflect the feelings and values of Sierra Leonean people.

Will what I say in the study be kept confidential?
Yes. All information which is collected for this study will be kept confidential and private, subject to legal limitations. Any information which you provide will be kept anonymous and your interview will not be directly linked to your name, but to a participant number. Your name will not appear in any notes, documents produced from research; including my thesis, any reports and scientific publications or oral presentations.

In the course of my research I will retain the data in accordance with Oxford Brookes University's policy of Academic Integrity. I will keep all hand-written material securely locked, and I will keep data encrypted in my computer and external hard drives. I will also store data generated during this study for a period of 10 years, during which time it will remain securely stored inside an external hard drive.

What should I do if I want to take part?
If you want to participate please read and sign the consent form or have someone read the consent form to you. You will then be told that your participation is voluntary, and you will be reminded that you can opt out of the survey at any time, even after the survey is complete. Then you will be asked questions by myself or a research assistant.

What will happen to the results of the research in this study?
The results from this survey will be written up in the form of my PhD thesis and research reports. In addition, the results of this study will be published in a scientific journal. The results of this study may also be included in oral presentations. However, there will be no information included in any of the previously listed activities that could suggest the identity of any participants. If you are interested to know about the results of this research, please let your interviewer know, and I will make sure to contact you once the study is completed.

Who is organising and funding the research?
I am conducting this research as a PhD student at the Department of Social Sciences, Faculty of Humanities and Social Sciences, Oxford Brookes University, Oxford, UK. This study has been supported with fieldwork grants from the Frederick Soddy Trust, Margot Marsh Biodiversity Conservation Fund, and the Primate Action Fund.

Who has reviewed the study?
This research has been approved by the University Research Ethics Committee, Oxford Brookes University.

Contact for further information:
If you would like to know more about this study, or if you have any questions, please contact me, Sarah Bell. Email: sarah.bell-2017@brookes.ac.uk

If you have any concerns about the way that this study has been conducted, please contact the Chair of the University Research Ethics Committee. Email: ethics@brookes.ac.uk

Thank you for taking the time to read this information

These are example interview questions that outline the general structure of the independent and open-ended interviews I plan to conduct in Makeni and Tambakka. While the questions and structure are largely the same, some changes can be noticed which were made to reflect the different lifestyles in urban versus rural areas:

Example questions to be asked during independent interviews in Makeni:

Demographic questions

Age

Tribe

Religion

Education level

Profession

Current location

Questions about Ebola

Location during Ebola outbreak

Do you remember how you heard about the Ebola outbreak?

Were you fearful during the Ebola outbreak?

(If yes)

Why?

Do you remember anyone telling you how to behave during the Ebola outbreak?

(If yes)

Who?

What did they tell you?

Did you change any behaviours during the Ebola outbreak?

Did you trust the information you heard about Ebola?

(If no)

What information did you not trust?

Do you believe the Ebola outbreak was real?

(If no)

Why not?

(If yes)

What do you think the cause of the Ebola outbreak was?

Questions about animals and meat consumption

Do you believe any animals can give you Ebola?

Can you get any sickness from animals?

(If yes)

Which ones?

Have you ever eaten bushmeat?

(If yes)

Which types of bushmeat do you prefer?

Are these types of bushmeat easy to find in the city?

Is eating bushmeat an important part of your culture?

(If no)

Why not?

Do you ever touch dead bats? (ex. Use as fish bait)

Has your attitude towards bushmeat changed because of the Ebola outbreak?

Have you ever kept a monkey as a pet?

Example questions to be asked during independent interviews in Tambakka:

Demographic questions

Age

Tribe

Religion

Education level

Profession

Current location

Flash card questions

Do any of these animals destroy your crops?

Can you get sick from any of these animals?

Are there any taboos about these animals in your culture?

Questions about meat consumption

Do you eat bats?

Do you use bat for any purpose that results in you touching a dead bat? (ex. Fish bait)

If you found a dead animal in the forest, would you eat it?

Is eating bushmeat an important part of your culture? (Consumption of bushmeat is not illegal)

Does your family rely on bushmeat to survive?

Questions about Ebola

Location during Ebola outbreak

Do you remember how you heard about the Ebola outbreak?

Were you fearful during the Ebola outbreak?

(If yes)

Why?

Do you remember anyone telling you how to behave during the Ebola outbreak?

(If yes)

Who?

What did they tell you?

Did you change any behaviours during the Ebola outbreak?

Did you trust the information you heard about Ebola?

(If no)

What information did you not trust?

Do you believe the Ebola outbreak was real?

(If no)

Why not?

(If yes)

What do you think the cause of the Ebola outbreak was?

Do you believe any animals can give you Ebola?

Has your attitude towards bushmeat changed because of the Ebola outbreak?

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OXFORD BROOKES UNIVERSITY

Survey

Perceptions of zoonotic diseases in Sierra Leone

Introduction: "My name is _____, and we are interviewing men and women across Makeni to gain a better understanding of how animals play a role in people's lives, and people's views about zoonotic disease. We want this information so that communication and sensitisation can be better prepared in the future. May I please take 30 minutes to ask you some questions? Your responses will be kept anonymous and you do not have to participate if you do not want to."

If they wish to proceed, hand over information sheet and consent form or assist them in filling it out. If they have difficulty reading the document, read the document out loud for them.

Part 1: Background Information

Interviewer: "First I would like to ask you some general questions"

Question 1: What is your gender?

- ☐ FEMALE
- ☐ MALE
- ☐ PREFER NOT TO ANSWER

Question 2: What year were you born? (Find age)

- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65+
- ☐ DO NOT KNOW
- ☐ PREFER NOT TO ANSWER

Question 3: Which ethic group do you belong to?

- ☐ TEMNE
- ☐ MENDE
- ☐ LIMBA
- ☐ FULA
- ☐ MANDINGO
- ☐ KONO
- ☐ KRIO
- ☐ KURANKO
- ☐ LOKO
- ☐ KISSI
- ☐ SHERBRO
- ☐ SUSU
- ☐ YALUNKA
- ☐ MULTIPLE
- ☐ OTHER - specify

_____

- ☐ DO NOT KNOW
- ☐ PREFER NOT TO ANSWER

Question 4: What religion do you practice?

- ☐ MUSLIM
- ☐ CHRISTIAN
- ☐ ANIMIST
- ☐ OTHER - specify

_____

- ☐ NONE
- ☐ PREFER NOT TO ANSWER

Question 5: What level of education have you received?

- ☐ NONE
- ☐ SOME EDUCATION THROUGH THE CHURCH OR MOSQUE
- ☐ SOME PRIMARY SCHOOL
- ☐ PRIMARY SCHOOL
- ☐ SOME SECONDARY SCHOOL
- ☐ SECONDARY SCHOOL
- ☐ ATTENDED UNIVERSITY
- ☐ PREFER NOT TO ANSWER

Question 6: What is your profession?

- ☐ NONE
- ☐ FARMER
- ☐ TRADER
- ☐ CRAFTSMAN/WOMAN
- ☐ HEALTHCARE
- ☐ DRIVER
- ☐ BUSINESS OWNER
- ☐ TEACHER
- ☐ SHOP WORKER
- ☐ STUDENT
- ☐ WAITRESS/WAITER
- ☐ POLICE
- ☐ MILITARY
- ☐ MINING
- ☐ TIMBER
- ☐ FORESTRY
- ☐ OFFICE WORKER
- ☐ OTHER - specify

_____

- ☐ PREFER NOT TO ANSWER

Part 2: Attitudes towards animals

Interviewer: "Now I would like to ask you some questions about animals."

Question 7: Do you keep any live animals in or around your home (pets and livestock)? Select all that apply

- ☐ SHEEP
- ☐ GOAT
- ☐ CHICKEN
- ☐ DUCK
- ☐ MONKEY
- ☐ PIG
- ☐ COW
- ☐ DEER
- ☐ DOG
- ☐ CAT
- ☐ OTHER — specify

_____

- ☐ PREFER NOT TO ANSWER

Question 8: Which meat do you eat most frequently? (More than once per week) Select all that apply

- ☐ SHEEP
- ☐ GOAT
- ☐ CHICKEN
- ☐ DUCK
- ☐ MONKEY
- ☐ PIG
- ☐ CUTTING GRASS
- ☐ COW
- ☐ DEER
- ☐ BAT
- ☐ DOG
- ☐ CAT
- ☐ FISH
- ☐ OTHER — specify

_____

- ☐ PREFER NOT TO ANSWER

Question 9: Which meat do you enjoy, but are not able to eat frequently? Select all that apply

- ☐ SHEEP
- ☐ GOAT
- ☐ CHICKEN
- ☐ DUCK
- ☐ MONKEY
- ☐ PIG
- ☐ CUTTING GRASS
- ☐ COW
- ☐ BAT
- ☐ DEER
- ☐ DOG
- ☐ CAT
- ☐ FISH
- ☐ OTHER — specify

_____

- ☐ PREFER NOT TO ANSWER

Question 10: Do you often worry about having enough food for yourself and/or your family?

- ☐ YES
- ☐ NO
- ☐ PREFER NOT TO ANSWER

Question 11: Do you believe that eating bushmeat is an important part of your culture?

- ☐ YES
- ☐ NO
- ☐ PREFER NOT TO ANSWER

Question 12: Do you avoid eating bushmeat for any reason?

- ☐ YES — specify

_____

- ☐ NO
- ☐ PREFER NOT TO ANSWER

Part 3: Attitudes about Ebola

Interviewer: "I will now ask you some questions about Ebola, the government and healthcare workers."

Question 13: Do you believe the police are trustworthy?

- ☐ YES
- ☐ NO
- ☐ SOMETIMES
- ☐ PREFER NOT TO ANSWER

Question 14: Do you believe that local government officials are trustworthy?

- ☐ YES
- ☐ NO
- ☐ SOMETIMES
- ☐ PREFER NOT TO ANSWER

Question 15: Do you believe that Sierra Leonean health care workers are trustworthy?

- ☐ YES
- ☐ NO
- ☐ SOMETIMES
- ☐ PREFER NOT TO ANSWER

Question 16: Do you believe that foreign health care workers are trustworthy?

- ☐ YES
- ☐ NO
- ☐ SOMETIMES
- ☐ PREFER NOT TO ANSWER

Question 17: If you are sick, do you want to go to the hospital for treatment?

- ☐ YES
- ☐ NO
- ☐ SOMETIMES
- ☐ PREFER NOT TO ANSWER

Question 18: Did you believe the messages being told to you about Ebola by officials working for the government or NGOs?

- ☐ YES
- ☐ NO
- ☐ SOMETIMES
- ☐ PREFER NOT TO ANSWER

Question 19: Do you believe the Ebola outbreak was real?

- ☐ YES
- ☐ NO
- ☐ SOMETIMES
- ☐ PREFER NOT TO ANSWER

Question 20: Do you believe that Ebola can be spread by bushmeat?

- ☐ YES
- ☐ NO
- ☐ SOMETIMES
- ☐ PREFER NOT TO ANSWER

Part 4: Sociodemographic information

Interviewer: "I would like to ask you a few final questions"

Question 21: Do you have a radio at home?

- ☐ YES
- ☐ NO
- ☐ PREFER NOT TO ANSWER

Question 22: Do you have a television at home?

