CONSERVATION OF ENDANGERED SPECIES IN NAMIBIA: AN INVESTIGATION OF FACTORS CONTRIBUTING TO THE POACHING OF RHINOS IN THE ETOSHA NATIONAL PARK

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ABSTRACT

Rhino poaching remains a critical conservation and security challenge in Southern Africa, threatening the survival of rhino populations and undermining conservation efforts. While extensive research has been conducted on wildlife poaching at the global and regional levels, there is a significant gap in understanding the specific socio-economic, legal, and governance-related factors contributing to rhino poaching in the Etosha National Park (ENP), Namibia. This study aimed to fill this gap by investigating the key drivers of rhino poaching, assessing the weaknesses in existing conservation measures, and proposing effective policy recommendations to mitigate the crisis. The study was underpinned by Routine Activity Theory to explain the motivations behind poaching and Environmental Governance Theory to frame the effectiveness of conservation policies and law enforcement strategies. A qualitative research strategy was employed, focusing on in-depth thematic analysis. The study population comprised employees under the Directorate of Wildlife and National Parks (DWNP) within the Ministry of Environment, Forestry and Tourism (MEFT) as well as business and middle-aged individuals residing within a 150 km radius of ENP. Non-probability and snowball sampling techniques were used to identify key informants, resulting in 18 in-depth interviews from an initial target of 20 respondents. The findings reveal that economic desperation, high black-market prices for rhino horns, corruption and bribing within law enforcement agencies, and the exploitation by criminal syndicates are the primary factors driving poaching in ENP. Additionally, weak law enforcement and legal loopholes enable persistent poaching, as inconsistent penalties fail to deter offenders. The study further identified a lack of comprehensive intelligence-sharing mechanisms among regional and international stakeholders, which exacerbates the challenge of controlling the illicit wildlife trade. To mitigate rhino poaching, the study recommends strengthening legislative frameworks to impose harsher penalties, enhancing community-based conservation programs to provide sustainable alternative livelihoods, and integrating advanced technology, including drones, real-time GPS tracking, and CCTV surveillance, into anti-poaching strategies. Furthermore, fostering international cooperation and intelligence-sharing can play a crucial role in disrupting the supply chain of illicit wildlife products. This study contributes to the existing body of knowledge by bridging the gap in localized research

on rhino poaching in Namibia, offering a multidisciplinary perspective that integrates criminology, conservation science, and policy analysis.

Key words: Rhino poaching, Conservation, Southern Africa, Socio-economic factors and Etosha National Park (ENP).

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LIST OF ACRONYMS AND ABBREVIATIONS

CBNRMP	Community Based Natural Resource Management Programme
CCTV	Closed-Circuit Television
CITES	Convention on International Trade in Endangered Species
CMS	Critical Military Studies
CNP	Chitwan National Park
CW	Chief Wardens
DFO	District Forest Officers
DWNP	Directorate of Wildlife and National Parks
ED	Executive Director
ENP	Etosha National Park
ESA	Endangered Species Act
GPS	Global Positioning System
GRAA	Game Rangers Association of Africa
HKIA	Hosea Kutako International Airport
IAPF	International Anti-Poaching Foundation
ICDP	Integrated Conservation and Development Projects
IFAP	Inclusive Female Anti-Poaching
IT	Information Technology
IUCN	International Union for the Conservation of Nature
IWT	Illegal Wildlife Trade
KNP	Kruger National Park
MEFT	Ministry of Environment, Forestry and Tourism
NFIC	Namibia Financial Intelligence Centre
NGOs	Non-Governmental Organisations

NNP	Namib Naukluft Park
PTSD	Post Traumatic Stress Disorder
SANDF	South African Defence Force
TBCA	Transboundary Conservation Areas
TCN	Transnational Criminal Networks
TOC	Transnational Organised Crime
TRAFFIC	Trade Record Analysis on Flora and Fauna in Commerce
UNAM	University of Namibia
UNEP	United Nations Environment Programme
UNHCR	United Nations Human Commission of Refugee
UNTOC	United Nations Convention against Transnational Organized Crime
USAID	United States Agency for International Development
VETPAW	Veterans Empowered to Protect African Wildlife
WCI	Wildlife Crime Investigators
WPS	Wildlife Protection Service
WWW	World Wildlife War

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DEDICATION

I dedicate this thesis to my supervisor, my employer , my family and friends for their resolute and continuous support throughout my study.

DECLARATION

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CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

This chapter highlights the background of the study in conjunction with available studies that were carried out by different scholars. It typically involves discussing the broader topic, the context in which the study focused and relevant historical or contextual information. In this case, it includes information about rhino poaching globally or regionally. The intention was to get answers about factors contributing to the poaching of rhinos in Etosha National Park (ENP) situated in Kunene Region, in the Republic of Namibia. Through various literature reviews, the study interrogated numerous views provided to find discrepancies, contradictions, gaps in knowledge and unanswered questions. In addition, the chapter primarily endeavoured to zoom in, scrutinise and focus on getting a broader understanding as to why certain individuals get involved in rhino poaching practices, specifically in the ENP, even though there are policies, regulations and security clusters on the ground that are meant as preventative measures to combat rhino poaching. Furthermore, the chapter gives an overview of the ENP, and the Ministry of Environment, Forestry and Tourism (MEFT) that is constitutionally mandated to conserve the entire fauna and flora in Namibia. Moreover, the chapter covers the problem statement, research objectives, the significance of the study, the limitations of the study, and the delimitations of the study.

1.2 BACKGROUND OF THE STUDY

The scourge of rhino poaching in Southern Africa has escalated since 2014, as stipulated by Salcedo-Albarán and Goga (2017), and as a result, governments, non-governmental organisations (NGOs) and Anti-Poaching Units have been advocating for the survival of rhinos, which are facing extinction. Thus, the anti-poaching fraternity has been tirelessly working out mechanisms on how to combat the puzzling rhino poaching undertakings. Therefore, this study aimed to establish factors driving individuals into rhino poaching in Namibia, specifically in the ENP. Among the ten most endangered animals on earth, the rhino species has been accorded the highest conservation status internationally (Salcedo-Albarán & Goga, 2017).

Goredema (2017) indicates that rhinos are poached for their horns, which are in demand in the European markets. Furthermore, they are seen as a symbol of economic wealth, for acquiring social power, and are used for initiating business as well as aphrodisiac supplements for libido enhancement. Truong et al. (2015) state that 12,000 years ago, nearly all of humankind lived as hunters and gatherers. Hunter-gatherers is a general term used to refer to societies whose style of survival is sustained through hunting animals, fishing and gathering edible plants (Dang, 2016). Similarly, Codding and Kramer (2016) claim that before the beginning of the Holocene, human beings in the world lived as hunter-gatherers and they made their living exclusively collecting wild resources. Moreover, Imamura (2016) asserts that hunting played a significant part in human evolution.

The method of hunting used depended on the type of animals targeted, for instance, birds, reptiles, and fish, and whether they were small, medium, or large. The hunters used tools such as spears, clubs, traps or bows and arrows (Imamura, 2016). Catherine (2015) states that hunter-gatherers were diverse groups of people who lived under a wide range of conditions without the overarching discipline imposed by the State. Hitchcock (2012) defines hunting and gathering as subsistence based on the hunting of wild animals, gathering of wild plant foods and fishing with no domesticated plants or animals except dogs. Hübschle (2016) indicates that the position of a hunter came with status and prestige in village communities where a young boy's initial hunt is a rite of passage, and he, in fact, becomes a man after he has managed to hunt.

Africa's population largely relies on natural resources for livelihoods (Shikuku, 2019). When colonial rulers came to Africa, they placed restrictions on the hunting of wildlife, and they formed game reserves to safeguard wildlife habitats with the aim of expediting the creation of uniform game guidelines and law enforcement procedures on the continent (Waithaka, 2016). Formal government intervention in the conservation of wildlife in Namibia began with the Nature Conservation Ordinances of 1967 and 1975 that gave ownership of certain species of animals to the landowners. Poaching in both state land and freehold farms continued unabated until local initiatives in the early 1980s (Manyanga, 2017).

Poaching is the unlawful hunting, trapping, or capturing of game or fish from either private or public land (Lehman & Phelps, 2005). Hübschle (2016) proffers that locals with minimal resources are labelled as poachers when they trespass and hunt wild

animals on land that used to belong to them, while wealthier trophy hunters are allowed to kill wild animals for a charge (Hübschle, 2016). In 1990, after Namibia gained independence, the Controlled Wildlife Products and Trade Act No. 9 of 2008 was introduced (Gore, 2012). Given the circumstances, the Hai//com people resided in ENP in Namibia; however, they later moved when the park was declared a game reserve under Ordinance 88 of 1907 by the German governor of South-West Africa, Friedrich von Lindequist. In 1967, it attained the status of a national park through an Act of Parliament of the Republic of South Africa (Berry, 2012). In the aftermath of Namibia's independence in 1990, the Controlled Wildlife Products and Trade Act No. 9 of 2008 was promulgated (Gore, 2012).

It was implemented in line with the Convention on International Trade in Endangered Species (CITES) of wild fauna and flora, an international trade agreement among signatory countries that started to operate in 1975. Its purpose is to protect wild species of plants and animals from unsustainable international trade (Weller, 2014). In 2015, the Wildlife Protection Services (WPS) was established to protect endangered species in national parks, including the ENP (Ministry of Environment, 2022). Nonetheless, the poaching of high-value species like rhinos, elephants, pangolins, and tigers, among others, has raised awareness of the illegal trade in wildlife globally, in Africa and Namibia in particular (Raja & Shirley, 2022).

Thus, Anderson (2019) recommends the use of various types of Global Positioning System (GPS) collars and tracking systems as measures that can be tremendously valuable. The author concludes that intelligence is a critical complement of any war,

and as the fight against poaching becomes a war in itself, intelligence will become an increasingly essential element of this battle.

The issue of rhino poaching in Namibia extends beyond ecological concerns; it has profound implications for the country's national security, economic stability, political landscape, and international relations. Namibia's economy significantly depends on tourism, which contributes approximately 10.9% of the Gross Domestic Product (GDP) and supports thousands of jobs (World Travel & Tourism Council [WTTC], 2023). Wildlife-based tourism, particularly in national parks such as the Etosha National Park (ENP), plays a crucial role in attracting international visitors, generating revenue, and promoting conservation-based economic activities. However, the surge in rhino poaching poses a significant threat to Namibia's tourism sector, with potential negative repercussions on employment, community livelihoods, and national economic growth (Ministry of Environment, Forestry and Tourism [MEFT], 2023).

Beyond its economic impact, poaching has been linked to organised crime networks, many of which operate across borders, raising concerns about regional security and governance. Several reports suggest that wildlife trafficking networks have connections to illicit financial flows, arms smuggling, and even terrorist financing in parts of Africa (United Nations Office on Drugs and Crime [UNODC], 2022). Namibia's geographical proximity to major wildlife trafficking hubs, such as South Africa and Mozambique, makes it a critical transit point for the illegal wildlife trade, necessitating strong law enforcement interventions, cross-border cooperation, and intelligence-sharing mechanisms (Hübschle, 2020).

Furthermore, rhino poaching affects local community stability, leading to increased socio-political tensions between conservation authorities and rural populations. While local communities near ENP often rely on conservation-based employment and eco-tourism, the lure of poaching - driven by economic desperation, high demand for rhino horns, and involvement of international crime syndicates, has led to increased criminalisation of rural populations, exacerbating inequalities and distrust in state authorities (Kahler & Gore, 2022).

To effectively combat poaching, it is imperative that the government, law enforcement agencies, and conservation organisations adopt a multi-sectoral approach one that integrates economic empowerment, technological surveillance, anti-corruption efforts, and international legal cooperation. Given these far-reaching implications, the present study critically examines the drivers of rhino poaching in ENP, not only from an ecological conservation perspective, but also as a pressing national security concern.

Therefore, the present study was aimed at investigating factors leading to the rhino poaching in the ENP, how to protect them from extinction and recommend to the MEFT some measures that can be used for the realisation of its strategic objectives in protecting rhinos.

1.3 BACKGROUND OF THE ETOSHA NATIONAL PARK

The ENP was established in March 1907, when it was proclaimed a game reserve by the German governor of South West Africa, Friedrich von Lindequist. Later, it attained the designation of a National Park in 1967 through legislation passed by the Parliament of the Republic of South Africa (Berry, 2012). The park is named for the

vast Etosha Pan, which occupies over a quarter of the park's total size (Ministry of Environment, 2022). It is located in North-Western Namibia, and it is one of the largest national parks in Africa. The park's area covers 22,935 square kilometres and it is situated in the Kunene region, having regional boundaries with Oshana, Oshikoto, and Otjozondjupa. It is Namibia's number one tourist destination especially for international tourists for spectacular game viewing, bird watching, photography, and it is usually visited by about 200 000 visitors annually. The Okaukuejo waterhole at night allows visitors to see many animals among others, black rhinos, lions, and elephants (Ministry of Environment, 2022). It has several kinds of mammals, birds, and reptiles, including several endangered species like the black rhinoceros, although efforts are being made to reintroduce white rhinos (Ministry of Environment, 2022).

The DWNP's objective is to champion the conservation of natural resources and wildlife habitat in Namibia, thereby ensuring the sustainable utilisation of wildlife resources. Its inception dates back to 1907 when the first three Game Reserves were declared in Namibia, designated as Game Reserves 1, 2, and 3. Two of these three reserves still exist today, Namib Naukluft Park (NNP) and Etosha National Park (ENP). The protected areas network currently encompasses 17% of the country's land area, which includes well-known tourist sites such as Skeleton Coast Park, Etosha National Park, and the Namib-Naukluft Park. The Department of Wildlife and National Parks (DWNP) has a significant opportunity to impact the country's future by focusing on conservation, effective management techniques, community involvement, and Namibia's well-known Community Based Natural Resource Management Programme (CBNRMP) (Ministry of Environment, 2022).

The ENP, as Namibia's flagship conservation area, has immense economic, environmental, and national security significance. As a premier tourist destination, the park is a key contributor to the national economy through wildlife-based tourism, employment generation, and local enterprise development (WTTC, 2023). However, the increasing prevalence of rhino poaching threatens not only biodiversity but also the economic stability of the tourism sector and the broader conservation financing model that sustains the park's operations (MEFT, 2023).

Furthermore, the escalation of poaching-related crimes in ENP raises security concerns, as criminal syndicates often exploit weaknesses in law enforcement structures. Poaching networks operate through well-coordinated criminal enterprises, frequently involving corrupt officials, illicit financial transactions, and transnational trafficking routes (UNODC, 2022). A lack of stringent border controls and weak judicial deterrence has allowed poachers and traffickers to evade prosecution, further fueling the illegal trade in rhino horns.

To enhance conservation efforts, Namibia has implemented various legal frameworks, technological interventions (e.g., GPS tracking, drone surveillance, and biometrics), to strengthen anti-poaching units. Despite these efforts, poaching syndicates have continued to adapt, employing advanced weaponry, satellite communication, and cyber-financial transactions to evade law enforcement (Hübschle, 2020). This study, therefore, highlights the role of policy reform, technological innovation, and international cooperation in combating poaching and ensuring the long-term sustainability of ENP's conservation model.

1.4 PROBLEM STATEMENT

The increasing rate of rhino poaching in Namibia, particularly in ENP, presents a critical conservation challenge with far-reaching socio-economic and security implications. Despite Namibia's reputation for successful conservation programs, poaching incidents have surged in recent years, undermining national efforts to protect rhino populations. Official reports from the Ministry of Environment, Forestry, and Tourism (MEFT, 2023) indicate fluctuating poaching statistics, with 87 rhinos poached in 2022 alone, compared to 45 in 2021 and 61 in 2019. This trend highlights weaknesses in anti-poaching enforcement, intelligence gathering, and legal deterrence mechanisms.

Beyond its ecological impact, rhino poaching significantly affects Namibia's economy, tourism industry, and national security. The tourism sector contributes approximately 10.9% of Namibia's GDP, with wildlife-based tourism forming the backbone of conservation financing (World Travel & Tourism Council [WTTC], 2023). If poaching continues unchecked, Namibia risks losing significant revenue from eco-tourism, leading to job losses and economic instability in rural areas. Additionally, organized crime networks involved in rhino horn trafficking often intersect with other forms of transnational crimes, including arms smuggling, drug trafficking, and corruption within law enforcement agencies (UNODC, 2022).

The justice system's response to poaching remains inadequate, as weak legal frameworks, lenient sentencing, and high levels of corruption hinder effective prosecution of offenders. Cases of repeat offenders receiving bail and re-engaging in poaching activities have been widely documented (Hübschle, 2020). There is also limited data on successful convictions and sentences imposed on poachers, making it

difficult to assess whether legal deterrents are effective in curbing the crisis. Strengthening legal frameworks and judicial processes is, therefore, a key priority for enhancing conservation efforts. Given these, the purpose of this study was to investigate factors contributing to the poaching of rhinos in ENP and propose some ways to save them from extinction.

1.5 RESEARCH OBJECTIVES

The main objective of this study is to investigate the factors contributing to the poaching of rhinos in ENP and propose ways to save them from extinction. It is guided by the following sub-objectives, namely to:

1.5.1 Critically analyse the motivations leading to the poaching of rhinos in ENP;

1.5.2 Assess and interpret the benefits gained by poachers of rhinos in ENP;

1.5.3 Evaluate the effectiveness of Namibia's justice system in deterring rhino poaching in ENP; and

1.5.4 Investigate and propose improved anti-poaching measures that can avert rhino extinction in ENP.

1.6 RESEARCH QUESTIONS

The main research question is: What are the factors contributing to the poaching of rhinos in Etosha National Park (ENP), and what strategies can be implemented to prevent their extinction?

The specific research questions are as follows:

1.6.1 What are the key motivations leading to the poaching of rhinos in Etosha National Park (ENP)?

1.6.2 What benefits do poachers of rhinos in ENP gain from their illegal activities?

1.6.3 How effective is Namibia's justice system in deterring rhino poaching in ENP?

1.6.4 What improved anti-poaching measures can be implemented to prevent the extinction of rhinos in ENP?

1.7 SIGNIFICANCE OF THE STUDY

The significance of this study lies in its contribution to conservation policy, law enforcement strategies, and economic policy reforms. By critically analyzing the factors driving rhino poaching in ENP, this research will provide empirical evidence to guide policymakers, conservationists, and law enforcement agencies. Additionally, the study's findings will support Namibia's broader efforts in combatting organised wildlife crime, aligning with international commitments such as CITES and the United Nations Sustainable Development Goals (UNSDGs) on biodiversity protection. The insights from this research may also inform community-based conservation programs, ensuring that rural populations surrounding ENP are actively engaged in wildlife protection initiatives. Finally, this study adds valuable academic contributions to the existing body of knowledge on wildlife crime, serving as a reference for future research in conservation criminology and environmental security.

1.8 LIMITATIONS OF THE STUDY

Theofanidis and Fountouki (2018) define limitations of the study as potential weaknesses that are usually out of the researcher's control. In this regard, the

researcher experienced various limitations ranging from funds, ethical clearance, authorisation to engage respondents, time, difficulties in finding research respondents, challenges in maintaining confidentiality and anonymity as well as biased opinions. Shaw et al. (2021) mention that research reproduction involves autonomous researchers applying matching experimental techniques in different populations. However, even if multiple populations of a species exist, there are many other barriers like interconnected categories, resource availability, publication bias, regulatory constraints and social factors that can prevent new researchers from replicating previous work with rare or threatened species.

The researcher also had to commute long distances from Ruacana to Windhoek, to sort out administrative processes between the MEFT and the National Commission on Research Science and Technology (NCRST) and then drive to ENP to collect data as planned. The major challenge was the bureaucratic processes involved in getting a permission letter, which in the first place was supposed to be issued by the MEFT so as to interview its officials. The researcher presented the MEFT Executive Director (ED) with an ethical clearance certificate from UNAM and a self-written application seeking permission to conduct research at the ministry's Head Office and ENP. The ED referred documents to the DWNP's research section which later referred the researcher to the NCRST to complete the necessary documents. The NCRST liaised with the DWNP before it issued the permission. The process took time and delayed the researcher's activities. The unavailability and unwillingness of some respondents from the targeted population also affected the study's timely progress. Nonetheless, the researcher professionally engaged officials from the MEFT and NCRST until authorisation was issued. Finally, in August 2023, the use of purposive and

snowballing sampling techniques successfully assisted the researcher to reach and engage potential respondents.

1.9 DELIMITATIONS OF THE STUDY

Delimitations are the boundaries that are intentionally set by the researchers themselves for them to be in control so that the study's aims and objectives do not become impossible to attain (Theofanidis & Fountouki, 2018). This study was confined to the MEFT's Head Office and ENP, hence, results may not be generalised to other National Parks in Namibia, considering that their conditions are exceptional. The fact that the study was based on the opinions of respondents, the validity and reliability of the findings were constrained by the integrity of the participants.

1.10 CHAPTER SUMMARY

This chapter served as an initiation to the research, encompassing an exploration of the study's background, an explication of the statement of the problem at hand, a delineation of the research objectives, an explanation of the study's significance, a discussion of the study's limitations and delimitations.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter provides a review of previous literature related to the subject under study. It encompasses a spectrum of relevant topics, including gaps in the existing literature, perspectives on conservation, associated benefits of wildlife conservation, the conceptualisation of rhino poaching, the adverse effects of such activities, methodologies employed in rhino poaching, strategies for mitigating rhino poaching, and thematic interventions tailored to address the distressing occurrences of rhino poaching. This review is specifically contextualised within the Southern Africa region, with a focus on Namibia and, more precisely, Etosha National Park (ENP).

The researcher conducted an extensive review of numerous academic literatures, which revealed that the issue of rhino poaching has gathered substantial attention globally, regionally, and locally within scholarly discourses. Despite the wealth of international, regional, and local information on this matter, a noticeable gap exists concerning explicit studies on rhino poaching within the situation of ENP. Consequently, the primary objectives of this study were delineated, that is, to examine the factors contributing to the poaching of rhinos in ENP, discern the motivations behind these illicit activities, evaluate the perceived benefits derived from poaching, assess the effectiveness of the justice system in deterring potential poachers, and investigate existing rhino poaching countermeasures. The culmination of these investigations aims to offer insights to the Ministry of Environment, Forestry and

Tourism (MEFT), and proposing innovative strategies that, if implemented, could effectively eradicate rhino poaching incidents within the confines of the ENP.

The outcomes of this study are meant to provide valuable insights into the intricate dynamics of rhino poaching, thereby enlightening anti-poaching stakeholders on rhino poaching dynamics. Furthermore, the study serves as a source of crucial information for legislative bodies, thereby potentially assisting in guiding potential amendments to existing laws and facilitating the effective implementation of anti-poaching policies by decision-makers. Given the scarcity of literature on rhino poaching specifically within the context of ENP, the results are anticipated to not only fill this research gap but also catalyse and inspire further studies in this field.

2.2 THEORETICAL FRAMEWORK

To strengthen the conceptual grounding of the study, two theories Routine Activity Theory (Cohen & Felson, 1979) and Environmental Governance Theory (Ostrom, 1990) were introduced to explain the underlying factors contributing to rhino poaching and conservation challenges in ENP.

Routine Activity Theory (RAT) was developed by Cohen and Felson (1979) to explain crime occurrence based on three key elements: a motivated offender, a suitable target, and the absence of capable guardianship. In the context of rhino poaching, this theory suggests that poachers (motivated offenders) exploit the vulnerability of rhinos (suitable targets) due to weak law enforcement and insufficient surveillance (absence of capable guardianship). RAT underscores that poaching in ENP thrives due to accessibility to high-value rhino horns, economic desperation, and the presence of

organized crime networks (Hübschle, 2016). Moreover, limited anti-poaching resources, corruption, and the vastness of protected areas further reduce effective guardianship, increasing the likelihood of poaching incidents (Kahler & Gore, 2022). One key limitation of RAT is its inability to explain why some individuals engage in poaching while others in similar circumstances do not (Felson & Eckert, 2018). Nevertheless, the theory remains relevant to the present study as it provides a criminological lens to assess the factors influencing poaching in ENP, particularly the role of inadequate surveillance, economic incentives, and organised criminal syndicates in perpetuating wildlife crime.

Environmental Governance Theory (EGT) by Ostrom (1990) explores how institutional arrangements, stakeholder participation, and policy enforcement influence the sustainable management of natural resources. This theory suggests that successful conservation depends on clear property rights, local community engagement, and strong regulatory frameworks (Ostrom, 2009). In the context of rhino conservation in ENP, EGT emphasizes that weak governance structures, lack of community incentives, and poor law enforcement facilitate poaching (Gore et al., 2020). Poaching persists because local communities near ENP often lack economic alternatives and are excluded from conservation benefits (Naidoo et al., 2016). Furthermore, transnational crime syndicates exploit gaps in governance to facilitate illicit wildlife trade (Wyatt, 2020). However, a key criticism of EGT is that it assumes community-based conservation will always lead to positive outcomes, whereas in reality, poor implementation, corruption, and conflicting interests often undermine its effectiveness (Agrawal & Redford, 2006). Despite this limitation, EGT remains highly relevant to this study, as it guides the analysis of policy interventions, law enforcement

strategies, and local stakeholder involvement in rhino conservation in Namibia. The theory will help explain why current conservation strategies in ENP may be inadequate and how governance reforms can improve protection measures. Thus, integrating Routine Activity Theory and Environmental Governance Theory will provide a comprehensive theoretical lens to analyse the socio-economic drivers of poaching, institutional weaknesses, and conservation challenges in ENP.

2.3 CONSERVATION IN PERSPECTIVE

The poaching of endangered species, including rhinos, has reached crisis levels globally, with approximately 10,000 rhinos poached in Africa from 2008 to 2023 (Save the Rhino, 2023). The illicit hunting of rhinos is largely driven by the perception that rhino horn has medicinal benefit and the fact that it is a status symbol, particularly in Asian markets (Milliken & Shaw, 2012). These measures have included trade bans under the Convention on International Trade in Endangered Species (CITES), increased anti-poaching monitoring, and international law enforcement cooperation (UNODC, 2022). Despite such interventions, poaching networks have continued to better themselves, employing sophisticated weaponry, night-vision tools, and corrupt state agents to subvert conservation programs (Hübschle, 2020).