- ☐ YES
- ☐ NO
- ☐ PREFER NOT TO ANSWER

Question 23: What is the monthly income of your household?

- ☐ NUMBER (SPECIFY IN LEONES)

_____

- ☐ DO NOT KNOW
- ☐ PREFER NOT TO ANSWER

Question 24: How many people are living in your household?

- ☐ NUMBER (SPECIFY, YOU INCLUDED)

_____

- ☐ DO NOT KNOW
- ☐ PREFER NOT TO ANSWER

Interviewer: "These are all of the questions that I have. Thank you for taking the time to participate. Once again I wanted to remind you that you can contact us with the information provided to withdraw from the study at any time for any reason. Please let us know if you would like to be notified of the results of the study once it is completed.

Notes:

SIERRA LEONE GOVERNMENT
National protected Area Authority and Conservation Trust Fund
Ministry of Agriculture, Forestry and Food Security
24B Peninsular Road, Gbendembu
Goderich, Freetown
Mobile: 076 627320 / 088 993707

Nº: 161

RECEIPT

Date: 22 / 11 / 2018

Received from: Sarah Bell

The sum of: Six Million two Hundred and twenty eight thousand leones only.

Being payment for: Research fees

Paid by Cash/Cheque No: 011207931

Le 6,228,000

Signature

EXAMPLES OF FLASHCARDS USED









EXAMPLES OF FLASHCARDS USED

Chimpanzee

Pan troglodytes verus

Demidoff’s dwarf galago

Galagoides demidovii

EXAMPLES OF FLASHCARDS USED









EXAMPLES OF FLASHCARDS USED

Bongo

Tragelaphus eurycerus

Royal antelope

Neotragus pygmaeus

ETHICS APPROVAL FOR JOSEPH TAYLOR AND EBOLA FOCUS GROUPS

Faculty of Humanities and Social Sciences

Faculty Ethics form HSS.E1

OXFORD BROOKES UNIVERSITY

Ethics Review Checklist

This checklist should be completed by the student undertaking a research project which involves human participants and must be checked and signed by the project or dissertation supervisor. The checklist will identify whether an application for ethics approval needs to be submitted to the Faculty Research Ethics Officer.

Before completing this form, you should refer to the University Code of Practice on Ethical Standards for Research involving Human Participants, available at www.brookes.ac.uk/res/ethics and to Faculty guidelines, which are included in the relevant on-line module or course handbook. You should bind a copy of the approved form in your final project or dissertation submission. As the principal researcher, you are responsible for exercising appropriate professional judgement in this review.

Working Project Title: **Investigating the Effect of the 2014-2016 Ebola Outbreak on Wildlife Trade in Outamba-Kilimi National Park, Sierra Leone.**

Student: **Joseph Taylor (17033136)**

E-mail address: **joseph.taylor832@gmail.com**

Course/module: **MSc Primate Conservation. Final Research Project (P20107)**

Supervisor: **Prof. Vincent Nijman**

E-mail address: **vnijman@brookes.ac.uk**

		Yes	No
1.	If the study will require the cooperation of a gatekeeper for initial access to groups or individuals to be recruited (e.g. pupils, employees of a company, members of a self-help group), will you be unable to obtain this?		x
2.	Will the study involve discussions of or responses to questions which participants might find sensitive? (e.g. substance abuse, traumatic experiences)		x
3.	Could the study induce psychological stress or anxiety, or cause harm or negative consequences, beyond the risks of everyday life?		x

4.	If the study will involve participants who are unable to give informed consent (e.g. children under the age of 16, people with learning disabilities), will you be unable to obtain permission from their parents or guardians (as appropriate)?	x
5.	Are there any problems with the participants' right to remain anonymous, or to have the information they give not identifiable as theirs?	x
6.	Will the study involve prolonged (more than an hour at a time) or repetitive testing?	x
7.	Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants?	x
8.	Will deception of participants be necessary during the study?	x
9.	Does the study involve access to confidential information?	x
10.	Is the right to withdraw from the study at anytime withheld, or not made explicit?	x
11.	Will the study involve NHS patients, staff, carers or premises?	x

If you have answered 'yes' to any of these questions you must submit further details of your proposal using the school ethics approval application form HSS.E2 to the Faculty Research Ethics Officer, Maja Cederberg at mcederberg@brookes.ac.uk. A decision form, E3, will then be returned to you by e-mail.

If you answered 'yes' to question 11, an application must be submitted to the appropriate NHS Research Ethics Committee. Please contact the FREO for guidance.

If you have answered 'no' to all questions, give or send the completed checklist to your supervisor for signature. He or she should discuss your proposed research and the ethical implications of this. You should keep a signed copy and bind or securely fasten this in your final project or dissertation submission. Please note that even if this is the case, it is still your responsibility to follow the Code of Practice on Ethical Standards and any School or professional guidelines in the conduct of your study.

NOTE: When any doubt arises in relation to the above, always forward your proposal to the Faculty Research Ethics Officer.

All materials submitted will be treated confidentially.

I have read and understood the University's Code of Practice on Ethical Standards for Research involving Human Participants

Signed:  Supervisor

Signed:  Student Investigator

Date: 14/03/18

Appendix 2: Interview guide

Individual interviews:

- Tribal affiliation
- Religion
- Village
- Educated to some degree

Group interviews:

- Tribal affiliation
- Religion
- Village
- Population
- Number of residents educated to some degree

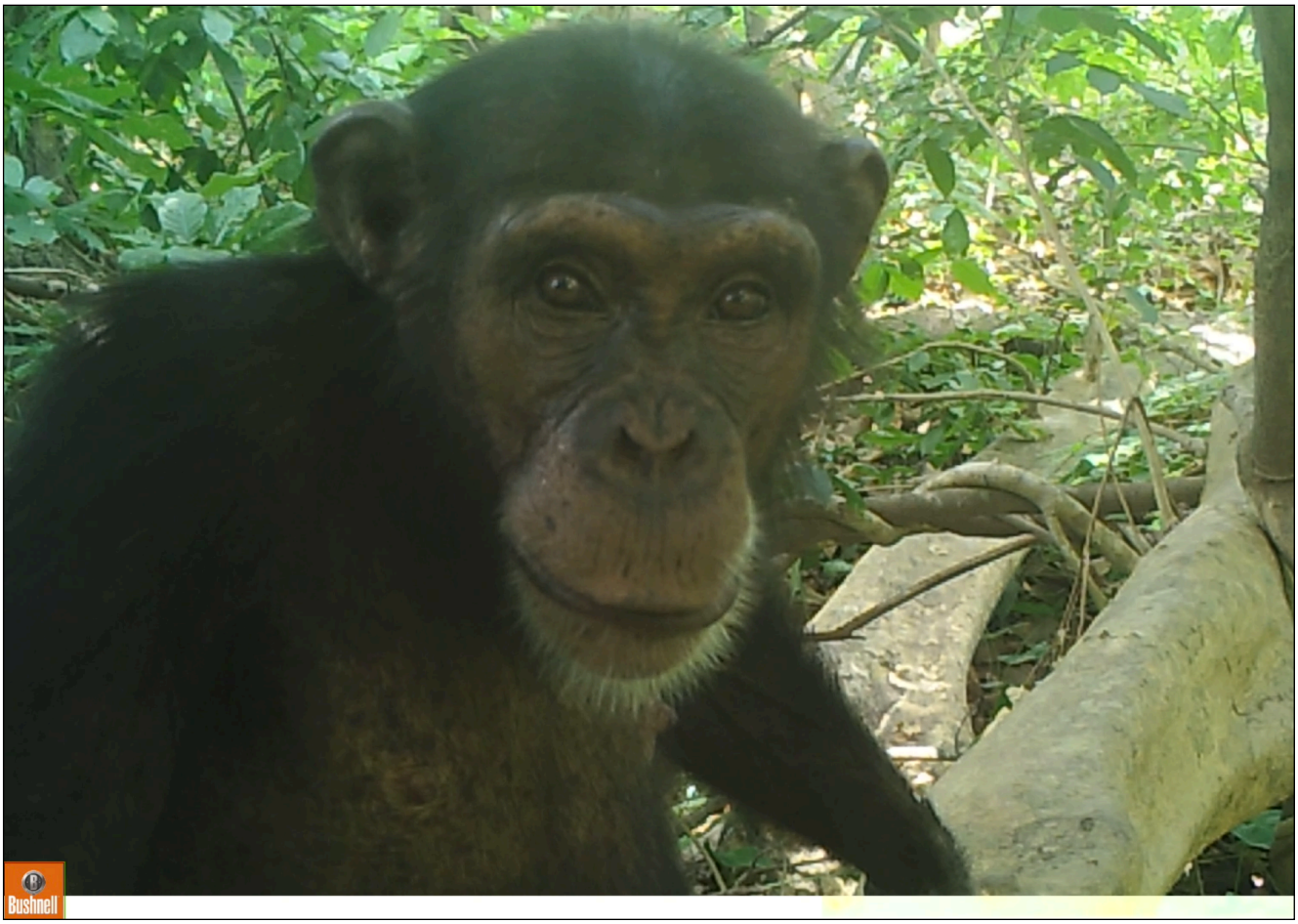
Individual and group interviews questions and probes:

- Have you heard of Ebola?
    - If so, how?
- What is Ebola?
- What are the symptoms of Ebola?
- How can Ebola be transmitted?
    - Can any animals carry Ebola?
        - If so, can they pass it to humans?
            - If so, which animals?
            - How do they pass it to humans?
                - Has your perception of these animals changed since the Ebola outbreak? Can animals carry any diseases that can be passed to humans?
        - If so, how?
    - Can humans pass Ebola to other humans?
        - If so, how?
- Do you know anyone who was affected by Ebola?
    - If so, what happened to them?
    - How do you think they contracted Ebola?
- Do you believe that Ebola was a real illness?
    - If not, why not?

- Which animals do you use as a natural resource?
    - What do you use them for?
        - If for medicinal purposes, how are they made?

Investigating the cultural shifts caused by Ebola and related threats to primates in Outamba Kilimi National Park, Sierra Leone

Primate Action Fund and Margot Marsh Biodiversity Foundation Grant Report



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Dr. Vincent Nijman — Supervisor
Email: vnijman@brookes.ac.uk

Oxford Brookes University
Oxford Wildlife Trade Research Group
School of Social Sciences and Law

Introduction

The Outamba Kilimi National Park is Sierra Leone's only national park and since it's establishment in 1995 there has been very little research conducted there. By combining research in an understudied area with the chance to see how a recent epidemic created cultural shifts, my research will be scientifically important, not only in Sierra Leone, but anywhere which has the potential to host a zoonotic disease outbreak. My research will also benefit two increasingly threatened species; within the Outamba Kilimi National Park are the Critically Endangered western chimpanzee (*Pan troglodytes verus)* and the Endangered red colobus (*Procolobus badius*).There are potentially 11 other species of primates present in the park, but an initial survey is required to identify the primate species in the area. I will also research the impact of Ebola on people's farming practices, hunting practices, traditional medicine use, and perceptions and use of primates through interviews. This research will show how human health epidemics link to wildlife conservation, allowing future conservation efforts to be more culturally sensitive and effective. I will also asses how threats to primates in the park can be stopped through alleviating problems created by Ebola (ex. food insecurity and misinformation about primates and diseases).