In Africa, the largest remaining rhino populations are found in South Africa, Namibia, Zimbabwe and Kenya. Nonetheless, poaching is still widespread, with South Africa recording 1,028 rhinos killed just in 2017 (South African Department of Environment, 2023). Evidence suggests the wrong motives of economic hardship, weak law enforcement and lucrative illegalised rhino horn trade remain key factors behind the persistent and widespread rhino poaching in Africa (Biggs et al., 2016). Conservation

groups maintain that sustainable community-led strategies and economic alternatives are vital in minimizing poaching rates (Naidoo et al., 2016).

We are back in Namibia, where Etosha National Park (ENP) hosts one of the world's largest free-ranging populations of black rhinos. Unfortunately, recent years have seen an alarming rise in the number of poaching incidents, with 87 rhinos poached in 2022 (45 in 2021) (MEFT, 2023). Although the Namibian government has introduced harsher fines, high-tech monitoring tools, and community conservation schemes, poaching continues to be a significant threat (Hübschle, 2020). We use this study to examine the effectiveness of conservation strategies in Namibia and suggest policy interventions that could better support rhino populations in ENP.

Infamously, rhino slaughter worldwide has tremendously escalated to the extent that it has raised serious questions about the future of the species (Crookes, 2017). According to Barichievya (2017), currently, rhino poaching has crossed an outstanding level, and if no immediate exceptional percentage is begun to preserve them, the world might see their extinction from the wild in 2035 already. Moreover, the writer points out that poaching of the African endangered species can affect the global stability, i.e. threat of terrorism. In agreement, Eikelboom (2020) describes how the high rates of rhinoceros poaching could lead these species to extinction by the next few decades.

Some stakeholders have even started to evaluate the lifting of the international ban on rhino horn trade, on the assumption that existing measures are ineffective in saving rhinos from extinction (Brooks et al. 2018). Gustafson et al. (2018) predict that if this level of poaching continues, rhinos will go extinct despite all attempts available by law

enforcement or the protection efforts available to stop their waning. Thus, and more importantly, such insistence that any rhino poaching is a crime makes the issue of counter-poaching failures to-date difficult to be seen as such. Similarly, Elizabeth (2020), suggests that in the past decade poaching of high-profile wildlife has spread across Africa from border to border, posing a serious risk to the survival of rhinos. Furthermore, Herbig & Minnaar (2018) elaborates that these deterrents and poaching prevention initiatives have been intensified throughout the continent, however a lack of research on the motivations behind poaching syndicates employing local people hampers security clusters in their endeavours to curb incidences of rhino poaching.

The African rhinoceros can soon face extinction in the wild because of the high incidences of rhino poaching in Southern Africa (Ramutsindela, 2016). Wider research studies from disciplines have explored the complex drivers behind illegal wild-harvesting and poaching practices. Studies of rhino poaching have a basic consensus on such related aspects as the role of international organised crime and wildlife crime, opportunity structures, and the role of poverty amongst people living in and adjacent to protected areas. According to Malherbe (2021), poaching is considered one of the main threats to the conservation of rhinos worldwide. In North-Western Namibia black rhinos are likely to have a dramatic economic and ecological repercussions. However, rhino tracking tourism has consistently been utilised to demonstrate accrue financial and conservation dividends to Namibian communal conservancy for the greater part of a decade. According to Ferreira (2014), this along with the increase in demand and high black-market prices of rhino horns in Asian markets has caused a drastic increase in rhino poaching (especially in South Africa) since 2007. So, the situation has resulted in significant escalation in rhino protection

costs, diminished confidence from the private sector in rhinos, loss of revenue for conservation agencies and a slow pace in rhino population growth. In terms of the rhino crisis, it is an issue that is both reactive (increased protection and enforcement) and proactive (reduced demand). It also proposes considered legalisation of the trade in rhino horns. The author found that different management strategies posed different risks and benefits with respect to many conservation objectives for rhinos.

An endangered species is a species which has been defined by the International Union for the Conservation of Nature (IUCN) (an African Rhino Specialist Group), as an organism or populace of animal under a high risk of going extinct, which undergoes a significant decline in habitation, high rate of death, or any factors relating to environmental change and prey-predator dynamics (Gundu, 2014). Over the time, the death rate of such organism is much greater than their birth rate, which ultimately decreases its population. Similarly, Iqbal et al. (2021) based on the IUCN definition, an endangered species is one that is in danger of extinction in the near future. As of now, biodiversity is heavily threatened, with many species facing extinction or endangerment. So many of them extinction or at the verge between anthropogenic ways, among other poaching, hunting or deforestation. Some are natural like climate change, global warming, forest fire and invasion of non-local species. In the same vein, Khan et al. (2016) imply that the global environment has tampered with human propagation activity and it is facilitating biodiversity loss through annihilation as well as minimizing the population size of extant endangered species.

According to Robbins (2016), the Endangered Species Act (ESA) is a law that protects species that are more susceptible to extinction in relation to human activity. Staying

true to that idea, the conventional wisdom has been to keep humans as far as possible from these animals, and give them space in their ecosystems to rebound unharassed. The author stated climate change was transforming interactive systems across the globe, which made complacency not an option. By taking action, we can improve vital elements affecting climate change. And thus decisive climate action must also involve fundamental changes in our relationship with nature a step that runs counter to the conservationist approach that has defined the nature movement for decades. Muntifering et al. (2023) opened a new agricultural horizon in tourism conservation as a driving force and the foundation needed for protection, the local community involvement and the mind empowerment, which can help in mitigation of threats and can be directed positively for preservation impacts. According to Linchant (2015), surveillance on anti-poaching and illegal activities constitutes a major part of the bedrock of wildlife conservation, especially in undeveloped countries where pressure on wildlife is high. In the developing world, numerous agencies responsible for the management of protected areas are challenged financially, logistically and humanly, limiting their use and ability to ensure the conservation of biodiversity.

Wu et al. (2015) recommends that extensive research on the heritable diversity and structure of endangered species should be performed urgently to motivate real conservation and management activities. In opposition to this, Fàbregas et al. (2019) point out that certain conservation practices can have unforeseen negative effects on individual species, and that the ongoing biodiversity crisis calls for effective conservation actions. Moreover, it can be detrimental to animal welfare and physiology if deemed problematic, with potential individual and population-level consequences. Further supporting this statement, Vogel et al. (2021), argue that

proactive methods that model the long-term consequences of present and future threats to preservation may increase the effectiveness and efficiency of biodiversity conservation. However, those approaches can be hindered by a lack of knowledge about wildlife habitat needs. Kraus et al. (2021) share that because wildlife populations are in decline all around the world and many rich nations have passed endangered species laws, and they provide funding for protecting wildlife. Endangered species feature in public and judicial protection. But the wild species still fall apart, except perhaps under what would be extreme conditions. Therefore, one of the greatest concerns facing our world today is the loss of biodiversity. Therefore, almost all countries are also not immune to the global trend of biodiversity loss. Whatever the combination of good science, good laws, good public opinion and decent practice has got them, it's not winding the curve of extinction.

However, Byers (2022) argues that it is essential to dramatically scale up the global capacity to ensure that all species that require a conservation plan are covered by a resourced and well-implemented plan. The effects of implementing the resultant strategies at a large enough scale in order to respond to the demand will, as a consequence, turn around the decline of threatened species provided that the research needed to frame the overall problem and guide the approaches in place. In same vein, Luther (2021) affirm that more species in the world are at risk of extinction today than in any other time in recent history and concluded that effectively maintaining sites and species in the wild necessitate a blend of conservation actions from site-level protection and management to species specific recovery actions. Similarly, Huang et al. (2021) show that wildlife in China is determined and permitted by different levels of administrations based on their taxonomy and grading. The negative impacts of

conservation crime on rural economies have increased over the past two decades (Herbig & Minnaar, 2018). Many others have been listed in the CITES appendices that target particularly endangered species. This inevitably pushed these animal species into endangerment, driven by the fact that conservation crime takes more than one form. The impact of wildlife poaching and trafficking has negative effects on rural communities, game park visitors and the hospitality industry. This has a knock on effect on other aspects of rural life like the viability of game farming. This means the costs of protecting and maintaining the species within protected areas by park or reserve owners.

Rhinoceros poaching is current at crisis levels, most particularly in South Africa, with the nation suffering the deaths of over 7000 creatures in the last decade from a populace of only 25000 (Couzens, 2017). The recovery of the rhinoceros one of the most successful conservation programmes in history is now critically threatened. It seems that one cannot prevent poaching of rhinos because of the power of the commercial networks that underlie the illegal trade and the size of the market that the illicit commerce caters. Reflecting on the above, Rachael (2021), summarised the 17th Conference of the Parties to CITES, in 2016 and notes that Swaziland made a submission for a legal market of rhino horn. Given the current strength of international concern over the poaching crisis, the government of Swaziland must have been aware that the ploy risked being voted down. Any legal trade can only lead somewhere positive if it evidences the kind of gain that advocates for a legal market must elucidate in order to complement, supplement and support any other efforts. South Africa, tabled a proposal at CITES CoP 16 due to a recommendation by a Committee of

Enquiry for an integrated approach of this nature to be taken, is now seeking to implement more integrated approaches.

The complexity and scale of challenges to conserving black (Diceros bicornis) and white (Ceratotherium simum) rhinoceros in Africa, have attracted widespread opportunities for concern, acknowledgement, discussion and response (Chanyandura, 2021). Conducting frequent censuses of rhinoceros population is essential for the conservation and protection from illegal poaching (Jewell, 2020). In Namibia, a unique conservation programme implemented by the Ministry of Environment, Forestry, and Tourism (MEFT) has established a custodianship programme that allows for the use of "both white (Ceratotherium simum) and black (Diceros bicornis)" rhinoceroses on private lands. The programme mandates black rhinoceros custodians to submit regular reports to the MEFT, as they are of significant importance to the conservation of the endangered species under their care. The custodianship programme is undoubtedly a response to rhinoceros conservation, but it must be recognised that this comes at a considerable financial cost to these landowners. In general, the monitoring requirements mandated by the MEFT represent a significant economic burden on custodians. Importantly, the surveillance methods used (like aerial observation or state-of-the-art animal tracking devices) are often complex and costly.

As of April 2014, during a meeting in Nairobi, Kenya, organised by "United States Agency for International Development (USAID)" in partnership with IUCN, Kenya Wildlife Service and Trade Record Analysis on Flora and Fauna in Commerce (TRAFFIC), Knight (2015) states that some actions were introduced to combat wildlife

poaching. These included capacitating Wildlife Crime Investigators (WCI) and Enforcement Officers (EO), prioritising cross border collaboration, intelligence gathering and formalising the linkages to other international forensic institutions among others. Likewise, also in June 2014, the United Nations Environment Programme (UNEP) adopted a resolution further recognising the significance of responding to illegal wildlife trade, calling for increased intercontinental cooperation.

According to Benson (2018), Black Rhinoceros (Diceros bicornis) (hook-lipped rhinoceros) or prehensile-lipped rhinoceros, is not black in colour, but varies from grey to brown. According to the information shared through Bending (2018), in 2016, the population of surviving black rhinos on the continent of Africa was between 5,042 - 5,455. The Black Rhino is native to Angola, Kenya, Mozambique, Namibia, South Africa, Tanzania and Zimbabwe. It is believed to be extinct in Ethiopia, Cameroon and Chad. It has, however, been re-established in Botswana, Malawi, Swaziland, Zambia as well as more recently Rwanda in 2017 and Chad in 2018. Similarly, there has been debate surrounding the taxonomy of the White Rhinoceros (Ceratotherium simum), also known as the square-lipped rhinoceros. The species prefers bush land and savannah habitat, recognisable by a large hump on the back of its neck, according to Aljezeera (2014). Its native range is South Africa; possibly extirpated in Democratic Republic of the Congo, South Sudan and Sudan, and regionally extinct in Central African Republic and Chad. Reports indicate it has been reintroduced in countries such as Botswana, Kenya, Mozambique, Namibia, Swaziland, Uganda, Zimbabwe, and Zambia. The IUCN notes that as of 2016 there should have been between 19,682 and 21,077 white rhinos in Africa.

Andrew (2017) points out that the rhino horn market is still overlaid with traditional customs and cultural uses, especially in traditional medicine. Taking novel conservation approaches, and addressing the criminological implications of the market relies on cross-cultural understanding with multidisciplinary lessons from evolutionary biology, species ecology, cultural anthropology and biomedicine, biomaterial engineering and accounts of ancient and new material antiquity. According to Aryal (2017), it is high time that an international collaborative approach is required to mitigate rhino poaching and trading of rhino horns. That can be done by way of comprehensive phrasing and coherent applying of national and global regulation, sharing intelligence and experiences, trans-frontier planning and the linking of existing endeavors. While the political and conservation dynamics between Asia and Africa differ, the two-continent rhino-range countries are equally responsible for the survival of these iconic species. A rhino poaching crisis has engulfed South Africa's KNP over the past decade (Witter & Satterfield, 2019). State authorities are implementing military tactics, training individuals, and using equipment to rescue endangered black and threatened white rhinos.

2.4 BENEFITS ASSOCIATED WITH WILDLIFE CONSERVATION

Wildlife conservation is vital to maintaining biodiversity, developing economies, and ensuring the health of the global ecosystem. Protected areas allow for carbon sequestration, attain climate resilience, and provide water security, benefiting more than 1.5 billion people worldwide dependent on biodiversity for their livelihoods (WWF, 2023). Furthermore, conservation-based eco-tourism provides around $600 billion a year to local economies and governments (WTTC, 2023).

In Africa, wildlife conservation is a backbone of tourism, employment, and rural development. Wildlife-based tourism generates billions of revenue for countries like Kenya, South Africa, and Tanzania, and supports millions of jobs (Jones et al., 2019). Nevertheless, poaching, habitat destruction and climate change put these economic gains at risk, and increased conservation efforts are needed (Saayman & Saayman, 2016).

As a case in point, the Community-Based Natural Resource Management (CBNRM) programs in Namibia have been progressive, enhancing wildlife conservation and economic empowerment achievements. The Namibian government works with local communities, NGOs, and private conservation efforts to support income generation via ecotourism, trophy hunting, and conservation employment through conservancies (Naidoo et al., 2016). These successes aside, rhino poaching in ENP jeopardises the economic viability of the conservation programs, which have been shown to be effective for wildlife management as well, and highlights the need for a refined anti-poaching strategy and a more robust legal enforcement framework.

At the global level, Van Der Wal and Arts (2015) highlight the role of Information Technology (IT) and argue that the digital economy is the driver to advance the sustainable utilization and administration of natural resources and to preserve and rehabilitate biodiversity and natural space. It backs decentralised conservation based on local stakeholders to achieve equitable and self-sufficient governance and distribution of benefits. In addition, it can be theorised to collect and analyse data, model and disseminate scientific findings to aid systematic evidence-based conservation. South Africa between 1996 and 2006 (McKenzie et al., 2009), whereas

at the community level the Community-Based Natural Resource Management (CBNRM) system practicised in Southern Africa protect resources such as freshwater, forests, forest products, wildlife populations, and their habitats while simultaneously empowering local communities (Jones & Erdmann, 2013). The emphasis is on decentralizing control from the central government to local communities so that they take responsibility for both the costs of managing resources and the benefits derived from the process. According to Khumalo (2015), in some economically less fortunate parts of the world, conservation is slowly integrated with development. It is based on the assumption that rural residents can gain from conservation programmes. According to Saayman and Saayman (2016), Southern African countries are becoming more dependent on natural beauty and wildlife for tourism. Mosimane (2015) believes that the provision of socio-economic benefits to the community members is a major component in the design and implementation of CBNRM initiatives in rural areas.

In Namibia, the CBNRM law requires the same local governance systems to develop a benefit-sharing framework and the benefits accruing to community members. The CBNRM programme in Botswana has existed for about two decades (Mbaiwa, 2015). It seeks to promote biodiversity protection and rural development with a focus on improving rural livelihoods. According to Balfour (2019), CBNRM can be a catalyst which delivers several benefits to local communities, including both material and non-material benefits. Conservation efforts are very much needed in combating the creeping up of Illegal Wildlife Trafficking (IWT) since it has already plunged many wildlife populations into devastation (Cooney, 2017), and it is a pressing concern in worldwide conservation. Policy commitments at the national level are increasingly needed to drive action by local communities as part of an effective response.

Bandyopadhyay et al. (2019), as highlighted by community-based conservation programmes in developing countries have increasingly become more communal after the recognition of a need to achieve wildlife conservation and human development simultaneously. In Namibia, this type of conservation has been implemented via locally controlled organisations called communal conservancies that give rural community members conditional rights over tourism and resource management. On the other hand, Chevallie (2016) states that CBNRM is the management of land, forests, wildlife, water and other natural resources by local institutions for local benefit. According to Naidoo (2016), tourism and hunting are important sources of income for communities and private operators within Africa. In Namibia, hunting largely generates money for the conservancies to manage common land and meat for the people; tourism is mostly paying jobs at lodges.

2.5 UNDERSTANDING THE CONCEPT OF POACHING

Poaching is defined as the illegal practice of trespassing with the intent to steal and/or hunt animals without the landowner's permission, and it is one of the biggest threats to wildlife conservation (Kaisara, 2021). Poaching is defined, according to some environmentalists, as the illegal harvesting of wildlife, which violates specific laws or regulations (Tamar et al., 2022). Hübschle (2016) also define poaching as the illegal harvesting of wildlife in contravention of local, state, federal, or international laws. In fact, poaching is the illegal taking of wildlife, although wildlife includes all types of non-domesticated plants and animals living in the wild (Lemieux, 2014). Rhino poaching thus impacts a number of Southern African countries in their effort to ensure that they do not go extinct.

They believe that a particularly strong driver for the consumption of rhino horns in Asia, is the belief that rhino horn has incredible healing qualities, even a cure for cancer (Anderson & Jooste, 2014). Please also listen to our video (link), which takes us back to life in a war zone during our youth, capturing the image of a boat on a puddle of sea crushing over time. Traditional Chinese medicine is thought to have used rhino horns for conditions like gout, rheumatism, fever, headaches, vomiting, food poisoning and typhoid. Additionally, it is thought to be an aphrodisiac and to use it, the horn is crushed into a powder or shaved into thin whiskers and mixed in boiling water and taken internally (Anderson & Jooste, 2014). According to Bertolini (2023), a rhino horn is one of many commodities that are extremely valuable in some Asian cultures. For at least four hundred years, the rhino horn has been an essential ingredient in traditional Chinese medicine. Rhino horn powder is believed to have medicinal properties that are effective in treating gout, stroke and hangovers. New claims of having rhino horn as a cancer supply have spurred the demand for rhino horn in the Vietnamese market (Bertolini, 2023). In addition, rhino horn has more than medicinal value.

In Vietnam, a cultural practice is to present a rhino horn to critically ill patients as a symbolic gesture of relaxation. In terms of the Namibian native context, a unique and entrenched custom is the use of oil sourced from particular lizard species in the treatment of ear infections. These observations conformed to the claim that rhinos face the greatest risk of poaching due to the perceived medicinal significance of their horns. Alternative and traditional healing; they all seem to find their way into this conundrum of horn & rhinos as we peel the layers to understand the interplay between the natural world and the socio-economic conditions around it. However, the immediate risk

posed by poachers is expected to rise significantly, as are, therefore, the implications for wildlife conservation, mirroring the rising demand for rhino horns and elephant tusks in Asia, and as a result, making the illegal trade an increasingly profitable business. In the Asian Market, China, Vietnam and Thailand, are the biggest consumer markets for rhino horns and elephant tusks (Catherine, 2015), Veterans for Wildlife. In addition, by Western researchers, evidence is provided supporting the idea that transnational poaching is largely motivated by rising demand from syndicates within China that are willing to pay top dollar for rhino horns and elephant tusks, along with corruption and crime by government officials (UNHCR, 2018).

As a response to the high value of rhino horns and ivory, rhinoceros and elephant poaching has been increasing (Anderson & Jooste, 2014). It has also been argued by many scholars that the rising global prices of rhino horns and ivory are inducing the rise of poaching. In 2003, the price of a kilogramme of prime ivory was just under $200. However, on the illegal market, the same amount would go for $2,500 - $3,000 in 2013 (Moore, 2017). It is also supported by Anderson and Jooste (2014), who state that an increasing price for the rhino horn is raising a lot of attention. A kilogram of rhino horn used to cost around $800 in the 1990s, but today it is worth more than gold (Anderson & Jooste, 2014). As per Balfour (2019), rhino horn is highly prized and the demand for rhino horn leads to the poaching of rhinos. Likewise, Crookes (2016) states that rhino populations are on the precipice, and new strategies are required to secure their future.

According to Theofanidis and Fountouki (2018), the price of rhino horn was five figures ($65,000) per kilogramme. Of the 1,004 rhinos killed in South Africa, the

horns may be worth $440 million. As stated in Chen (2016), commodity prices increase, law enforcement fails, and high investment in law enforcement does not prevent illegal markets for that commodity from thriving. natural rhino horn, narcotics, arms and products are a few examples. According to the UNHCR (2018), criminal activities can endanger the territorial sovereignty of the affected countries and pose security dangers since poaching crime activities associated with China may link, in some way, to terrorist groups potentially using those poaching activities as a means of financing their activities. More than the economic impact, it also threatens security in the SADC region due to the loss of territorial sovereignty, which leads to the magnification of the threats that poaching brings. Further supporting this previous concern, Ramutsindela (2016) states that poaching has turned into a national and worldwide security threat as it is assumed to be a source of income for terrorist organisations. According to UNHCR (2018), poor state government officials would also be willing to take bribes from poachers and ivory peddlers or to allow poachers to move without hindrance inside the border of the state. Corruption, bribery, and other social ills can create the social conditions that give rise to terrorism; these are bad practices.

Based on data published by WWF (2015), TRAFFIC exposed corrupt border point and airport officials enabling smuggled commodities to slip through undetected. According to the Ministry of Environment (2022), "In 2018, a Namibian Police Officer was charged for a scam involving rhino horns after a law enforcer member of turned a blind eye to the transit of 18 rhino horns through Hosea Kutako International Airport (HKIA) destined for South Africa from Namibia". However, eagle-eyed customs officials caught the horns in a routine luggage scan. For this reason, wildlife crime is

also perpetuated indirectly because even some senior government officials are involved in it (UNHCR, 2018). The involvement of two Ministers in Namibia and a Senior Official in the Northern region in the poaching of rhinos and elephants in the ENP was reported. According to the Financial Intelligence Centre report, a Chinese businessman who had a wildlife trophy trading concern was arrested in 2016 for buying two elephant tusks from MEFT officials.

In the wake of the June 2022 events, MEFT Minister Pohamba Shifeta announced a formal investigation into some staff members working at the ENP. This unspeakable act was triggered after the alarming found of 11 rhinos rampaged and their horns cruelly hacked off. Honourable Shifeta stated that poaching incidents were highly suspected to be planned from within and therefore needed to be addressed and recognised as critical as there was solid evidence to indicate that some staff, who were in collusion with the syndicates were involved in the organised poaching who after they were taking away these horns were smuggling them abroad to some of the markets to be found in China, Vietnam countries in the far East (Huang et al., 2021). Thus, Lopes (2019) opines that corruption shows a significantly positive relationship towards rhino poaching and the more prearranged criminal syndicates become, the more likely certain administrative agents are involved to help coordinate supplies of rhino horns across a number of states. Nguyen Van Song (2022) exposed the arms race between poachers and personnel in charge of reducing poaching, which led to the killing of more than 300 suspected poachers in Kruger National Park (KNP), South Africa, from 2009 to 2013. In 2013, 86 poachers were caught, and 47 were killed during skirmishes with South African authorities in the KNP (Anderson & Jooste, 2014). Andrew (2017), claims that African rhino populations are being severely

threatened by poachers killing them for their horns for illegal trade, and this alludes to the topic we are exploring here. Andrew added that, between 2008 and 2016, approximately 7,124 rhinos were illegally hunted in Africa, mostly in South Africa. More than 1,000 rhinos were killed in South Africa in 2016. Poaching continues at an unsustainable rate, despite a worldwide ban on horn trade and a series of law enforcement actions in countries where the animals have lived, not least Southern African ones. Ramutsindela (2016) states that many rhinos were killed in Southern Africa due to poaching in the years 2013 and 2014 and that this has a major impact on conservation and political aspects in the region.

In the same vein, Petruzzello (2015) states that rhino poaching has plagued Southern Africa for years, particularly in both neighbouring South Africa and Botswana. As a result, it brought about a number of national and regional anti-poaching programs, rigorous law enforcement, and dehorning or horn removal from rhinos to deter rhino poaching. Similarly, Anderson and Jooste (2014) note that between 2000 and 2007, there were few incidents of rhino poaching, with less than 10 reported a year, although by 2013, the number poached had swollen to1,004 rhinos. The figures of rhino poached per year have skyrocketed from 1,054 in 2016 to 1,175 in 2015 respectively (Madigele, 2022). Likewise for Namibia, which lost 24 rhinos in the entire ENP in 2014 and 62 in 2015. In support of the aforementioned state, the Namibia Financial Intelligence Centre (CENTRE, 2017) reports that rising prices of rhino horns in Asian markets have led to a surge in killings of rhinoceroses allegedly used for traditional medicines. Similarly, Nakashole (2021) reports that 87 rhinos were poached in the ENP in 2022, whereas the preceding years' figure for recorded killings stood at 45 rhinos in 2021, 43 rhinos in 2020, 61 in 2019, 84 in 2018 and 55 in 2017.

The extraordinarily large number of rhino poaching incidents in the ENP makes it a concerning hotspot for rhino poaching. Relative to the increasing trend on rhino poaching throughout Southern Africa, it stands out as a critical pattern that requires consistent focus. Therefore, this prompted the need for the significance of this study, which sought to examine the numerous forms of determinants that contribute to rhino poaching within the ENP context, so as to enable the dissection of the complexities associated with this pervasive issue and assist with effectively targeted interventions in curtailing its concerning trajectory. The upcoming findings will be critical in shaping ambitions over legislative revisions and sanctions and improving management practices to conserve endangered species and prevent their impending extinction. The researcher humbly believes that these findings should provide a new input for anti-poaching stakeholders to generate available tools which could contribute to addressing this pressing problem of rhino poaching in the ENP.