King colobus (*Colobus polykomos*), sooty mangabey (*cercocebus atys*) , and Thomas's dwarf galago (*Galagoides thomasi*)

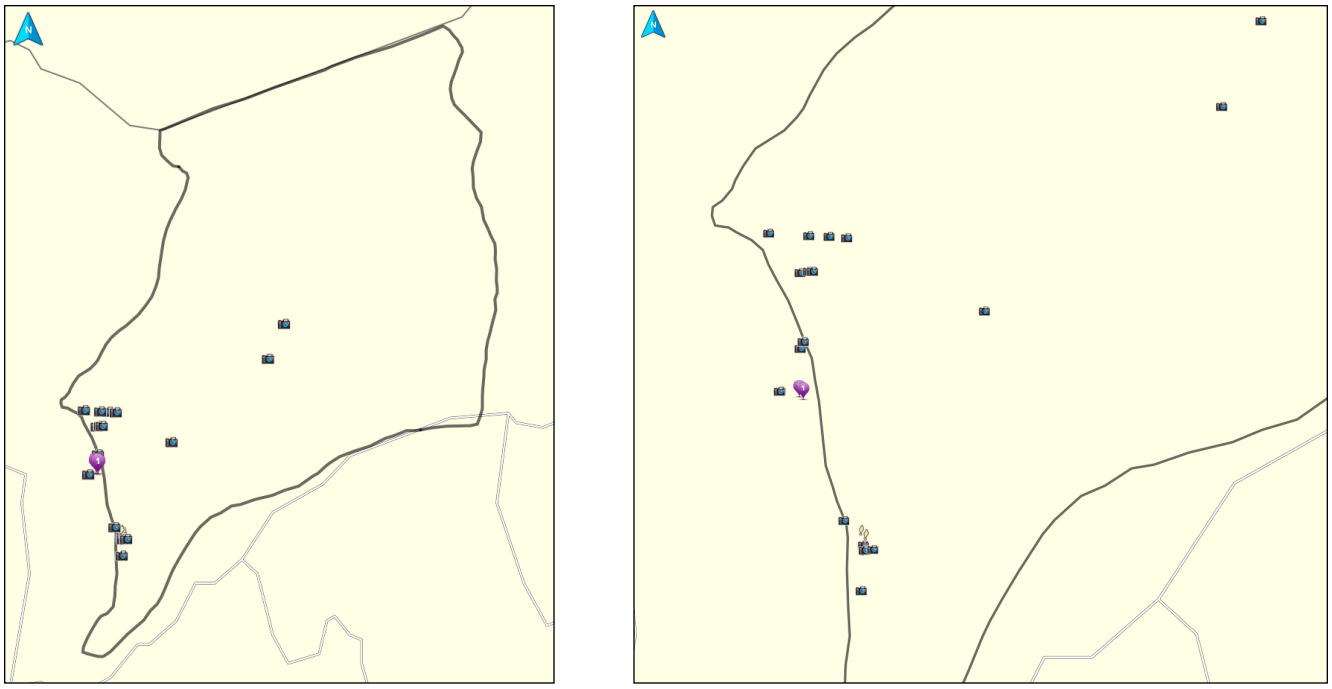
Camera Trap Methods

I have opportunistically placed a minimum of 25 camera traps throughout the Outamba section of the Outamba Kilimi National Park. Camera traps were placed on wildlife trails, near watering holes, and on the edges of farmland within the park. Opportunistic camera trapping has been successfully used to determine species assemblages (Carbone et al. 2001; Trolle 2003; Trolle et al. 2007; Azlan and Sharma 2006; Stein et al. 2008). Transects as a

means of assessing the species of primates which inhabit the area are not a viable option as the frequency of hunting in the area has made all species intensely wary of human presence. Camera traps are the least invasive option and promise a high degree of success in capturing images of illusive species.

Results

Cameras were placed in the Outamba section of the Outamba Kilimi National Park beginning in May, 2018. While the majority of the Outamba section was traversed on foot, when placing cameras I had to consider which areas would be accessible during the height of the raining season so that my field assistant, park ranger Alhassan Sillah, could continue camera trap maintenance in my absence. However, while mapping the villages in the Outamba section I also conducted a photo elicitation survey to identify which species were present in certain sections of the park. Cameras will be moved upon my return to OKNP in November. While camera trap data is still being analysed, I have recorded a number of primate species so far including: Green monkey (*Chlorocebus sabaeus*), sooty mangabey (*Cercocebus atys*), Campbell's monkey (*Cercopithecus campbellii*), Thomas's dwarf galago (*Galagoides thomasi*), western chimpanzee (*Pan troglodytes verus*), Guinea baboon (*Papio papio*), spot-nosed guenon (*Cercopithecus petuarista*), and king colobus (*Colobus polykomos*).



Maps showing camera placement in the Outamba section of OKNP

Life in a Protected Area:

Understanding the communities in Outamba Kilimi National Park

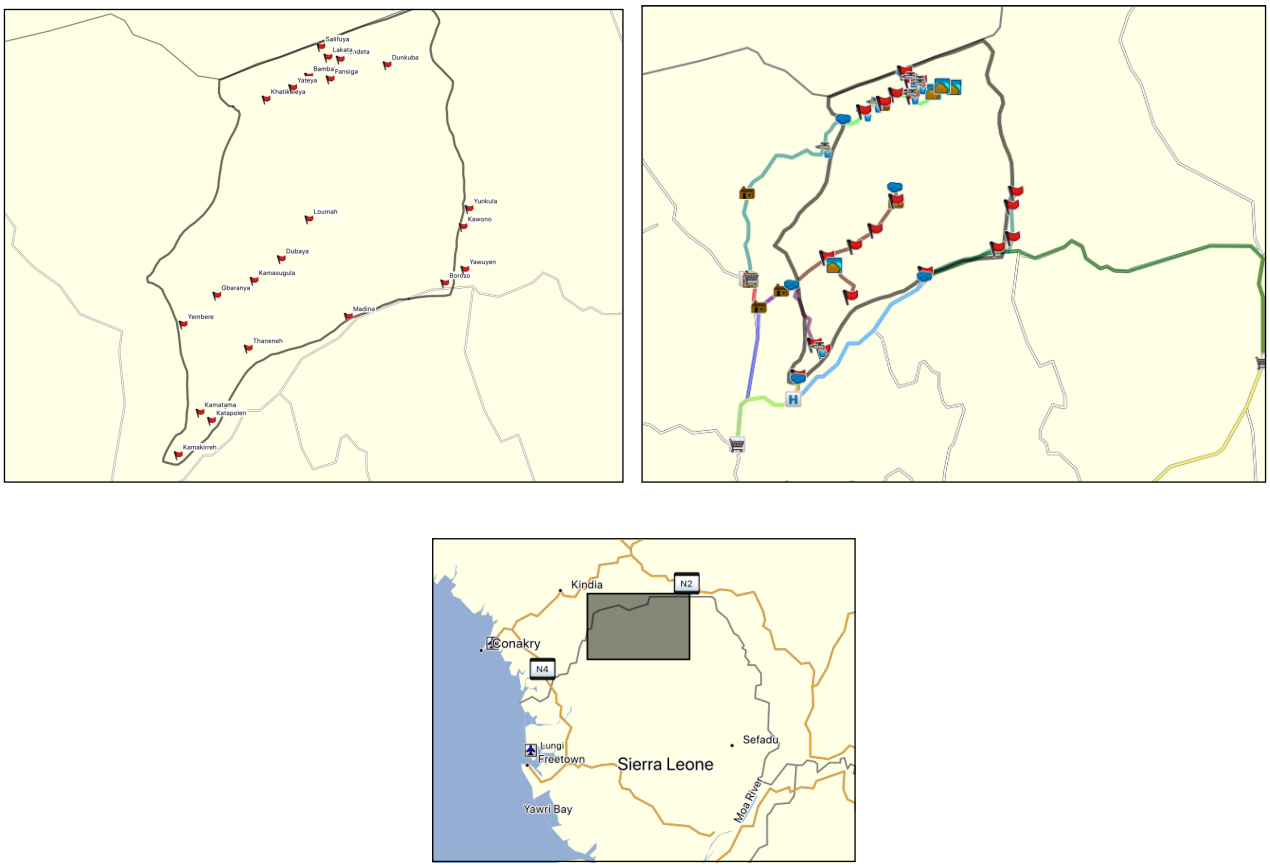
Grant Report for the Frederick Soddy Trust by Sarah Bell - August 20, 2018



Sunset at Fansiga — Photo by Sarah Bell

Preliminary Research Outcomes

From May 4th to July 10th myself and fellow Oxford Brookes University researchers and an Outamba Kilimi National Park Ranger walked to all of the villages within the Outamba Section of the Outamba Kilimi National Park (OKNP). In total we visited 23 villages thought to be within the park boundaries: Bambakeraya, Boroso, Digidigi, Dubaya, Dunkuba, Fansiga, Gbaranya (Baria), Kamakirreh, Kamasugula, Kamatama, Katapolen, Kawono, Khatikoleya, Kondeta, Lakata, Loumah, Madina, Salifuya, Thanehneh, Yateya, Yawuyen, Yembere, and Yunkula. Upon inspection of mapping software after our return from Sierra Leone it was determined that Yunkula, Kawono, and Yawuyen are not within the park's boundaries. In addition to these villages we also visited many "buffer zone communities" which are communities which live within 1 mile of the park border. These "buffer zone communities" are not included on the maps, except for Yunkula, Kawono and Yawuyen.



The Villages of the Outamba Section of OKNP

Although all villages had access to water within a 30 minute walk all year round, no village within the park (with the exception of Kamakirreh) had active primary schools with qualified teachers within walking distance. There is a school within walking distance to Yembere, but the teacher is an untrained volunteer about 20 years old.

Many villages within the park, especially those in Outamba North and Outamba East, could not cross the river, which acts as the park border, during the raining season and so turned to Guinea for access to markets.

The villages, aside from Kamakirreh, are all about a one day walk from any clinic, hospital, market, or school. The towns outside the park which have these resources are Fintonia, Kamakwie, Kamabon, and Kabala. Each village, when asked what problems they faced living in a protected area, listed a lack of access to things such as schools, and hospitals. They also stated that as they live in a protected area and hunting is illegal, they have no way to defend their crops from wildlife. Though all villages did report that they consumed bushmeat somewhat regularly.

All villages practice subsistence based agriculture, and often suffer from food shortages, or do not retain enough seed for planting each year. They grow crops such as: rice, cassava, groundnut, potato, corn, and millet. They suffer losses from crop raiding wildlife, most notably primates, elephants, pig species, and greater cane rats.

Tribal affiliations were recorded while visiting the villages. The majority of people within the park are Susu, though in Outamba East the villages are a mix of Limba, and Madingo, with some Temne and Fula. Almost all villages reported being exclusively Muslim.

Villages reported that their populations were between 50 and 500 people, though no more than 20 to 100 people were ever seen in a single village at a time. The smallest village, Kamathama, reported only 6 residents, whereas the largest, Yateya, which is also the Dugata Section headquarters, reported over 500.