2.6 NEGATIVE EFFECTS OF RHINO POACHING

Hauenstein (2020) asserts that the traditional practice of poaching is contributing to the rapid decline of rhino populations across Africa. By the same token, Ramutsindela (2016) states that poaching is a major threat to many wildlife species, particularly those shielded in nature reserves or national parks. Wildlife tourism attracts a large number of tourists from all over the world and is the leading wildlife-viewing region, which brings significant tourism revenue (Lubbe, 2019). Rhinos are big drawcards for tourists to South Africa, which hosts around 80% of the world's rhinos. But rhino poaching has escalated to a critical level, so much so that if it continues, Africa's last

rhino population would be extinct in the wild within 20 years. According to Madigele (2022), illegal poaching is one of Africa's greatest threats to its biodiversity with the potential loss of species, while Anderson and Jooste (2014) warn that if we don't act collectively, we will see the extinction of rhinos.

The impact of poaching on rhinos will be enormous if source restrictions are not placed on rhino poaching (Herbig, 2018). Moreover, this, will adversely affect its future viability as well both the sustainability of species in the ecological landscape, taking into account the economic advantages which in the long run will be profoundly damaging to many segments of rural communities who have in reality become dependent upon wildlife and tourism industries alike for their economic stability. Simms (2018) found that poaching negatively influences the population of one of the rhinoceros species occurring in the KNP. Kuss (2017) states crimes against wildlife are shared victims to all citizens as they destroy the cultural heritage that should be handed down to generations to come. This destruction results in the partial or total extermination of species and will leave an ecological and cultural void that will probably be impossible to seal. Robert and McCleery (2000) specify that all dependent rhino calves and juveniles die if their mothers are poached because they are unable to fend for themselves. The lucrative and low-risk nature of wildlife trafficking may breed a sense of impunity within Africa’s security industry and undermine professionalism, encouraging a spectrum of illegal and abusive behaviour (Anderson & Jooste, 2014). According the UNHCR (2018), global poaching has emerged as a security challenge of international concern and attracting the attention of agencies such as the United Nations (UN), the World Wildlife Fund, World Tourism Organisation and African Wildlife Fund.

In addition, Bending (2015) warns that an illicit wildlife trade is a multibillion-dollar global criminal industry harnessing conditions such as poverty, corruption, insufficient public education and ineffective regulation to the considerable detriment of human and non-human lives. In light of the phenomenal value of goods traded and myriad consequences, green criminologists like Wyatt have lamented that the delinquents remain on the edges of academia and policy making alike. According to Clements (2020), approximately 40% of all white rhinos worldwide have been preserved by private landlords in South Africa, but with escalating rhino poaching, they have divested.

2.7 MILITARISATION OF RHINO ANTI-POACHING OPERATIONS

The militarisation of conservation has become a controversial but common response to combat the poaching of high-value wildlife. In response, examples include South Africa, Kenya and Namibia embracing military tactics, advanced weaponry, and specialized anti-poaching units (Massé et al., 2019). Militarised forms of conservation, they argue, only serve to heighten local tensions, misusing force on local communities and thereby violating their rights (Lunstrum, 2017).

In Namibia, armed anti-poaching units, surveillance drones and working with international security agencies are being used to secure rhino in ENP. Although these efforts have reduced some poaching activities, questions linger about the effectiveness, sustainability, and ethics of militarized conservation (Hübschle, 2020).

Annecke (2016) claims that the employment of military operations for anti-poaching work in national parks generates negative social and economic impacts. The author's point of view is that, in practice, it uses huge resources and, therefore, is not sustainable in the long run. The author nevertheless argues that countries that are directly or indirectly affected should all have multilateral poaching approaches. As Duffy (2017) started his 'The 96 Elephants campaign', he reasoned that poachers are not motivated by poverty; rather, they form part of larger criminal and terrorist networks. The practice thus classified poachers as terrorists or criminals that needed to be battled with force. The author suggests that ex-poachers should be given a chance to work as rangers with benefits from formal employment, housing and education for their families. Trained veterans should be employed in militarised conservation due to their expertise. The International Anti-Poaching Foundation (IAPF) is a mercenary force that calls for direct militarised action to protect high-value iconic species.

Furthermore, according to the IAPF, today, the current level of poaching is a World Wildlife War (WWW). Moreover, it advocates for direct action and building a 'green army' and, therefore, calls upon supporters to enlist. At the centre of it is IAPF, which was founded by Damien Mander after he had served in the Australian Navy and Army Special Forces and then began working in Iraq for private military companies. The military man wanted to use IAPF to bring military strategies he acquired in Iraq to anti-poaching missions mostly in Zimbabwe and Mozambique.

The same principle underpins VETPAW, a US-based solution that uses operational expertise and education by providing combat veterans with employment opportunities to work alongside rangers to reduce unemployment rates and take part in anti-poaching

operations, thus supporting the IAPF's model. VETPAW tried to get into anti-poaching work in Tanzania in 2015, only to be told by the government not to come because it had received bad press about anti-poaching initiatives in Tanzania. Later, the dogs were dispatched for anti-poaching work on private reserves in South Africa. They claimed that they were helping veterans to cope and to overcome PTSD. A news release posted on the web on April 17, 2017, by the Game Rangers Association of Africa (GRAA) detailed the use of security and military personnel and tactics in providing training to rangers across the continent of Africa. More militaries, veterans and former security contractors outside Africa are becoming more involved in ranger training across the continent. Some may be good, but the problems are growing, and African ranger communities need to know. The concerns include lack of coordination, understanding of the environment at work, understanding of legal frameworks, appropriate vetting, military hardware manufacturers profiting, and the need for ecological sensitivity.

Their definitive findings show that this phenomenon is unprecedented, revealing a history of migration within conservation agencies and the armed forces. This dynamic is perhaps best illustrated by the experiences of former members of the South African Defence Force, including whites, following the end of apartheid, who sought new avenues for work in conservation, illuminating the complexities of socio-political reform vis-a-vis the reorganisation of conservation practices. Shaw et al. (2021), points that the South African government as well as its National Defence Force (SANDF) declared war on rhino poaching, and a group of aligned ex-apartheid military operatives now mostly play in the the private security domains, have seized the opportunity to practice their skills as well as make their money. The country's

parks authority is staffed mainly by former security personnel and is now headed by a former army general. These military manoeuvres have taken place in concert with a range of external interests that have carved out a welcome place in the KNP and by the government and that, simultaneously, conspired in the background through their ties to the security formation. Ultimately, the militarization of anti-poaching operations feels similar to the counter-insurgency wars fought across the region in the 1980s.

Duffy et al. (2019) suggest that the poaching and trafficking of high-value species have raised urgent conservation concerns about their impacts on wildlife. The militarisation of conservation, which the authors speculate could lead to far-reaching consequences. We must examine and reflect on the militarisation of conservation, however, and the challenges it creates for animals, community members, and those who are charged with implementing militarised solutions. The authors also argue that this is the first step towards integrating the principal problems involved in generating critiques of militarised conservation.

The authors firmly caution that failing to address militarisation directly can not only replicate harms to people, but also have serious implications for future conservation action. The warning illustrates the importance of a proactive stance in confronting the challenges and dangers posed by the militarisation of conservation work.

Dickman (2020) calls the militarisation of conservation the green militarisation, and this has spurred global attention. The horn of the rhino is incredibly expensive, and in 2013, its cost exceeded that of cocaine or gold, and its illegal turning on the market

has attracted significant interest. The author further opines that preservationists have declared war on poaching by way of sending military and huge resources to fight it. These military operations sometimes have shoot-to-kill watchwords in the media and may be comparable to extrajudicial killings. The study's main goal was to assess whether the war on poaching is consistent with the expected rules of armed conflict. On both ethical and practical analysis, the author found it lacking. In a final rallying cry, the author implores conservation scientists but also everyone else to consider seriously the fundamental tactics necessary to safeguard wildlife. The author goes even further, arguing for a thorough reassessment of conservation policies, stressing the need for these policies to meet ethical demands in order to produce true and ethical action in the preservation of fauna and flora.

Massé (2017), expounds that anti-poaching, which is dominated by a para-militarised strategy, has limitations, therefore, the search for new law enforcement strategies for conservation is underway. One example would be an inclusive anti-poaching wildlife strategy where local community members are encouraged to engage with the anti-poaching initiative. While there are the hurdles and potential for drawbacks, integrating local communities in the enforcement of conservation laws can help counter poaching and increase the success rate of current anti-poaching efforts. Most existing anti-poaching or ranger initiatives do not target their interventions based on the drivers of wildlife crime in a particular location and local ranger initiatives must be set in a broader strategy to help build sustainable local wildlife economies benefiting local communities.

In the same vein, Jooste and Ferreira (2018), claim that anti-poaching is a part of joint methods that are adopted by South Africa. Some eco-scholars have deemed the war-making training, equipping, financing, and strategizing to ameliorate environmental catastrophes green militarism. Some scholars even criticise the militarisation of rhino protection by pointing out that there has been a shift in rangers' focus towards law enforcement, which has consequently led to higher militarisation of the process, resulting in increased animosity from the local communities residing around these areas.

Massé et al. (2018), asserts that in many parts of Africa, the rate of the expansion of commercial poaching has been met with ever more militarised responses. It is compared with green militarisation featuring national armies, para-militarised rangers, military strategies and advanced military technology to resolve the severe issue. The existing works on this topic have mostly been engaged through a political ecology lens and have not been linked with Critical Military Works (CMS). A key area of research in CMS is the growing militarisation of civilian spaces; the lens of environmental conservation and non-human nature reveals the increasingly militarised nature of these spaces. This narrative pushes the thinking towards newer practices in and increasing trends of green militarisation, and CMS focuses on the duality of development and security to understand the process behind these changes. The move towards softer militarised strategies over the past few years has also been described as a form of soft counterinsurgency in relation to poaching and the conservation-security development nexus. Development initiatives are oriented towards communities to enlist their support, deter engagement in poaching, and mitigate the security risks engendered by poaching.

In a similar fashion, Glasson (2020) argues that park militarisation in Africa has been driven by a range of dynamics over the past decade or so, including (but not limited to) illegal wildlife trafficking, commercial poaching and transnational criminal syndicates. As a result, many countries in Africa have formulated positive policies to contribute to the building of the local economy, such as supporting ecotourism, supporting hospitality groups investing to construct accommodation and other tourism facilities. Tourism demand in Mozambique has diversified away from beach and coastal tourism towards photographic safari and hunting tourism. Local tourism revenue in Kenya and Tanzania is extremely well used to address key health problems and combat the negative effects of wildlife trafficking and poaching. This is particularly acute in the Southern African Development Community (SADC) region, which is thought to hold Africa's highest population of rhinos and other sought-after species. In Central and Western Africa, there are multiple issues, including state governance challenges, limited capacity, persistent extreme violence, and long-standing conflicts and insurgencies. This has heightened these anxieties, emphasising the need for flexible and holistic conservation approaches in these areas. This green militarisation of African conservation is a recurring problem, becoming standard practice with varied degrees of success in multiple African parks and conservation agencies. The author, therefore, illustrates the critical importance of prioritising local community custodianship, the enabling of socio-economic development and, ultimately, a genuine stake in conservation for these communities. Such a massive challenge calls for novel approaches that tackle the multiple dimensions of the illegal wildlife trade: demand, culture and economics. It is from this necessity that we hope to help bring about real and fundamental change in the conservation landscape.

According to Witter and Satterfield (2019), conservation organisations in Southern Africa have therefore implemented increased security measures to combat the illicit hunting of rhinoceros for their horns over the past decade. Extreme environmentalists argue that aggressive militaristic tactics are counterproductive as the authorities have failed to meaningfully tackle the underlying causes of poaching, thus leaving disenfranchised segments of society with little reason not to poach.

On the contrary, Michel (2018) explains that the biological diversity extinction of its wildlife is solely attributed to human beings. The extermination tragedy has poaching and the illegal trading of wildlife items as major contributors. So, in the search for effective strategies that could mitigate against the disaster, two broad strategies have emerged: community-based natural resource management and militarised conservation. 'Live by the gun, die by the gun', Mogomotsi's (2017) research article states that Botswana's 'shoot-to-kill' policy is used as antipoaching weaponry owing to the disturbances rhino and elephant poaching caused across several Southern African countries. Despite having addressed the crisis of rhino poaching in Namibia and South Africa, the risk associated with the trophy hunting of rhinos is real and requires proven accountability mechanisms. Consequently, in response to the problem, the Botswana government has implemented a controversial 'shoot-to-kill' solution while chasing poachers. It has long been thought that the controversial exercise has cut poaching in that country and other countries on the continent.

According to a study of one Tanzanian scholar, the aggravating conditions of poachers obtaining automatic weapons made the problem worse (Charles, 2018). Thus, forces of that kind posed a national security threat, and as such, the country must have

responded with military interventions. Inclusive Female Anti-Poaching (IFAP) was explored by Koot (2023) as a methodology that generates stressors working against not only gender stereotypes but also the interplay and relationship with race. The study assessed the representation of female rangers as heroines in terms of their socio-economic status, as well as political-economic and historical contexts, and evaluated the project's role in boosting green militarisation and their intricate connection with demilitarisation. It is argued time and again by the author that the proposed conception of the IFAP relies heavily on those factors which we do not recognize as tangible or objective such as symbolic and systemic violence. The alleged pledge to take down gender barriers and to promote demilitarisation remains fraught with uncertainty and is far from total in intent. Additionally, it seems that a key motivation for these claims is to make IFAP more appealing in order to attract more resources. These and similar claims require a more open, documented nature if real trust and commitment are to be engendered.

Mkono (2023) explains that anti-poaching is critical to tourism management in areas where wildlife remains the sole motivation for visiting. We wanted scholars to explore how the principles of social justice have been appropriated to design and execute anti-poaching initiatives throughout Sub-Saharan Africa. One of the key areas of focus is the Akashinga model, a Zimbabwean woman-only anti-poaching project and the brainchild of an Australian conservation activist named Damien Mander. Akashinga is the next big, and largely exciting, conservation idea in which hunting tourism in sub-Saharan wilderness areas is replaced. So, the presentation has three parts: community involvement, women empowerment and a realization of women's contribution to the success of anti-poaching and bigger conservation outcomes. While Akashinga has a

positive influence on the local people and wildlife conservation, it is essential to heed the cautionary advice about postcolonial power structures.

2.8 USE OF TOURISM AND SOCIAL MEDIA TO RAISE ANTI-POACHING RESOURCES

Massé (2019) highlights that conservation establishments are increasingly using tourism and social media to crowdsource funds for anti-poaching interventions. The promotions ravaged wildlife and put rangers in danger. There is little guidance on how to justify the extent of poaching and its associated violence, prioritise other conservation goals or assess the effects of heavy-handed enforcement methods or militarised anti-poaching techniques, the author adds, and all need detailed investigation. The "politics of invisibility" in anti-poaching describes the strategies used to put poaching in a way that is sensible, relatable and appealing to a broader audience, and how this process impacts conservation.

This recurs with Lunstrum (2017), who says that the user-generated content spawned from networking sites like Facebook and Twitter enabled online groups to expose and denounce abuses to animals, and particularly wildlife. One of the most active populations congregated to sign the petition, in that case, to show concern for the rhino, owing to rising commercial poaching.

2.9 POACHING AS A SECURITY THREAT TO SADC

Poaching is a stubborn delinquent and despite the SADC region making strides to combat the scourge, it is far from being defeated (Baruti, 2018). The vast porous borders between states also contribute to the situation, which are regulated the least. So the author believes it is the solution to trans-border poaching needs to come from

the governments themselves. They should work on implementing good governance, building up institutions, and uplifting the socioeconomic conditions of their people (Baruti, 2018).

Mogomotsi et al. (2020) as the origin of ecological laws in Africa: the political economy of colonialism. In this context, SADC countries have endorsed regional environmental treaties and designated Transboundary Conservation Areas (TBCA). On the other hand, SADC states are reluctant to ratify agreements that infringe severely into their sovereignty. The taxonomy of poaching as a transnational organised crime phenomenon requires urgent and serious suppression or mitigation. It is recommended that the SADC Tribunal be restored to also have jurisdiction over transnational environmental matters, and strategies for the effective use of wildlife instruments are discussed. According to Cohen (2019) in the article "The need for harmonisation of wildlife crime laws in SADC", the Illicit Wildlife Trade (IWT) has emerged as a serious and global threat that is threatening the very existence of animals and plants. It recurs into a crime that upends national security and the rule of law. In addition, an illegal trade has advanced into a well-structured illicit business, which is covered by more than one Transnational Criminal Network (TCN). Its covert nature, and as murder is seen as a little nuisance crime, has permitted it to weave into other types of Transnational Organised Crime (TOC) within the SADC arena. It robs SADC countries and their societies of their natural resources and cultural heritage, creating serious economic as well as social challenges.

Sharing analogous sentiment is Magano (2019), who expresses that rhino poaching is not just a threat to the existence of the rhino species, but it also undermines the rule of

law and good governance and the growing corruption. It also denies countries their natural resources and cultural capital. Moreover, the social and economic impact is calamitous. Similarly, Rakenosi (2020) argue, poaching and illegal trafficking of animal items are worldwide issues that weaken wildlife populations in 3rd world countries. The fact that it is not a popular field also leads to factors such as illegal wildlife trafficking and poaching due to poor socio-economic conditions in rural villages. Terrorists and criminals use the illegal trade in wildlife products and poaching as a source of financing, thus endangering state security. Thus, working with community stakeholders to improve the health of rural communities may help in addressing the illegal wildlife trade (Rakenosi,2020).

2.10 METHODS USED FOR POACHING OF RHINOS

According to Duffy (2013), the model for African wildlife anti-poachers used to be taken from communities living next to protected areas. Debate persists about whether some conservancies were once areas of community land where subsistence hunting routinely took place. Common poachers are soldiers or police officers who gain a degree of specialised training to learn tracking or shooting abilities, or even game scouts. As the author explains, the advances in methods of killing rhinos suggest that the deaths of these animals are the work of organised crime syndicates. Methods of rhino poaching are professional (organised criminal networks with automatic rifles, night vision gadgets and burning the forest).

2.10.1 Organised criminal networks

Ayling (2013) argues that some networks of rhino poachers may, in fact, be co-individuals opportunistically organised in order solely to commit a crime that is subsequently assimilated into the larger organized crime network of the criminal environment that incorporates them. These groups commit organised crimes but do not meet the criteria for organised criminal groups as defined by the United Nations Convention against Transnational Organised Crime (UNTOC). However, some organisations, including the Groenewald gang and Rathkeale Rovers, appear to be involved in long-term trade agreements. Also, Wyatt (2020) shares similar views that as a result of globalisation and the growing market for rhino horns, drug trafficking avenues have evolved to include both the illicit rhinoceros trade as well as various stages of the illegal wildlife economy. Wildlife trafficking is committed by a sophisticated set of very different perpetrators and is more organised and embedded in the legal world than the current narrative would suggest. The author also referred to the fact that the rise in wildlife trafficking carries considerable security threats as several armed groups and networks of criminals are getting involved in the illegal wildlife trade to make huge profits. The Lord's Resistance Army defectors have said the group is trading ivory with Arab businessmen and Sudanese troops in exchange for cash, food, arms and medical supplies. The operations of Sudanese armed groups have been blamed for the killing of hundreds of rhinoceroses and elephants in wildlife reserves in Cameroon. A booming trade in the illegal market worth hundreds of millions of dollars thrives on corruption at ports, customs offices and security services across Africa. It is also providing income for rebel groups and criminal networks across the continent (Anderson & Jooste, 2014).

According to the UNHCR (2018), trans-border poachers make use of military weapons of war, including AK-47s and various types of hunting rifles with silencers and telescopic sights. They employ military tactics when they raid and tend to evade the wildlife wardens armed with light assault rifles. They exploit large and porous borders to operate largely under the radar. Francis (2017) shows that rhinoceros poachers have a crew of three or four people, irrespective of geographical location. These gangs consist of a shooter, a horn cutter and a carrier. Normally, the shooter is their most senior member and takes the most remuneration. Adding value to assertions are Anderson and Jooste (2014), who indicate that wildlife poaching is not only an isolated issue but part of a broader trafficking network that is financing violent organisations and corrupting facets of Africa's security sector.

2.10.2 Shooting with riffles

Ayling (2013) referenced a four-year-long investigation conducted by the Conflict Awareness Project (CAP), which found out that an international arms smuggling operation that linked thousands of high-caliber hunting rifles from Europe and the United States of America (USA) to poaching masterminds in southern Africa sparked a vigorous poaching crisis. In addition, Monteith (2019) postulates that although the butchery of rhinos usually involves firearms, generally AK47 assault rifles, there is a change in the predilection: it is now professional hitmen killing rhinos in a matter of seconds with heavy calibre guns, e. 375 and 458 rifles. They employ crossbow shooting as a method for killing rhinos, but that is rare. Bow hunting is silent, so it has the advantage of being deadly. It involves advanced professional skills and equipment not generally accessible to a typical poacher.

2.10.3 Use of torches

ZELA (2022) supports that some poachers used bright torches at night to flash target animals in their fields or bush in the crop growing season. When beamed with a torch and light, this stunning animal is blinded and cannot move. The poachers will approach the animal and bludgeon it on the head using a heavy club. This method is seasonal, and its success hinges on the poacher's ingenuity.

2.10.4 Burning the forest

Other subsistence methods are burning the forest or the wildlife habitat. This method is indiscriminate and impacts wildlife and vegetation alike. The fire will be lit on one side of the forest, and the subsistence poachers wait, with spears, axes, catapults and dogs at the other, to strike at the wildlife escaping the smoke and fire. Slow-moving animals like pythons tend to be burned to death by fire in the panic. Poachers also employ the stunt whenever they escape from park rangers (ZELA, 2022).

2.11 MEASURES TO REDUCE RHINO POACHING

Ferreira et al. (2018), stresses that poaching does not positively impact at least one of the rhino species in KNP, therefore governments require the continued enforcement of international and national initiatives to protect rhinos effectively through integrated and full-spectrum law enforcement. Anderson and Jooste (2014) suggests that African nations, international governmental, and non-governmental organizations must take immediate action to adopt a strategy to halt and ultimately reverse the rapidly encroaching threat and safeguard their natural resources for the future.

The following are some measures that can be used to tackle rhino poaching and prevent extinction.

2.11.1 Governments' international agreements

According to Clarke (2009), CITES was created partially as a response to illicit trade in rhino horns and ivory, largely to minimise poaching. Furthermore, Minnaar (2019) states that CITES is a multilateral treaty between governments that was created to make sure that international trade in wild animals and plants does not endanger their survival. It was established in 1973, primarily to regulate the trade of more than 35,000 wild species of animals and plants across national and international boundaries in order to protect them from over-exploitation. Signatories to the agreement meet every three years to consider important conservation issues. It classified protected species or populations in Appendices to three lists, according to the degree of the threat it faces, and the restrictions applicable to the trade. Miller (2003) suggests that for governmental and nongovernmental conservation organisations, a series of additional actions are required to integrate social scientific knowledge into conservation decision-making.

2.11.2 Establish Anti-Poaching Units

According to Subedi et al. (2020), Community Based Anti-Poaching Units (CBAPU) are often established to conduct anti-poaching operations, but the operational areas are broad and encompass a wide range of actions. The establishment of anti-poaching units has significantly decreased poaching and illegal activities in the area, but not to the extent that it should. Similar to the dynamic scenario, poachers could learn to be aware of anti-poaching patrols and change their combat tactics accordingly. Ferreira et al. (2018) identify that this practice necessitates comprehensive and coordinated

anti-poaching activities and other appropriate conservation acts. Collaboration with local people and awareness programmes are always needed to make local people conscious about biodiversity conservation and its importance. In support of the same idea is Rayamajhi (2023), who explains that as poaching increased, the youth were more concerned about it and organised into groups in an effective manner to reduce illegal poaching, thus, they were able to help with the establishment of the CBAPU concept. Fynn and Kolawole (2020) reminds us that decreasing rhino poaching in Africa is not a case of merely providing well-meant support for government-supported anti-poaching units and their weaponry.

2.11.3 Dehorning the rhinos

Chimes (2022) holds that the black rhinoceros (Diceros bicornis) is unkindly endangered, with poaching being one of the multiple threats to the species' survival. Different reserves crossing different nations, including Namibia, South Africa and Zimbabwe, presently dehorn their rhinos to attempt to lessen poaching. On the other hand, Mukwazvure (2014) stated that according to statistics, when dehorning was implemented in Zimbabwe they found a 29.1 % chance of survival of dehorned rhinos compared to horned rhinos. One thing that we learnt from Hwange National Park in Zimbabwe back in the 90s was the fact that all the dehorned rhinos were poached 12-18 months after the dehorning process.

2.11.4 Use of trackers

According to Aryal (2017), an unnamed Kenyan game reserve put triggers on fences and implanted trackers in rhinos and elephants, which texted rangers' cell phones if security perimeters were breached or if the animals were behaving in unusual ways.

Detailed accounting of ranger deployments, poaching patterns and biometric and forensic data on carcasses requires technology.

2.11.5 Poisoning

The measure is done by injecting a cocktail of poison and permanent pink ink into the horn of the live rhino. An indelible ink is used to mark these horns, which can still be recognised by scanners, thus minimising the likelihood that the horn will be moved through a deal over the airports. Despite the fact that this system is for the protection of the rhino, there are moral fears involved with the method (because whoever meshes the powdered horn is in danger of grave wounds or mortality) (Petruzzello, 2015).

2.11.6 Information technology (IT) use

IT can offer additional benefits that can increase the mobility and domain awareness of rangers. However, the fact of the matter is that technology should not come secondary to the right personnel trained and equipped rangers (Joosete, 2014). There are no helicopters or high-tech devices ever that could match the effectiveness of one person who is trained in the ways of the wild, skilled in following the small signs left by intruders, able to work for long periods of time in isolation without resupplies and who is willing to face threats (Anderson & Jooste, 2014). A high-mobility capability must be established to monitor the ENP rhinos and combat poaching, including hardware acquisition (e.g., helicopters, vehicles, drones, and surveillance devices). Effective for a wider area, the new equipment will add to the success of anti-poaching patrols (UNHCR, 2018).