Methods

Both the community mapping and a community survey was conducted during this field season. The original intended style of the community survey had to be changed due to the insistence that no one but a chief can answer questions about the community. Instead, focus group surveys were conducted which contained men, women, and youths. We found that although the chief would answer many of the questions, the other individuals still gave their input and individual thoughts and stories. These small, rural, communities function

more collaboratively. For example: farming is not seen as being conducted on an individual level but on the community level. You would not ask "What crops do you farm?" but instead would ask "What crops does this village farm?". If individuals were attempted to be questioned who were not the chief, we were met with anger and frustration, as they insisted that they could not answer any question, only the chief. Despite this attitude, they had no problem contradicting the chief with personal anecdotes during the focus group survey.

Community Mapping

Potential community sites have been identified using satellite imagery, though this will be used as a frame of reference for the researchers only. There are several dirt roads, unnavigable by vehicle, that wind through the park. These will be followed and communities will be visited and marked on a handheld GPS. Data to be recorded during mapping will include tribal affiliation, crops grown, language, religion, and population size. It will also determine distances to nearest water source, schools, clinics, hospitals, and markets.

Community Survey (originally intended methods)

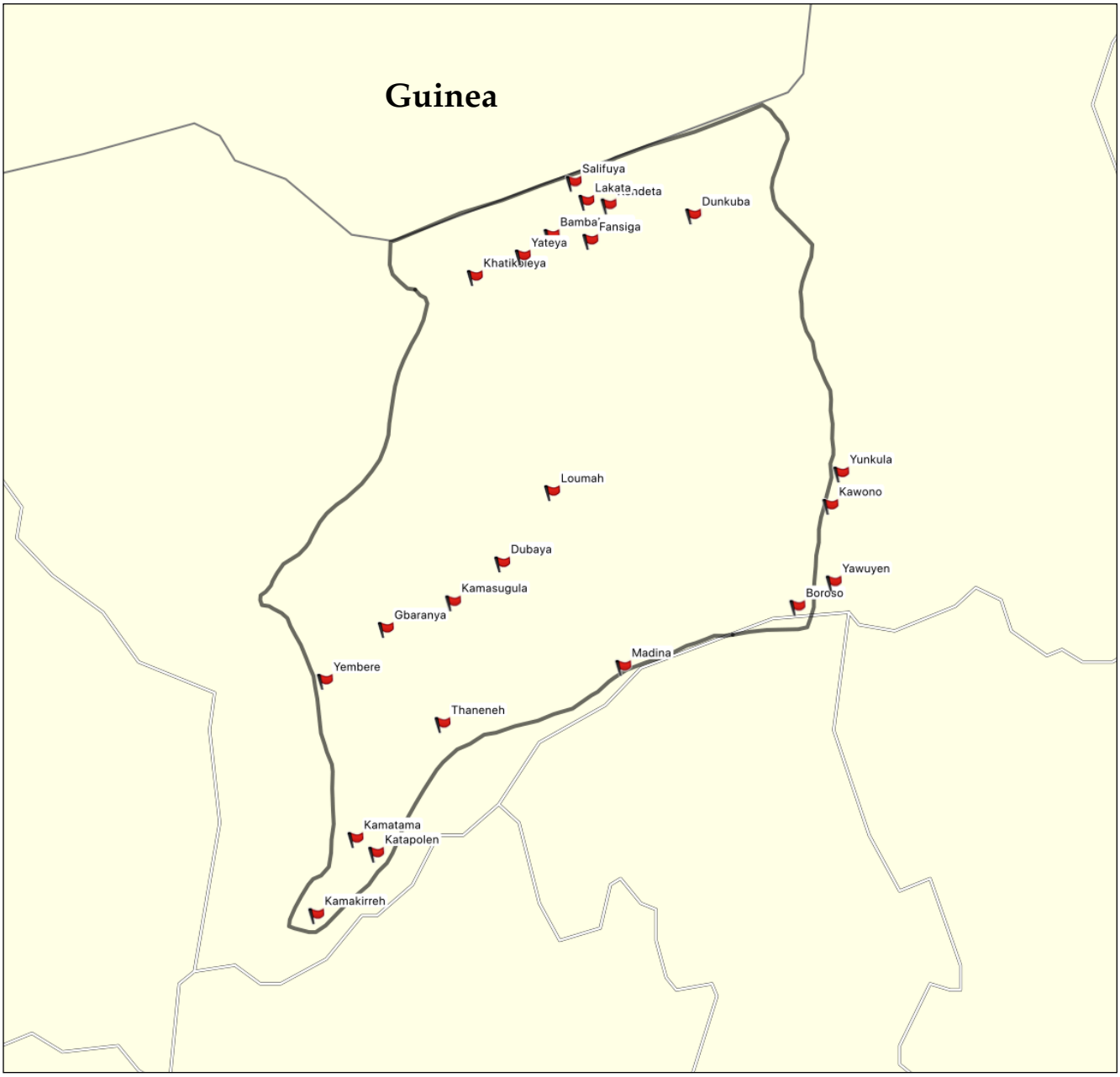
A random selection of 10 members of each community within the park will be surveyed to determine their approximate age, occupation, education level, gender, and if they are a farmer it will determine what crops they farm, if they are a hunter it will determine preferred game, etc. Surveys will be conducted orally with the aid of a translator, names of individuals will not be recorded for privacy purposes

Future Research

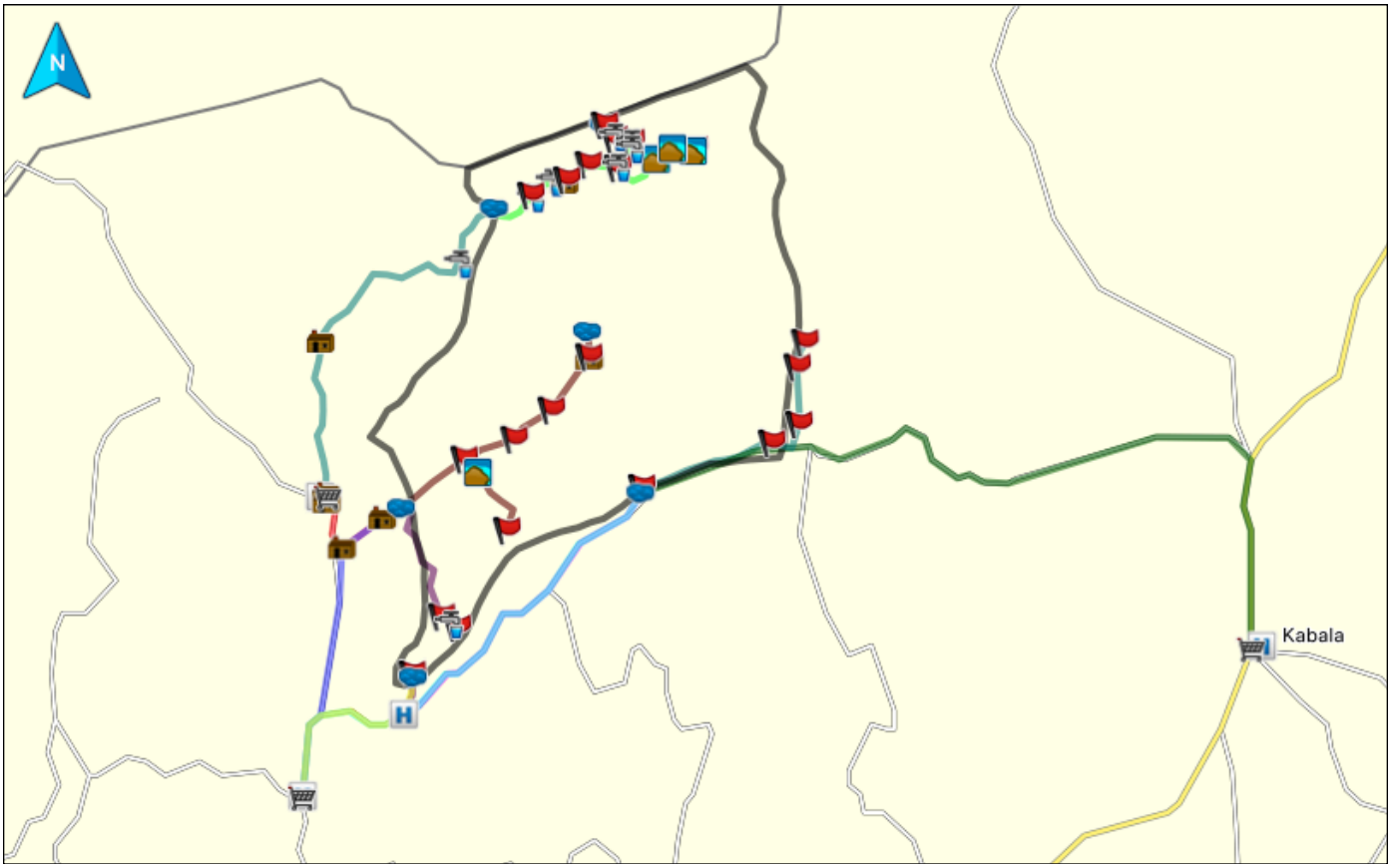
I plan to return to Outamba Kilimi National Park in November to continue my PhD research with additional surveys and interviews. Now that I have a better understanding of what it takes to navigate through these rural areas, I plan to conduct the same community mapping and surveys in the Kilimi section of OKNP, as well as return to the villages in Outamba for additional interviews.

Having the opportunity to visit all of these villages and conduct very basic surveys was a wonderful relationship builder, as there was no way to send word ahead to these villages to let them know we were coming, I now hope we will be more warmly received as we will not be such an unknown presence in the area.

Maps



This map marks all of the villages which we visited and conducted focus group surveys in.



This maps shows roads to and from the villages to various means of support: clinics, hospitals, schools and markets. It also has farming settlements mapped, though not all farming settlements were visited as some were a days walk or more into the forest.