2.11.7 Sensitize the importance of wildlife for community development

ZELA (2022) urges further dialogue with stakeholders for the preservation of wildlife in their community development efforts. This type of consciousness points to the reasons why poaching is bad for the communities and the economy as a whole. In Northern Botswana, rural communities gain financial income, employment in the wildlife industry, hunting, and food, all of which result from exposure to wildlife (Madigele, 2022). Abukari and Mwalyosi (2020), is of the idea that the only way to improve policies is to evaluate conservation projects that may result in measures to protect biodiversity and the welfare of communities living near protected areas. Biggs et al. (2016) argue that illegal wildlife trading (IWT) has become a contemporary conservation challenge. Approximately US$350 million in donor and government funding has been committed to the crisis over the past few years, with most of that funding going toward the strengthening of enforcement. The need to involve the rural communities adjacent to wildlife is gaining increasing traction among practitioners and policy makers for tackling IWT, though there is no mechanism to track this engagement with communities.

Janssens and Trouwborst (2018) explain that there are five different rhinoceros species in the world. They are the white or square-lipped rhinoceros (Ceratotherium simum), the largest and now most populous, and the black or hook-lipped rhinoceros (Diceros bicornis), both of which are found in Africa. The other three species are native to Asia: the Indian, or greater, one-horned rhinoceros (Rhinoceros unicornis); the Javan, or lesser, one-horned rhinoceros (Rhinoceros sondaicus); and the Sumatran, or hairy, rhinoceros (Dicerorhinus sumatrensis). Rhinoceroses are important, ecologically

speaking, and iconic, human-wise, but numerically speaking, most have gone down. Residents of protected rhinoceros areas are marginalised and do not benefit from conservation efforts (Ayling, 2013). Instead, they have a very big problem of animal conflicts. Similarly, Sedhain (2016) states that the greater one-horned rhinoceros, which is a protected species, is also important for developing the ecotourism industry and conservation in Nepal brings various issues to the local community residing in the adjoining area of the Chitwan National Park (CNP).

According to Büscher (2016), governments, concerned citizens and conservation organisations believe the rhino-poaching crisis in South Africa has spiralled out of control. The heartbreak is driven home when you read that over 1000 rhinos were poached during 2013, 2014 and 2015, suggesting that the tragedy has elicited a huge response, most of which relies heavily on online tools to garner funds and awareness. Equally, Shan (2022) states that illegal wildlife trafficking is causing global biodiversity loss and the extinction of many species. As a result, it must be disclosed to showcase the conservation problems it creates and find solutions (Shan, 2022).

2.11.8 Tightening and enforcing legislation

According to Martin (2013), the District Forest Officers (DFOs) and the Chief Wardens (CWs) have been authorized to punish and imprison wildlife criminals. Prosecutions are easy and common. The maximum punishment for such offences as per the law, is 15 years of imprisonment, along with a fine of up to NPR 100,000 (Nepal rupee) (USD 1,149) or both. A Chinese national was convicted by a Kenyan court for trafficking 3.4 kilograms of ivory (Al Jezeera, 2016). The person was offered

the option of a $233,000 fine or a 7-year prison sentence. Nonetheless, Anderson and Jooste (2014) contend that effective deterrence requires more than just introducing harsher sentences; it requires the regular enforcement of the law.

Contextually, the Namibian Government enacted an Act that enabled the implementation of CITES and accounted for ancillary issues. As per the Act, possession of and dealing in controlled wildlife products is: (a) any person who possesses any controlled wildlife product, the possession of that is unlawful in terms of Schedule 1; (b) any person who deals in any controlled wildlife product if dealing therein is unlawful in terms of Schedule 1; (c) any person who makes anything from a controlled wildlife product if that manufacture is unlawful in terms of Schedule 1; (d) any person who imports any controlled wildlife product, if the importation therein is unlawful in terms of Schedule 1; or (e) any person exporting any controlled wildlife product, if the exportation therein is unlawful in terms of Schedule 1. Thus, any person who violates subsection (1) above is guilty of an offence and, on conviction, is liable to a fine not exceeding N$ 200,000.00 or to imprisonment for a term not exceeding 20 years or to both such fine and imprisonment. Many conservation and land-use decisions are made at the community and local levels. Top dogs attend court for suspected poachers, help establish which areas can be used for cattle grazing and legal hunting, and work with tourism operators to bring in cash and provide job opportunities (Anderson & Jooste, 2014).

Haas and Ferreira (2015) mention that the number of rhinos is relatively small and question if the resources available for conservation currently available will satisfy the need for rhino horns even if it is obtained from the living rhinos. Currently, there is a

rising tide of rhino poaching leading to illegal trade of rhino horns. Rhinos are crucial for generating income through tourism and have contributed to creating a flourishing wildlife industry, particularly in South Africa. In Asian economies, the biodiversity product has just become more and more fashionable for the growing Asian ore class representatives of species who become donating members of the local and international groups. Asian demand for rhino horn is expected to increase in the near to medium term, implying a lagged impact of demand-reduction initiatives (Andrew, 2017).

2.12 SYNTHESIS AND CRITICAL ANALYSIS

A comprehensive analysis of the literature reviewed reveals significant gaps in the existing body of knowledge on rhino poaching, particularly within the context of Etosha National Park (ENP), Namibia. While substantial research has been conducted on rhino poaching at the global and regional levels (Ferreira, 2014; Hübschle, 2016; Crookes, 2017), much of this research has centered on South Africa, the Kruger National Park, and other poaching hotspots across the continent (Ramutsindela, 2016; Witter & Satterfield, 2019). However, there remains a paucity of empirical studies that investigate the unique socio-economic, legal, and security dynamics surrounding rhino poaching in ENP.

A notable gap is the lack of integration between conservation research and national security concerns. As identified in this literature review, much of the scholarly focus has been placed on biological conservation, community-based natural resource management (CBNRM), and the economics of wildlife tourism (Malherbe, 2021; Balfour, 2019). However, the role of transnational organized crime, corruption, and the illicit financial flows that sustain poaching networks have not been thoroughly

examined in the context of Namibia (Hübschle, 2020; UNODC, 2022). Despite research indicating that poaching is driven by a complex web of international actors and cross-border trafficking syndicates (Ayling, 2013; Cohen, 2019), the literature fails to fully investigate how weak judicial enforcement, corruption within law enforcement agencies, and geopolitical factors influence the effectiveness of anti-poaching strategies in Namibia.

Additionally, existing studies inadequately address the socio-economic motivations behind poaching, particularly from the perspective of local communities surrounding ENP. While some research acknowledges that unemployment, poverty, and historical marginalization drive individuals into poaching (Jewell, 2020; Muntifering et al., 2023), there is limited empirical analysis of how these socioeconomic drivers interact with broader structural issues such as governance failures, land tenure insecurity, and community exclusion from conservation benefits. Studies on community-based conservation models have largely focused on Botswana, South Africa, and Kenya (Bandyopadhyay et al., 2019; Naidoo, 2016), leaving Namibia's unique governance structures underexplored.

Another critical research gap is the limited focus on the effectiveness of existing legal frameworks and enforcement mechanisms in Namibia. Although Namibia has significantly increased penalties for poaching, raising fines from N$200,000 to N$25 million and prison sentences from 20 to 25 years (Mwangi, 2020), the literature does not comprehensively examine whether these legal reforms have acted as an effective deterrent. The review has highlighted cases of repeat offenders receiving bail, continued corruption among law enforcement, and the exploitation of legal loopholes

by criminal syndicates, yet there is insufficient data on the success rate of prosecutions, the conviction rate of poachers, and whether harsher penalties have led to a decline in poaching incidents (UNHCR, 2018; Cohen, 2019). Furthermore, while the militarization of anti-poaching efforts has been widely discussed (Massé, 2017; Shaw et al., 2021), the specific outcomes of these strategies in Namibia, including potential human rights violations and long-term sustainability, remain underexplored.

Another under-researched area in the literature is the effectiveness of technology-driven anti-poaching strategies. Many scholars emphasize the use of drones, GPS tracking, and artificial intelligence-based surveillance systems to combat poaching (Jooste & Ferreira, 2018; Aryal, 2017). However, few studies evaluate the extent to which these technologies have been successfully deployed in Namibia, the challenges they face in implementation (e.g., cost, technical expertise, and terrain limitations), and their actual impact on reducing poaching incidents (Glasson, 2020).

Lastly, the role of international demand-reduction campaigns and policy interventions remains an underexplored dimension in Namibia's context. While research acknowledges that Asian markets, particularly China and Vietnam, drive demand for rhino horns (Bertolini, 2023; Anderson & Jooste, 2014), there is a limited focus on Namibia's participation in global demand-reduction campaigns. It remains unclear whether Namibia has engaged in diplomatic or economic measures to reduce demand at the source and whether international cooperation has led to tangible reductions in rhino poaching incidents within the country.

Contribution of the Present Study to the Body of Knowledge

Given these gaps in the literature, this study makes several key contributions to the existing body of knowledge on rhino poaching and conservation strategies, specifically in the context of Etosha National Park and Namibia's broader conservation framework. First, this study provides a comprehensive, Namibia-specific analysis of the socio-economic, legal, and security dimensions of rhino poaching, addressing a critical gap in conservation literature. While most studies focus on biological conservation and enforcement mechanisms in other African countries, this research delves into the structural factors of poverty, corruption, weak law enforcement, and geopolitical influences that shape the poaching crisis in Namibia (Hübschle, 2020; UNODC, 2022).

Second, this study contributes empirical data on the effectiveness of Namibia's legal and enforcement frameworks in deterring poaching. Unlike previous research that broadly discusses legislative measures, this study examines actual prosecution rates, challenges in enforcing high penalties, and systemic weaknesses in Namibia's judiciary (Cohen, 2019). It highlights whether existing punitive measures have been successful or if alternative policy interventions, such as restorative justice or community-based enforcement mechanisms, may yield better results.

Third, this research advances understanding of the role of transnational criminal networks in Namibia's wildlife poaching crisis, shedding light on how syndicates operate, the logistical routes used, and the involvement of corrupt officials (Anderson & Jooste, 2014). This is crucial for developing a multi-agency approach that integrates intelligence sharing, cross-border cooperation, and economic interventions aimed at disrupting illicit wildlife trade flows.

Fourth, this study offers new insights into the role of community engagement in conservation, with a focus on alternative livelihoods and incentive-based conservation programs in ENP. Unlike prior studies that generalise community-based conservation efforts across Southern Africa (Balfour, 2019; Naidoo, 2016), this research evaluates Namibia-specific initiatives, such as the country's communal conservancy program, to determine whether they effectively dissuade individuals from engaging in poaching. Fifth, this research provides a policy-oriented perspective on the potential for international demand-reduction campaigns to mitigate poaching in Namibia. While the literature establishes that demand for rhino horn is concentrated in Asia (Bertolini, 2023; Theofanidis & Fountouki, 2018), there is limited focus on whether Namibia has engaged in targeted diplomatic measures, awareness campaigns, or bilateral agreements with demand-side countries to curb poaching incentives. This study evaluates the potential effectiveness of leveraging international trade policies, economic sanctions, and consumer education campaigns to combat demand at its source.

Finally, this study fills the technological gap by assessing the feasibility of integrating modern anti-poaching technologies within Namibia's conservation efforts. While numerous studies discuss drones, surveillance cameras, and biometric tracking in other countries (Jooste & Ferreira, 2018; Glasson, 2020), there is little research on how Namibia has adopted or struggled to implement these measures. This study provides practical recommendations on how Namibia can optimize its use of advanced surveillance and intelligence-gathering technologies to strengthen its anti-poaching efforts.

2.13 CHAPTER SUMMARY

This chapter provided an in-depth exploration of past literature concerning the identification of factors contributing to rhino poaching within the confines of the Etosha National Park (ENP) in the Kunene Region, Republic of Namibia. Through a comprehensive interrogation of diverse perspectives offered by various authors, the chapter systematically detected gaps in existing knowledge and highlighted unanswered questions related to the subject of inquiry. Moreover, it placed a focused lens on the critical conceptualisation of poaching, unravelled its intricacies, probed into the behaviours of poachers, dug into existing policies governing poaching, and synthesized diverse arguments regarding potential solutions to combat the persistent challenge of rhino poaching.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter serves as a comprehensive guide to the research methodology employed in this study report by explaining the details of how the research was systematically planned, executed, and analysed. It describes the various methods and techniques that were employed to gather, process, and interpret the data, thereby offering a transparent and detailed account of the entire research process. The chapter not only outlines the overarching framework but also delves into the specific methodologies chosen, thus shedding light on the rationale behind their selection and their respective applications throughout the research period. Additionally, it outlines the research methodology, specifically the descriptive research design. The investigation employed qualitative data collection methods, predominantly utilising an interview schedule as a primary instrument for data acquisition. Jones (2004) defines qualitative research as a description of individual cases and discovery, and the formulation and typification of characteristics with a view to theory building. Furthermore, the study incorporated the technique of recording vox pops, capturing spontaneous opinions and perspectives from diverse respondents.

The utilisation of these methodological approaches sought to furnish a comprehensive and nuanced understanding of the phenomena under investigation. The ensuing sections expound upon the intricacies of the research design by elucidating the rationale behind method selection and underscoring the meticulous application of

these strategies to yield robust and insightful findings in accordance with the research objectives. The collected data is explained through a multifaceted presentation encompassing graphical representations, thematic analyses, succinct statements, and poignant quotations. This comprehensive approach serves to not only enhance the visual and textual richness of the information but also to provide a nuanced and layered portrayal, thereby ensuring that the synthesised findings resonate with depth and clarity.