Online Newspaper Keyword Search “Chimpanzee” (“chimpanzé”)

Country of Newspaper	Sierra Leone	Liberia	Guinea	Pre Ebola	During Ebola	Post Ebola	Location w/in Country	Discusses Another Country	Cross border Trade	Conservation	Crop raiding	Bushmeat	Ebola	Off Topic	Other	Article Title	Link
Guinea			1			1	Mamou								1	Lutte anti braconnage: deux présumés braconniers mis aux arrêts à Mamou (Anti poaching: two alleged poachers arrested in Mamou)	https://guineenews.org/lutte-anti-braconnage-deux-presumes-braconniers-mis-aux-arrets-a-mamou/
Guinea			1			1									1	Guinée : Les chimpanzés sauvages amateurs de vin de palme (Guinea: Wild Chimpanzees palm wine lovers)	http://kababachir.com/guinee-les-chimpanzes-sauvages-amateurs-de-vin-de-palme/
Liberia		1				1	River Gee					1			1	Chimpanzee cut off hunter’s arm, broke his leg in River Gee	http://gnnliberia.com/2016/05/04/chimpanzee-cut-off-hunters-arm-broke-leg-river-gee/
Liberia		1				1									1	What to do about Liberia’s island colony of abandoned lab chimps?	http://www.frontpageafricaonline.com/index.php/op-ed/1966-what-to-do-about-liberia-s-island-colony-of-abandoned-lab-chimps
Sierra Leone	1					1	Western Area			1					1	Sierra Leone News: Tacugama Sanctuary a refuge for orphaned chimpanzees	https://awoko.org/2016/07/28/sierra-leone-newstacugama-sanctuary-a-refuge-for-orphaned-chimpanzees/
Sierra Leone	1					1	Western Area Urban			1					1	Road around chimpanzee sanctuary needs fixing	http://awoko.org/2016/07/25/sierra-leone-news-road-around-chimpanzee-sanctuary-needs-fixing/
Sierra Leone	1					1	Western Area Urban			1					1	CHETANYA’s View: Salone government just received millions. Why not invest in Tacugama Sanctuary	http://awoko.org/2016/08/02/sierra-leone-news-chetanyas-view-salone-government-just-received-millions-why-not-invest-in-tacugama-sanctuary/
Sierra Leone	1					1	Western Area Urban			1					1	ISIL-Type Elite’ in ‘Water-Genocide’ in Salone?	http://slconcordtimes.com/isil-type-elite-in-water-genocide-in-salone/
Sierra Leone	1					1				1		1			1	At STWEARD’s Forum… Primatologist explains dialectical differences in chimpanzees	http://awoko.org/2012/07/31/at-stewards-forum-primatologist-explains-dialectical-differences-in-chimpanzees/
Sierra Leone	1					1				1					1	4,000 Chimpanzees presently inhabit Salone	http://awoko.org/2010/06/03/4000-chimpanzees-presently-inhabit-salone/
Sierra Leone	1					1				1					1	18 Pupils benefit from Tacugama Scholarships	
Sierra Leone	1					1	Kenema	1	1						1	Man detained for owning chimpanzee	http://awoko.org/2007/06/28/man-detained-for-owning-chimpanzee/
Sierra Leone	1					1	Western Area Urban								1	Chimps are 98.6% similar to human - Wild Life Officer	http://awoko.org/2016/07/27/sierra-leone-news-chimps-are-98-6-similar-to-human-wild-life-officer/
Sierra Leone	1					1	Western Area Urban								1	After 10 years… Tacugama still searching for Bruno	http://awoko.org/2016/06/08/sierra-leone-news-after-ten-yearstacugama-still-searching-for-bruno/
Sierra Leone	1					1									1	Maada Bio delivers his new direction strategy for Sierra Leone — Part two	http://www.thesierraleonetelegraph.com/maada-bio-delivers-his-new-direction-strategy-for-sierra-leone-part-two/
Guinea			1			1								1		La Guinée a accueilli 32 000 touristes en 2015 contre 25 000 pour le premier semestre 2016 (Guinea has hosted 32,000 tourists in 2015 against 25 000 for the first half of 2016)	http://guineenews.org/la-guinee-a-accueilli-32-000-touristes-en-2015-contre-25-000-pour-le-premier-semestre-2016-ministre/
Guinea			1			1								1		Bactéries d’au moins 15 millions d’années dans nos intestins (Bacteria of at least 15 million years in our intestines)	http://mediaguinee.org/2016/07/24/bacteries-dau-moins-15-millions-dannees-dans-nos-intestins/
Guinea			1			1								1		Livre sur le régime Sékou Touré : L’itinéraire sanglant (Almamy Fodé Sylla) (Book on the Sékou Touré regime: The bloody trail (Almamy Fode Sylla))	http://kababachir.com/livre-sur-le-regime-sekou-toure-litineraire-sanglant-almamy-fode-sylla/
Guinea			1			1				1						Salimafô ! Voici mes vœux : un gouvernement pour changer « le changement » (Salimafô! Here are my wishes: a government to change “change”)	http://www.guineepresse.info/index.php?id=5,16691,0,0,1,0
Liberia		1				1								1		The cow who…	http://www.thenewdawnliberia.com/30-oped/9491-the-cow-who
Liberia		1				1	Montserrado			1						Two Liberian sites to form part of UNESCO World Heritage	http://www.frontpageafricaonline.com/index.php/news/348-two-liberian-sites-to-form-part-of-unesco-world-heritage
Liberia		1				1		1		1						Liberia gets over 3M	http://thenewslib.com/liberia-gets-over-3m/
Liberia		1				1		1		1						USAID fives over 3M to Liberia’s forest sector	http://inprofiledaily.com/index.php/2017/12/20/usaid-gives-over-3m-to-liberias-forest-sector/
Sierra Leone	1					1	Western Area Urban							1		Waterfalls and Chimpanzees	http://awoko.org/2011/08/17/waterfalls-and-chimpanzees/
Sierra Leone	1					1		1						1		From Nairobi with Love	http://slconcordtimes.com/from-nairobi-with-love/
Sierra Leone	1					1	Western Area			1		1	1			Sierra Leone News: Chimpanzee Sanctuary Improves	https://awoko.org/2017/03/10/sierra-leone-news-chimpanzee-sanctuary-improves/
Sierra Leone	1					1	Western Area			1	1	1				Sierra Leone News: Tacugama Sanctuary educates local people to help save chimpanzees	https://awoko.org/2016/08/02/sierra-leone-news-tacugama-sanctuary-educates-local-people-to-help-save-chimpanzees/
Sierra Leone	1					1	Western Area Urban			1		1				Tacugama Sanctuary educates local people to help save chimpanzees	http://awoko.org/2016/08/02/sierra-leone-news-tacugama-sanctuary-educates-local-people-to-help-save-chimpanzees/
Sierra Leone	1					1	Western Area Urban			1		1				Tacugama sanctuary a refuge for orphaned chimpanzees	http://awoko.org/2016/07/28/sierra-leone-newstacugama-sanctuary-a-refuge-for-orphaned-chimpanzees/
Sierra Leone	1					1	Western Area Urban			1						Taco Gama Chimpanzee Sanctuary marks world environment day	http://awoko.org/2016/06/07/sierra-leone-news-taco-gama-chimpanzee-sanctuary-marks-world-environment-day/
Sierra Leone	1					1	Western Area Urban			1						CSSL ends Wildlife Week celebration	http://awoko.org/2016/10/10/sierra-leone-news-cssl-ends-wildlife-week-celebration/
Sierra Leone	1					1	Kenema		1			1	1			Gola communities return to eating bushmeat	http://slconcordtimes.com/gola-communities-return-to-eating-bush-meat/
Guinea			1		1		Fauta Djallon							1	1	Gilbert Vieillard. Poèmes Peuls du Fouta Djallon (Gilbert Vieillard. Poems Fulani Fouta Djallon)	http://kababachir.com/gilbert-vieillard-poemes-peuls-du-fouta-djallon/
Guinea			1		1		Fauta Djallon							1	1	Bokar Biro, le dernier grand almamy du Fouta-Djallon (Bokar Biro, the last great almamy Fouta Djallon)	http://kababachir.com/bokar-biro-dernier-grand-almamy-du-fouta-djallon/
Guinea			1		1		Boke			1					1	Criminalité faunique/Guinée: Deux trafiquants de chimpanzés mis aux arrêts à Boké ! (Wildlife Crime / Guinea: Two chimpanzees traffickers put under arrest in Boke!)	http://www.lejourguinee.com/index.php?option=com_content&view=archive&year=2015&month=11&lang=fr
Guinea			1	1			Conakry			1					1	GRANDS SINGES: Japonais et Guinéens célèbrent 30 ans de coopération scientifique (GREAT APES: Japanese Guineans and celebrate 30 years of scientific cooperation)	http://www.guineeconakry.info/article/detail/grands-singes-japonais-et-guineens-celebrent-30-ans-de-cooperation-scientifique/
Guinea			1		1		Boke								1	TPI de Boké : trois mois de prison ferme pour un trafiquant de chimpanzee (TPI Boke three months in prison for a chimpanzee trafficking)	http://guineenews.org/tpi-de-boke-trois-mois-de-prison-ferme-pour-un-trafiquant-de-chimpanze/
Guinea			1		1		Boke								1	HISTOIRE DE LA REGION DE BOKE IMONOGRAPHIE DU RIO NUMEZ (HISTORY OF THE REGION OF RIO BOKE IMONOGRAPHIE Numez)	http://kababachir.com/histoire-region-boke-Imonographie-du-rio-numez/
Guinea			1		1		Conakry								1	Guinée : deux présumés braconniers interpellés par Interpol (Guinea: two suspected poachers arrested by Interpol)	http://kababachir.com/guinee-presumes-braconniers-interpelles-interpol/
Guinea			1		1								1		1	KIOSQUE : Tout sur EBOLA. (BOOTH: All about Ebola.)	http://www.guineeconakry.info/article/detail/kiosque-tout-sur-ebola-1/
Guinea			1		1										1	Gestion d’Ebola : Suite à la démission du pouvoir et de l’opposition, faut-t-il faire confiance en Médecins Sans Frontières et autres ?? (Ebola management: Following the resignation of the government and the opposition should he be trusted by Doctors Without Borders and other ??)	http://www.guineepresse.info/index.php?id=5,14024,0,0,1,0
Guinea			1		1										1	Béatrice Appia Les forgerons du Fouta-Djallon (Béatrice Appia Blacksmiths (healer?) Fouta Djallon)	http://kababachir.com/beatrice-appia-les-forgerons-du-fouta-djallon/
Guinea			1		1										1	Les Gens du Riz Les Kissi de Haute-Guinée (The Rice People of the Upper Guinea Kissi) ETHNOPHARM*	http://kababachir.com/les-gens-du-riz-les-kissi-haute-guinee/
Guinea			1		1										1	Guinée. Peuples de la Forêt (Guinea: Peoples of the Forest)	http://kababachir.com/guinee-peuples-foret/
Guinea			1	1			Mamou				1				1	MAMOU: Une fillette grièvement blessée par un chimpanzé (MAMOU: A girl seriously injured by a chimpanzee)	http://www.guineeconakry.info/article/detail/mamou-une-fillette-grievement-blessee-par-un-chimpanze/
Guinea			1	1								1			1	Climat & végétation (Climate and Vegetation)	http://www.guineeconakry.info/guinee/climat-vegetation/
Guinea			1	1											1	Culture & Tourisme (Culture and tourism)	http://www.guineeconakry.info/guinee/culture-tourisme/
Liberia		1			1		Montserrado						1		1	New Ebola trial vaccines launched	http://www.thenewdawnliberia.com/general/27-general/6559-new-ebola-trial-vcaccines-launched
Liberia		1			1								1		1	Gov’t tight lipped on Ebola vaccines?	http://www.liberianobserver.com/columns-health/gov’t-tight-lipped-ebola-vaccines
Liberia		1			1								1		1	Mixed reactions to Ebola experimental vaccine	http://www.liberianobserver.com/columns-health/mixed-reactions-ebola-experimental-vaccine
Liberia		1			1			1					1		1	Two new trials of Ebola vaccine begin in Europe and Africa	http://gnnliberia.com/2015/07/16/two-new-trials-of-ebola-vaccines-begin-in-europe-and-africa/
Liberia		1			1								1		1	Liberians excited over arrival of 300 vials of Ebola vaccine to help reduce the high rate of death from this deadly virus	http://gnnliberia.com/2015/01/25/liberians-excited-over-arrival-of-300-vials-of-ebola-vaccine-to-help-reduce-the-high-rate-of-death-from-this-deadly-virus/
Liberia		1			1								1		1	High hope for new Ebola vaccine	http://www.thenewdawnliberia.com/health/2091-high-hope-for-new-ebola-vaccine
Liberia		1			1			1					1		1	Ebola as ISIS bio-weapon?	http://www.thenewdawnliberia.com/feature-op-ed/special-feature/5442-ebola-as-isis-bio-weapon
Liberia		1			1								1		1	“Sensitises not sympathises”… SHALOM executive director urges peer educators on Ebola virus	http://monroviainquirer.com/2014/07/07/sensitizes-not-sympathizes-shalom-executive-director-urges-peer-educators-on-ebola-virus/
Liberia		1			1			1							1	Chimpanzees used for vaccine tests could die from starvation on Liberian island after American research center pulls funding	http://gnnliberia.com/2015/05/31/chimpanzees-used-for-vaccine-tests-could-die-from-starvation-on-liberian-island-after-american-research-center-pulls-funding/
Liberia		1			1			1							1	Stranded on Liberia’s lab chimp islands	http://gnnliberia.com/2015/09/07/stranded-on-liberias-lab-chimp-islands/
Liberia		1			1			1							1	New York Blood Center abandons 66 apes on Liberian islands after they experimented on them	http://gnnliberia.com/2015/07/25/new-york-blood-center-abandons-66-apes-on-liberian-island-after-they-experimented-on-them/
Liberia		1			1			1							1	Liberia’s ‘Planet of the Apes’ chimps facing starvation	http://gnnliberia.com/2015/07/13/liberias-planet-of-the-apes-chimps-facing-starvation/
Liberia		1		1				1							1	A planet for all apes	http://www.thenewdawnliberia.com/84-features/opinion/4567-a-planet-for-all-apes
Sierra Leone	1			1			Kenema							1	1	Political clashes in Kenema	http://awoko.org/2007/10/18/political-clashes-in-kenema/
Sierra Leone	1			1										1	1	SLPP did not bestow political pluralism: The people of Sierra Leone did	http://cocorioko.info/slpp-did-not-bestow-political-pluralism-the-people-of-sierra-leone-did/
Sierra Leone	1				1		Bombali			1		1			1	Sierra Leone National Park under attack	http://awoko.org/2014/06/25/sierra-leone-news-sierra-leone-national-park-under-attack/
Sierra Leone	1				1		Western Area Urban			1					1	Tacugama clocks 20	http://awoko.org/2015/09/22/sierra-leone-news-tacugama-clocks-20/
Sierra Leone	1				1		Kono								1	Sierra Leone News: ‘Baboons’ Kill Town Chief in Kono	http://news.sl/drwebsite/publish/article_200527208.shtml
Sierra Leone	1				1		Pujehun								1	Tiwai Island Wildlife Sanctuary	http://salonepost.com/tiwai-island-wildlife-sanctuary-p305-192.htm

Country of Newspaper	Sierra Leone	Liberia	Guinea	Pre Ebola	During Ebola	Post Ebola	Location w/in Country	Discusses Another Country	Cross border Trade	Conservation	Crop raiding	Bushmeat	Ebola	Off Topic	Other	Article Title	Link
Sierra Leone	1				1		Western Area Urban						1		1	NDA trains 35 on Ebola education	http://slconcordtimes.com/nda-trains-35-on-ebola-education/
Sierra Leone	1				1			1					1		1	Is the spread of Ebola Virus Epidemic in 4 West African countries attributed to infected apes in the New York Blood Biomedical Center at the Farmington River in Liberia?	http://www.salonemonitor.net/can-the-spread-of-ebola-virus-epidemic-in-guinea-sierra-leone-and-liberia-attributed-to-infected-apes-by-the-new-york-blood-center-biomedical-center-at-the-farmington-river-in-buchannan-grand-bassa/
Sierra Leone	1				1										1	8 best places to visit in Sierra Leone that are safe and beautiful	https://makonitimes.com/2015/06/23/8-best-places-to-visit-in-sierra-leone-that-are-safe-and-beautiful/
Sierra Leone	1			1			Kailahun	1				1	1		1	Parliament grills Chief Medico	http://www.globaltimes-sl.com/parliament-grills-chief-medico/
Sierra Leone	1			1			Western Area Urban					1	1		1	Sierra Leone government tackles Ebola	http://www.globaltimes-sl.com/sierra-leone-government-tackles-ebola/
Sierra Leone	1			1				1					1		1	UN urges vigilance amid Ebola outbreak in Guinea, Sierra Leone, Liberia	http://www.sierraleonepress.com/un-urges-vigilance-amid-ebola-outbreak-in-guinea-sierra-leone-liberia/
Sierra Leone	1			1				1							1	London mining pegs $400,000 for corporate responsibility	http://awoko.org/2010/07/22/london-mining-pegs-400000-for-corporate-responsibility/
Sierra Leone	1			1				1							1	The oldest chimpanzee in captivity is from Sierra Leone	http://www.thisissierraleone.com/the-oldest-chimpanzee-in-captivity-is-from-sierra-leone/
Sierra Leone	1			1											1	Sierra Leone receives $3mn boost to tourism development	http://www.thisissierraleone.com/sierra-leone-receives-3mn-boost-to-tourism-development/
Guinea			1	1			Conakry							1		"Les mots au service de la paix" en Guinée ! ("Words in the service of peace" in Guinea!)	http://www.guineepresse.info/index.php?id=20,12350,0,0,1,0
Guinea			1	1			Conakry							1		La présomption d'innocence et l'affaire DSK vs Nafissatou Diallo (The presumption of innocence and the case DSK and Nafissatou Diallo)	http://www.guineepresse.info/index.php?id=18,8006,0,0,1,0
Guinea			1	1				1						1		Carnet de route 2 : Bruxelles Air Line sur les traces de la Sabena : l'Enfer (Roadmap 2 Brussels Airline in the footsteps of Sabena: Hell)	http://www.guineepresse.info/index.php?id=20,11310,0,0,1,0
Guinea			1	1										1		Le cheval blanc, l'opossum hystérique et le vieux cynocéphale (The white horse, opossum and hysterical old baboon)	http://www.guineepresse.info/index.php?id=18,6027,0,0,1,0
Guinea			1	1				1						1		Conférence : pour le désenclavement et le développement économique de Télimélé (Conference: for the opening up and economic development of Telimele)	http://www.guineepresse.info/index.php?id=19,9169,0,0,1,0
Guinea			1		1					1						Prix Ian Redmond Conservation Award du GRASP 2015 : Le Guinéen Mamadou Saidou Déba Barry de GALF parmi les lauréats ! (Price Ian Redmond GRASP Conservation Award 2015: The Guinean Mamadou Saidou Barry GALF Deba among the winners!)	http://www.lejourguinee.com/index.php?option=com_content&view=archive&year=2015&month=10&lang=fr
Guinea			1	1			Boke			1						Revue de Presse de la Semaine du 04 juin 2007 (Press Review of the Week of June 4, 2007)	http://www.guineeconakry.info/article/detail/revue-de-presse-de-la-semaine-du-04-juin-2007/
Guinea			1	1			Fauta Djallon			1						ENVIRONNEMENT: Les chimpanzés du Foutah Djalon menacés de disparition (ENVIRONMENT: Chimpanzees Fouta Jalon endangered)	http://www.guineeconakry.info/article/detail/environnement-les-chimpanzes-du-foutah-djalon-menaces-de-disparition/
Guinea			1	1			Nimba			1						MONTS NIMBA: Le PDG de Rio Tinto en Guinée pour faire le point de l'exploration et parler de l'exploitation future du fer (NIMBA MOUNTAINS: The CEO of Rio Tinto in Guinea to take stock of exploration and talk about the future operation of iron)	http://www.guineeconakry.info/article/detail/monts-nimba-le-pdg-de-rio-tinto-en-guinee-pour-faire-le-point-de-lexploration-et-parler-de-lexpl/
Guinea			1	1						1						BIODIVERSITE: Le chimpanzé en danger en Guinée (BIODIVERSITY: The chimpanzee endangered in Guinea)	http://www.guineeconakry.info/article/detail/biodiversite-le-chimpanze-en-danger-en-guinee/
Guinea			1		1		Conakry					1	1			SANTE: Situation de la fièvre hémorragique virale Ebola en Guinée (HEALTH: Location of the viral haemorrhagic fever Ebola in Guinea)	http://www.guineeconakry.info/article/detail/sante-situation-de-la-fievre-hemorragique-virale-ebola-en-guinee/
Guinea			1		1							1	1			EBOLA EN GUINEE: Questions-réponses sur le virus mortel (Ebola IN GUINEA: Questions and answers on the deadly virus)	http://www.guineeconakry.info/article/detail/ebola-questions-reponses/
Guinea			1		1							1	1			Fria : Un boucher condamné à trois mois avec sursis pour avoir vendu la viande de brousse (Fria: A butcher sentenced to three months suspended for selling bushmeat)	http://kababachir.com/fria-boucher-condamne-trois-mois-sursis-avoir-vendu-viande-brousse/
Guinea			1		1								1			Le virus Ebola ne vient pas d'Afrique selon certains chercheurs ! (The Ebola virus is not from Africa some researchers!)	http://www.guineepresse.info/index.php?id=5,15069,0,0,1,0
Liberia		1			1		Montserrado							1		Brewerville citizens award NDH one acre to reconstruct its campus, as U.S. Goodwill ambassador and NDH founder expected in Liberia	http://gnnliberia.com/2016/07/14/brewerville-citizens-award-ndh-one-acre-reconstruct-campus-u-s-goodwill-ambassador-ndh-founder-expected-liberia/
Liberia		1			1									1		Flub F. A. Henries, Man of Substance	http://www.liberianobserver.com/lib-life/fubbi-f-henries-man-substance
Liberia		1			1			1						1		In Indonesia 38-year-old zookeeper impregnated a female orangutan	http://gnnliberia.com/2016/07/17/indonesia-38-year-old-zookeeper-impregnated-female-orangutan/
Liberia		1		1										1		My name is War- Wage me in Liberia	http://www.thenewdawnliberia.com/feature-op-ed/following-the-issue/5932-my-name-is-war--wage-me-in-liberia
Liberia		1			1		Montserrado	1		1						Liberia, Ivory Coast meet on Tai-Sapo Forest Complex	http://monroviainquirer.com/2014/06/03/liberia-ivory-coast-meet-on-tai-sapo-forest-complex/
Liberia		1			1		Nimba	1		1						Today's column takes on a dual nature- prose and poetry. It is dedicated to one of the two strict nature reserves in Liberia— the East Nimba Nature Reserve (ENNR)	http://www.liberianobserver.com/environment/today's-column-takes-dual-nature-prose-and-poetry-it-dedicated-one-two-strict-nature
Liberia		1			1					1		1	1			7,000 Chimpanzees Estimated in Liberia	http://www.liberianobserver.com/agriculture/7000-chimpanzees-estimated-liberia
Liberia		1			1				1	1			1			Kenya rejects request to accept young chimpanzees from Liberia	http://gnnliberia.com/2015/08/13/kenya-rejects-request-to-accept-young-chimpanzees-from-liberia/
Liberia		1			1					1		1				Establishing Liberia in the body of conservation literature: The work of Clement Tweh	http://www.liberianobserver.com/environment/establishing-liberia-body-conservation-literature-work-clement-tweh
Liberia		1			1					1						A call for animal justice	http://www.liberianobserver.com/agriculture/call-animal-justice
Liberia		1			1					1						22 Things you didn't know about Liberia	http://www.bushchicken.com/25-things-you-didnt-know-about-liberia/
Liberia		1			1		Bong					1	1			Ebola affects bush meat sale in Bong	http://www.liberianobserver.com/business/ebola-affects-bush-meat-sale-bong
Liberia		1			1		Bong					1	1			Mentally challenged man takes precaution against Ebola	http://www.liberianobserver.com/news/mentally-challenged-man-takes-precaution-against-ebola
Liberia		1			1		Bong					1	1			Four Ebola cases confirmed in Bong	http://www.liberianobserver.com/news/four-ebola-cases-confirmed-bong
Liberia		1			1		Nimba					1	1			Hunters defy government	http://www.thenewdawnliberia.com/news/6269-hunters-defy-government
Liberia		1			1			1				1	1			USAID provides US$14.5 Million for Ebola	http://www.liberianobserver.com/news/usaid-provides-us145-million-ebola
Liberia		1			1								1			Responding to Ebola	http://www.thenewdawnliberia.com/84-features/opinion/3977-responding-to-ebola
Liberia		1			1			1					1			Sa. Leone Gov't takes strong action against Ebola… Lo	http://monroviainquirer.com/2014/09/08/sa-leone-govt-takes-strong-action-against-ebola-locks-up-country-for-three-days/
Liberia		1			1						1					After thirty years	http://www.liberianobserver.com/lib-life-short-story/after-thirty-years
Liberia		1		1				1					1			Early Warning	http://www.thenewdawnliberia.com/editorial/63-editorial/1059-early-warning
Liberia		1		1							1					Who wants the 'Government bone'?	http://www.thenewdawnliberia.com/84-features/opinion/4566-who-wants-the-government-bone
Sierra Leone	1				1									1		Sierra Leone Politics : SLPP & 37% Dilemma	http://news.sl/drwebsite/publish/article_200527385.shtml
Sierra Leone	1				1									1		Sierra Leone: Pondering March 21st 1967 & the SLPP's 37% Dilemma	http://news.sl/drwebsite/publish/article_200527364.shtml
Sierra Leone	1			1			Western Area Urban							1		Animal welfare Society urges for Animal protection	http://awoko.org/2013/11/22/sierra-leone-news-animal-welfare-society-urges-for-animal-protection/
Sierra Leone	1			1			Western Area Urban							1		RAP Programme discovered lost species in Freetown Peninsula	http://awoko.org/2013/07/31/sierra-leone-news-rap-programme-discovers-lost-species-in-freetown-peninsula/
Sierra Leone	1			1			Western Area Urban	1						1		John Dumelo to build 4-unit classroom block for a school in Sierra Leone	http://awoko.org/2013/06/05/john-dumelo-to-build-4-unit-classroom-block-for-a-school-in-sierra-leone/
Sierra Leone	1			1			Western Area Urban							1		Back to Bureh Beach	http://awoko.org/2012/08/16/back-to-bureh-beach-continued/
Sierra Leone	1			1			Western Area Urban							1		The halfway point	http://awoko.org/2011/08/12/the-halfway-point/
Sierra Leone	1			1			Western Area Urban							1		May God deliver Ernest Koroma and Charles Margai from evil	http://cocorioko.info/may-god-deliver-ernest-koroma-and-charles-margai-from-evil/
Sierra Leone	1			1										1		Out of the bag: Sierra Leoneans are not Lions	http://awoko.org/2014/01/07/sierra-leone-news-out-of-the-bagsierra-leoneans-are-not-lions/
Sierra Leone	1			1										1		Good governance yet a far cry	http://awoko.org/2013/07/26/sierra-leone-news-good-governance-yet-a-far-cry/
Sierra Leone	1			1										1		Future in the present…?	http://awoko.org/2012/06/12/future-in-the-present/
Sierra Leone	1			1										1		Top 10 moments in Sierra Leone	http://awoko.org/2011/09/21/top-10-moments-in-sierra-leone/
Sierra Leone	1			1				1						1		Tourism board to add value to five sites	http://awoko.org/2011/04/19/tourism-board-to-add-value-to-five-sites/
Sierra Leone	1			1										1		To boost Salone's tourism…. Prince Herbert Cruise Liner docks in Freetown	http://awoko.org/2011/04/18/to-boost-salones-tourism-prince-herbert-cruise-liner-docks-in-freetown/
Sierra Leone	1			1										1		VSL offers quality services for courageous traveler	http://awoko.org/2010/07/09/vsl-offers-quality-services-for-courageous-travelers/
Sierra Leone	1			1										1		Beyond the communiqué… Any political will in sight?	http://awoko.org/2009/04/22/beyond-the-communique…any-political-will-in-sight/
Sierra Leone	1				1		Western Area Urban			1			1			No Reseach on Ebola's effect on Salone chimps'	http://awoko.org/2015/02/13/sierra-leone-news-no-research-on-ebolas-effect-on-salone-chimps/
Sierra Leone	1			1			Kenema			1		1				Karel Rmeije visits regional bush meat market	http://awoko.org/2011/09/08/karel-rmeije-visits-regional-bush-meat-market/
Sierra Leone	1			1			Kenema			1						Chimps sensitisation to commence in Kenema	http://awoko.org/2007/07/25/chimps-sensitization-to-commence-in-kenema/
Sierra Leone	1			1			Western Area Urban			1						Sierra Leone launches first chimp census	http://awoko.org/2009/01/28/sierra-leone-launches-first-chimp-census/
Sierra Leone	1			1						1						Sierra Leone's dilemma: A delicate balance or resources	http://www.thisissierraleone.com/?s=chimpanzee
Sierra Leone	1				1		Bo					1	1			Sierra Leone News: Social Welfare Ministry Engages Stakeholders in Bo	http://news.sl/drwebsite/publish/article_200526522.shtml
Sierra Leone	1				1		Bombali					1	1			Sierra Leone News: GEKO completes Ebola training for 15 communities in Bombali District	http://news.sl/drwebsite/publish/article_200526216.shtml

Country of Newspaper	Sierra Leone	Liberia	Guinea	Pre Ebola	During Ebola	Post Ebola	Location w/in Country	Discusses Another Country	Cross border Trade	Conservation	Crop raiding	Bushmeat	Ebola	Off Topic	Other	Article Title	Link
Sierra Leone	1				1		Bombali					1	1			Saffron and Biriwa MP mounts Ebola campaign	http://awoko.org/2014/08/29/sierra-leone-news-safroko-biriwa-mp-mounts-ebola-campaign/
Sierra Leone	1				1		Bombali	1				1	1			MP embarks on Ebola sensitisation	http://awoko.org/2014/04/16/sierra-leone-news-mp-embarks-on-ebola-sensitization/
Sierra Leone	1				1		Bombali					1	1			APC MP intensifies Ebola sensitisation	http://slconcordtimes.com/apc-mp-intensifies-ebola-sensitization/
Sierra Leone	1				1		Bombali						1			GEKO completes Ebola training for 15 communities	http://awoko.org/2014/09/17/sierra-leone-news-geko-completes-ebola-training-for-15-communities/
Sierra Leone	1				1		Kailahun	1				1	1			No confirmed cases of Ebola-CMO	http://awoko.org/2014/03/25/sierra-leone-news-no-confirmed-case-of-ebola-cmo/
Sierra Leone	1				1		Kailahun					1	1			Sierra Leone wages local battle against Ebola, Fear	http://www.sierraleonepress.com/sierra-leone-wages-local-battle-against-ebola-fear/
Sierra Leone	1				1		Kenema					1	1			AIG halts selling of bush meat in Kenema	http://awoko.org/2014/06/06/sierra-leone-news-aig-halts-selling-of-bush-meat-in-kenema/
Sierra Leone	1				1		Western Area Urban					1	1			Hand sanitiser does not prevent Ebola virus - Harold Thomas	http://awoko.org/2014/07/17/sierra-leone-news-hand-sanitizer-does-not-prevent-ebola-virus-harold-thomas/
Sierra Leone	1				1		Western Area Urban	1				1	1			What the U.S. Embassy says about Ebola	http://awoko.org/2014/06/03/sierra-leone-news-what-the-u-s-embassy-says-about-ebola/
Sierra Leone	1				1		Western Area Urban					1	1			Hon. Sho-Sawyer closes borders constituency 108 to prevent Ebola	http://cocorioko.info/sierra-leone-news-hon-sho-sawyer-closes-borders-of-constituency-108-to-prevent-ebola/
Sierra Leone	1				1		Western Area Urban						1			First Lady calls on international donors	http://awoko.org/2014/08/12/sierra-leone-news-first-lady-calls-on-international-donors/
Sierra Leone	1				1		Western Rural Area					1	1			MP provide protective gear for health workers	http://awoko.org/2014/08/29/sierra-leone-news-mp-provide-protective-gears-for-health-workers/
Sierra Leone	1				1		Western Rural Area					1	1			VP Sam Sumana sensitises Lumpa community on Ebola	http://www.expotimesonline.net/index.php?option=com_content&view=article&id=533%3Aalimatu-fofanah&catid=54%3Ahealth&Itemid=1
Sierra Leone	1				1			1				1	1			Yes, We Were Warned About Ebola in Libera - Since 1978	http://news.sl/drwebsite/publish/article_200527424.shtml
Sierra Leone	1				1							1	1			Sierra Leone News: “HEAL-SL”, KPMG capacitates disables on Ebola response	http://news.sl/drwebsite/publish/article_200526137.shtml
Sierra Leone	1				1							1	1			Sierra Leone News: ‘East End Paddle’ takes Ebola sensitisation to communities	http://news.sl/drwebsite/publish/article_200526069.shtml
Sierra Leone	1				1							1	1			Sierra Leone News: Hon. Sho-Sawyer closes borders of constituency 108 to prevent Ebola	http://news.sl/drwebsite/publish/article_200526058.shtml
Sierra Leone	1				1							1	1			Sierra Leone News: Health Experts train SalYAN and District Youth Councils	http://news.sl/drwebsite/publish/article_200526002.shtml
Sierra Leone	1				1							1	1			Awareness Times News Briefs from Sierra Leone	http://news.sl/drwebsite/publish/article_200525984.shtml
Sierra Leone	1				1							1	1			Sierra Leone News: Health Network & Health Ministry on Ebola Sensitisation in Waterloo	http://news.sl/drwebsite/publish/article_200525966.shtml
Sierra Leone	1				1							1	1			Sierra Leone News: BRAC Embarks on EBOLA community sensitisation	http://news.sl/drwebsite/publish/article_200525837.shtml
Sierra Leone	1				1							1	1			Sierra Leone News: Sierra Leone Maritime Administration Partners with the Ministry of Transport and Aviation on Ebola Sensitisation	http://news.sl/drwebsite/publish/article_200525625.shtml
Sierra Leone	1				1							1	1			Sierra Leone Health Ministry Answers Citizens Ebola Questions	http://news.sl/drwebsite/publish/article_200525509.shtml
Sierra Leone	1				1			1				1	1			Ebola: A symptom of global capitalism in West Africa	http://slconcordtimes.com/ebola-a-symptom-of-global-capitalism-in-west-africa/
Sierra Leone	1				1			1				1	1			Another strong call from Sierra Leone UN Diplomat for more robust international Ebola response: “It’s very painful. Our people are dying and help has been very slow” (Culled from the New Jersey Start Ledger Newspaper)	http://cocorioko.info/another-strong-call-for-more-robust-international-ebola-response-from-a-sierra-leonean-diplomat-its-very-painful-our-people-are-dying-and-help-has-been-very-slow-culled/
Sierra Leone	1				1			1				1	1			God is not punishing us with Ebola	http://cocorioko.info/god-is-not-punishing-us-with-ebola/
Sierra Leone	1				1							1	1			Ebola is real	http://cocorioko.info/ebola-is-real/
Sierra Leone	1				1							1	1			Ebola threat is real: The virus is known to be carried by monkeys, chimpanzees and wild bats etc.	http://www.salonemonitor.net/ebola-threat-is-a-reality-the-virus-is-known-to-be-carried-by-monkeys-chimpanzees-and-wild-bats-etc/
Sierra Leone	1				1							1	1			Information and adding value to the Ebola sensitisation messages	http://www.globaltimes-sl.com/informing-and-adding-value-to-the-ebola-sensitisation-messages/
Sierra Leone	1				1			1					1			Uk researchers launch human trial of third ebola vaccine	http://cocorioko.info/uk-researchers-launch-human-trial-of-third-ebola-vaccine/
Sierra Leone	1				1			1					1			Largest Ebola outbreak ever reveals truths about the mysterious, deadly disease	http://cocorioko.info/largest-ebola-outbreak-ever-reveals-truths-about-the-mysterious-deadly-disease/
Sierra Leone	1				1			1					1			Secretary Burwell issues declaration under PREP act to support development of Ebola vaccines	http://cocorioko.info/secretary-burwell-issues-declaration-under-prep-act-to-support-development-of-ebola-vaccines/
Sierra Leone	1				1								1			Sorry, Sierra Leone will be closed for business	http://cocorioko.info/reproduced-sorry-sierra-leone-will-be-closed-for-business/
Sierra Leone	1				1			1					1			Human trial of experimental Ebola vaccine begins this week	http://cocorioko.info/human-trial-of-experimental-ebola-vaccine-begins-this-week/
Sierra Leone	1				1			1					1			Has the international community quarantined Sierra Leone	http://cocorioko.info/has-the-international-community-quarantined-sierra-leone/
Sierra Leone	1			1			Kailahun					1	1			Sierra Leone Politics: SLPP Hon. Jajua Takes Ebola Sensitisation to Kailahun	http://news.sl/drwebsite/publish/article_200525239.shtml
Sierra Leone	1			1			Kenema				1					Man shot for mistaken identity	http://awoko.org/2011/07/13/man-shot-for-mistaken-identity/
Sierra Leone	1			1			Western Area Urban					1	1			“No confirmed case of Ebola virus,” says Health Minister	http://cocorioko.info/no-confirmed-case-of-ebola-virus-says-health-minister/
Sierra Leone	1			1								1	1			Sierra Leone News: MOHS seeks parliament support in the fight against Ebola	http://news.sl/drwebsite/publish/article_200525179.shtml
Sierra Leone	1			1								1	1			Sierra Leone News: Health Ministry takes Ebola campaign to schools	http://news.sl/drwebsite/publish/article_200525174.shtml
Sierra Leone	1			1				1				1	1			UN Agency urges vigilance amid Ebola outbreak in Guinea, Sierra Leone and Libera	http://news.sl/drwebsite/publish/article_200525125.shtml
Sierra Leone	1			1								1	1			Sierra Leone News: “No Ebola Virus in Sierra Leone” Health Minister assures	http://news.sl/drwebsite/publish/article_200525069.shtml
Sierra Leone	1			1								1	1			Health Ministry takes Ebola campaigns to schools	http://www.expotimesonline.net/index.php?option=com_content&view=article&id=423%3Ahealth-ministry-takes-ebola-campaign-to-schools&catid=38%3Ascience-a-environment&Itemid=1
Sierra Leone	1			1				1					1			Deadly Ebola fever hits Guinea: Officials scramble to stop spread into neighbouring countries	http://cocorioko.info/deadly-ebola-fever-hits-guinea-officials-scramble-to-stop-spread-into-neighbouring-countries/
Sierra Leone	1			1				1					1			Sierra Leoneans must take precaution- Ebola virus is on the move!	http://www.thisissierraleone.com/sierra-leoneans-must-take-precaution-ebola-virus-is-on-the-move/
Sierra Leone	1			1				1				1				The Forestry Development Authority (FDA) warns bush meat eaters	http://www.thisissierraleone.com/the-forestry-development-authority-fda-warms-bush-meat-eaters/
							Dakar			1						Dakar – Passation de service à l’OMVS : Kabinet Komara revient sur ses réalisations (Dakar - OMVS 'service transfer: Kabinet Komara looks back on his achievements)	

Curriculum Vitae

Sarah Anne Bell

Personal Details

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Anthropology and Geography
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Social Media

Twitter	@SarahsGoneWild
Instagram	@SarahsGoneWild
E-Portfolio	www.sarahbell.org

Education

2022	Ph.D.	Oxford Brookes University	Exploring factors of misinformation surrounding the Ebola outbreak and their influences on conspiracy theories
2016	M.Sc.	Oxford Brookes University	Primate Conservation; Thesis: Volunteer tourism and wildlife conservation in SE Asia
2014	B.Sc.	Southern Methodist University	Anthropology, minor in Journalism

Communication and Digital Media Experience

Current	**Digital Communications Officer** at Oxford University Museum of Natural History *@MoreThanADodo*	I create social media content and liaise with stakeholders and media regularly, also: handled graphic design/signage for an exhibition & am on the team designing new permanent displays
2021	**Social Media Officer** at Oxford University Museum of Natural History	I create content for Facebook, Twitter, TikTok & Instagram, promote events and design creative online campaigns
2021	**Digital Content Strategist** at True to Nature	A natural history production company, I created & planned social media and staff guidelines for content creation.
2017-Present	**Freelance Digital Communicator** www.sarahbell.org	Create specifically tailored social media plans, logo design, website building for charities and private businesses
2019	**Social Media Content Creator** volunteer at the Oxford University Museum of Natural History	Created content for Facebook, Youtube & Instagram while seeing 300% engagement increase during my tenure
2017-2018	**Digital Content Consultant** for the Little Fireface Project www.nocturama.org	Updated their website, reformatted their blogs & trained volunteers how to operate the website.

Research and Wildlife Experience

2017-Present	**Founder** of the Pan Verus Project www.panverus.org	A UK registered charity dedicated to wildlife conservation and community engagement in Sierra Leone.
2015	**Volunteer** at South Florida Wildlife Rescue	Performed husbandry duties for native and confiscated wildlife.
2014	**Student Researcher** with the Tonkolili Chimpanzee Project	Researched river crossings by chimps as a result of human-wildlife conflict in Sierra Leone.
2012-2013	**Outreach Educator** at the Dallas Zoo	Trained animals, performed husbandry duties, & led educational presentations
2012	**Animal Training Intern** at the Palm Beach Zoo	Trained animals, performed husbandry duties, gave educational talks while handling animals.
2011-2012	**Volunteer** at In-Sync Exotics Rescue	Performed husbandry duties for over 50 rescued exotic big and small cats.

Teaching and Training Experience

2020	**Seminar Series** hosted by Science Nation via Zoom	A four session series on communicating zoonotic diseases, specifically looking at the West African Ebola outbreak
2020	**National Park Ranger Training** Outamba Kilimi National Park, Sierra Leone	Trained park rangers in laws, research techniques, and project design
2017 & 2019	**Teaching Assistant** at Oxford Brookes University	Acted as a teaching assistant for the Primate Conservation and Diversity module (an M.Sc level class).

Memberships

Oxford Wildlife Trade Research Group

British Ecological Society

National Sciences Collections Association

Grants

Elephant Crisis Fund: Outamba Kilimi National Park Ranger Training and Conservation Up-Skilling, 2019-2020

Lion Recovery Fund: Investigative Survey for West African Lions in Sierra Leone, 2019-2020

British Ecological Society Outreach Grant: Outamba Kilimi National Park Education Centre and Community Library, 2018-2020

Margot Marsh Biodiversity Foundation and Primate Action Fund: Investigating human-primate interactions and perceptions in Northern Sierra Leone, 2019

Margot Marsh Biodiversity Foundation and Primate Action Fund: Species assemblage survey in the Outamba Kilimi National Park, Sierra Leone, 2018

Frederick Soddy Trust: Community mapping in the Outamba Kilimi National Park, Sierra Leone, 2018

Language Skills

English – Native Speaker **Spanish –** Proficient **Sierra Leone Krio –** Proficient

Scientific Publications

Bell, Sarah A. 2018. Culture Shock in Volunteer Tourists. *Canopy.* 18(2): 18-21

Bell, Sarah A. 2017. Primates as Propaganda. *The International Encyclopedia of Primatology.*

Bell, Sarah A. 2017. Galdikas, Birute. *The International Encyclopedia of Primatology.*

Presentations

Monkey Sick: An example of village to village knowledge variance on zoonotic diseases and its implication for disease control and education. *Primate Society of Great Britain and European Federation for Primatology joint conference.* Fall 2019.

Effects of volunteer tourism on wildlife conservation, *South Florida Primatology Meeting,* 2015

Other Publications and Media Appearances (live links)

"A PhD and Founder of Pan Verus Project" December 2020, *BeCuriousBeings* Podcast Guest.

"Anthropology in a Pandemic with Sarah Bell" October 2020, *Two Brad For You* Podcast Guest.

"Social Media for Ecologists" May 2020, *British Ecological Society.*

"Website Building & Blogging for Ecologists" June 2020, *British Ecological Society.*

"Graphic Design for Ecologists" June 2020, *British Ecological Society.*

"Harambe the Gorilla" June 2016, *BBC Radio Interview.*

"Weird and Endangered at the Dallas Zoo." *Dallas South News*, 27 Mar. 2014,

"The Vagina Monologues Starts Conversation" *SMU Daily Campus,* 3 Feb. 2014,

"What's for Dinner, Texas?" *SMU Daily Campus,* 8 April 2014,

"Exotic Animal licenses in Texas Face Criticism for Being Too Lax" *SMU Daily Campus*, 3 April 2013

Bell, Sarah A. "Chocolate Dipped Tusks: A Not-So-Sweet Disguise" *Global Animal,* 10 May 2013,

Skills

Conservation & Research Specific Skills:

Project design focusing on a community based approach, grant writing, report writing, interviews, camera traps, ArcGIS, research skills training in non-native language, cross-cultural communication, team management (staff, intern, volunteer hiring and oversight)

Digital Media Specific Skills:

Wordpress websites, SEO, video editing with Final Cut Pro 10 & 7, filming with Sony NX5U, GoPro Hero3+, Canon 7D, Canon AX30, Twitter, TikTok, Facebook Pages, Instagram, YouTube, Adobe Photoshop & Illustrator, social media analytics, attended Guardian Masterclass on Data Visualisation (2022)