The study addressed pivotal components integral to its methodology, encompassing the description of the research design, the specification of the target population, the articulation of sampling procedures, the identification and description of research instruments, the explication of the adopted data collection methods and associated procedures, the clarification of approaches employed for data analysis, and the rigorous consideration of ethical principles and considerations throughout the research process. This methodological framework serves to establish a systematic and ethical foundation, thereby ensuring the integrity, validity, and reliability of the study's findings.

3.2 RESEARCH DESIGN

The study adopted a qualitative research design due to its suitability for exploring in-depth perspectives, experiences, and motivations related to rhino poaching in Etosha National Park (ENP). A qualitative approach was chosen because it allows for detailed, context-specific insights into the socio-economic and legal dimensions of poaching, aspects that would be difficult to capture using a purely quantitative approach (Creswell & Poth, 2018). The flexibility of qualitative research also enabled

the study to capture the voices of key informants from the Ministry of Environment, Forestry, and Tourism (MEFT), as well as local communities within a 150 km radius of ENP.

By employing a qualitative design, the study examined not only the factors contributing to poaching but also the effectiveness of existing conservation measures and potential improvements to curb poaching. The choice of qualitative research was particularly appropriate as it aligns with the study's focus on understanding lived experiences, social dynamics, and policy implications in wildlife conservation (Patton, 2020). The qualitative method facilitated the thematic analysis of interview responses, ensuring that emerging patterns and themes were systematically identified and interpreted in relation to the research objectives.

3.3 POPULATION OF THE STUDY

The study population refers to the entire group of individuals relevant to the research objectives, which in this case includes all employees of the Directorate of Wildlife and National Parks (DWNP) under the Ministry of Environment, Forestry, and Tourism (MEFT), as well as business owners and middle-aged individuals living within a 150 km radius of ENP. As of 2023, the total population of MEFT was 5,704 employees (MEFT, 2023). According to the DWNP, its employees numbered 852 as of 2023. Furthermore, business and middle-aged people living in various places within a 150 km radius of the ENP were part of the study’s population. The business and middle-aged population living within a 150 km radius of the ENP was 5,647 in 2023, according to the 2023 population and housing census. Of the 852 DWNP employees,

795 are part of the 5,647 population, and 54 are in Windhoek MEFT offices. Therefore, the final population of the study is 5704.

The target population, however, refers to the specific subgroup from which the sample was drawn, consisting of officials directly involved in conservation efforts and community members with knowledge of or experience in poaching-related activities. This distinction is crucial because while the overall population provides a broad context, the target population ensures the inclusion of relevant participants whose insights are directly applicable to the research questions (Bryman, 2022). The target population is, therefore, a refined segment of the overall population that aligns with the study's objectives.

3.4 SAMPLING PROCEDURES

The study employed a non-probability sampling approach, specifically snowball sampling, due to the sensitive nature of poaching and the need to engage respondents with direct knowledge or experience of the phenomenon. Snowball sampling was essential because poaching involves illegal activities, making it challenging to identify willing participants through conventional random sampling methods (Cohen et al., 2018).

The sample comprised 20 respondents, with 13 participants from MEFT and 7 from the local community. Within MEFT, participants were drawn from the Wildlife Support Services Sub-Division, Wildlife Protection Services Sub-Division, and ENP Sub-Division, ensuring that the study captured perspectives from key conservation units. Local community participants included business owners and middle-aged

individuals familiar with conservation efforts or poaching activities within the ENP region.

The use of snowball sampling allowed initial respondents to recommend other potential participants with relevant knowledge, thereby enhancing the depth of the data collected while maintaining confidentiality and participant trust (Neuman, 2020). This approach ensured that the study engaged knowledgeable respondents who could provide firsthand information on poaching motivations, economic drivers, and conservation challenges.

3.5 RESEARCH INSTRUMENTS

The study employed a semi-structured interview guide collection method to collect qualitative data by means of engaging respondents on one on one sessions. It also focused on specific individuals among officials of the Wildlife Support Services Sub-Division. The scheduled interviews were conducted in person using direct dialogue. A voice recorder was used to record the interviewees' responses in order to ensure that data is accurate.

The researcher used one type of research instrument.

- Scheduled interviews: These are one-on-one conversations in which respondents were directly asked questions.

The researcher used non-probability sampling to obtain a needed information. To ensure reliability and validity, the researcher used the voice recorder to record respondents who permitted the recording and a note for short answers. The interview guides comprised of two (2) sections. Section A consisted of the researcher's introduction and demographic questions such as gender and age category. Section B

comprised of open-ended questions and close ended questions. The researcher chose interview schedules because there is a high possibility of obtaining information at a large sample within a short time, information is treated as confidential and participants remain anonymous (Kathuria, 2017) The researcher used a total number of 18 scheduled interviews with officials from the Wildlife Support Services Sub-Division, Wildlife Protection Services (WPS) Sub-Division, ENP Sub-Division, some business people and middle-aged people living in various places within a 150 km radius from the ENP.

3.6 DATA COLLECTION METHODS/PROCEDURES

The study employed semi-structured interviews as the primary data collection method, ensuring a flexible yet systematic approach to gathering insights on rhino poaching in ENP. The interviews were conducted face-to-face with officials from MEFT's Wildlife Support Services, Wildlife Protection Services, and ENP Sub-Divisions, as well as with selected community members. These interviews provided firsthand perspectives on poaching drivers, conservation challenges, and law enforcement effectiveness.

To ensure data reliability and accuracy, the researcher used a voice recorder (with participant consent) alongside manual note-taking to capture key responses. The interviews were conducted in a private setting to encourage open and honest discussions, with confidentiality measures in place to protect respondent identities. Participants were informed in advance about the nature of the study, their rights, and the voluntary nature of participation, ensuring ethical compliance. The recorded interviews were later transcribed and subjected to thematic analysis using ATLAS.ti

software, allowing for systematic coding and categorization of themes relevant to the study's objectives.

3.7 DATA ANALYSIS

Data were analysed using the Abbreviated Test Language for All Systems (ATLAS.ti), the computer-assisted qualitative data analysis software to code, locate, theme and annotate main themes from interviews. In this way, the reliability of the measuring instrument and validity of the results are assured, as the research is open to scrutiny and the findings can be upheld through independently available evidence (Krippendorff, 2022). The researcher analysed the data according to the information obtained from the questionnaires and interviews based on participants' perceptions. Answers gathered from interviews were coded statistically and presented in tables and figures, and information generated from the interviews was recorded and closely related answers were converted into one category or hierarchy.

3.7.1 Thematic analysis

This study employed theme analysis to examine the gathered qualitative data. Thematic analysis is a popular qualitative research technique that is used to uncover, analyse, and report patterns (themes) in data (Rashid, 2023). The collected data is meticulously organised and described, with various parts of the research issue being interpreted in detail (Maguire & Delahunt, 2017). Thematic analysis is versatile and may be utilised with various theoretical and epistemological perspectives, thereby establishing it as a fundamental technique for qualitative analysis. Thematic analysis is crucial in qualitative research for its capacity to offer a comprehensive and intricate

depiction of data. Caulfield (2023) suggests that using this method is well-suited for examining the viewpoints of various research participants, emphasising commonalities and discrepancies and producing unexpected revelations. Thematic analysis can be used to interpret various forms of data, including interviews, surveys, and social media content, thereby making it a versatile tool for researchers in psychology, social sciences, and beyond (Caulfield, 2023; Maguire & Delahunt, 2017; Naeem et al., 2023). The process of conducting thematic analysis involves several key steps:

- **Familiarization with the data -** This initial step involves immersing oneself in the data through reading and re-reading the data to become intimately familiar with its content (Nowell et al., 2017; Caulfield, 2023).
- **Generating initial codes -** Coding involves organising the data into meaningful groups and tagging segments of the data with a label that summarises their essence (Joffe & Yardley, 2004; Caulfield, 2023).
- **Searching for themes -** This step involves analysing the codes and compiling data to recognise important overarching patterns of thematic significance (Caulfield, 2023).
- **Reviewing themes -** Here, themes are reviewed and refined to ensure that they accurately reflect the coded data and the overall data set (Nowell et al., 2017; Caulfield, 2023).
- **Defining and identifying themes -** This entails creating an in-depth examination of each theme to determine the core representation of the data captured by each theme **(**Naeem et al., 2023).

- **Producing the report -** The last stage includes integrating the analytical narrative and data extracts, placing the analysis in the context of the research question and existing literature, and generating a report (Maguire & Delahunt, 2017; Naeem et al., 2023).

Thematic analysis is crucial for its ability to uncover and interpret patterns of meaning within qualitative data in a way that is accessible and understandable, thereby making it a valuable tool for generating insights that can inform theory, policy, and practice (Caulfield, 2023; Maguire & Delahunt, 2017; Naeem et al., 2023).

3.8 RESEARCH ETHICS

Kathuria (2017) outlines the importance of ethics in the social sciences because there have been many cases of abuse of power in the name of conducting research. Kathuria further explains ethics as an "ethos", meaning one's disposition. It refers to whether the behaviours abide by a set of principles. Its importance is to prevent research abuse and assist investigators in understanding responsibility as ethical scholars. The researcher used principles of ethics inter alia, an autonomy that incorporates the freedom of individuals' action and choice to decide whether to take part or not to participate in the research. In addition, the researcher fully paid attention to the aspects of respondents' rights and dignity, hence, their civil liberties were respected (Kathuria, 2017).

Moreover, another technique used was informed consent, whereby the respondents had the right to know what the research was all about, how it would affect them, the benefits of participating and the right to decline further participation in the research

whenever they felt like. Kathuria (2017) stipulates the ethical consideration known as anonymity to explain that participants' data must not be associated immediately and obviously with his or her name or any identity. Massé (2019) states that with regard to research ethics protocol, the researcher or research team will always obtain informed consent from all parties involved in the research before implementing the research project.

In pursuance of the afore-mentioned elucidation, the researcher was issued with an Ethical Clearance Certificate by the University of Namibia Ethics Committee (REC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Hence, the the study was carried out at the MEFT and community members living in the proximity of the ENP. In addition, the researcher obtained permission from the MEFT and NCRST to conduct interviews with prospective respondents. Respondents were properly informed about the purpose of the study, and they were assured that their participation was voluntary. Anonymity was guaranteed to ensure the confidentiality of the information they provided, and efforts were made to guarantee that no participant in the research was hurt because of their participation (Moore, 2017). The researcher always carried a student card and produced an ethical clearance from UNAM and an authorisation letter from NCRST for proper identification during the period of conducting the research.

3.9 RELIABILITY AND VALIDITY

To ensure reliability, the study employed inter-coder reliability, where multiple researchers reviewed and cross-checked coded data to maintain consistency in thematic analysis (Krippendorff, 2022). The use of ATLAS. ti software also enhanced

reliability by ensuring systematic coding and categorisation of emerging themes, reducing researcher bias.

For validity, the study adhered to triangulation, which involved cross-verifying findings from different sources, including MEFT officials, community members, and existing literature on rhino poaching (Patton, 2020). Triangulation strengthened the credibility of the findings by ensuring that conclusions were not based on a single perspective but rather corroborated by multiple data sources.

3.10 CHAPTER SUMMARY

This chapter explained the methods and techniques used by the researcher to collect data for the study and why such methods were chosen. The sampling methods and sampling procedures, as well as data analysis and presentation, research population and validity of the research, were also explained. The researcher elucidated the chosen methods and techniques for data collection, the rationale behind their selection, the sampling methods and procedures, data analysis and presentation, the research population, and the measures to ensure the validity of the research.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 INTRODUCTION

The data presentation and analysis in this chapter entails the presentation of the findings from the study that was conducted on the poaching of rhinos in the Etosha National Park (ENP), focusing on the Ministry of Environment, Forestry, and Tourism (MEFT) employees, some local businesspeople, and middle-aged residents around the ENP. This chapter is structured into two main sections: 4.2 Demographic analysis and 4.3 Thematic analysis. The demographic analysis (4.2) provides insights into the backgrounds of the respondents, including the MEFT employees, businesspeople, and middle-aged residents around the ENP, covering aspects such as gender, age category, distance from the ENP, years lived there, and their positions and tenure. The thematic analysis (4.3) explores deeper into the motivations behind rhino poaching and the benefits gained by poachers and evaluates the extent to which the justice system deters this illegal activity. Through these sections, the chapter aims to present a comprehensive view of the various factors contributing to the poaching of rhinos in the ENP, drawing from empirical data and respondent narratives.

4.2 DEMOGRAPHIC ANALYSIS

4.2.1 Ministry of Environment, Forestry, and Tourism (MEFT) employees

A. Gender

Table 4.1: Gender

Gender	Count	Percentage (%)
Female	3	23.08
Male	10	76.92
Total	**13**	**100.00**

Out of 13 respondents, 10 are male, and 3 are female. This distribution suggests a male-dominated environment within the Ministry, which is reflective of broader trends in environmental and conservation fields, where leadership and technical positions have historically been male-dominated. However, the presence of female respondents in senior positions is notable and represents an important perspective in conservation efforts, thus aligning with global trends towards greater gender diversity in environmental decision-making roles.

B. Age category analysis

The age distribution among respondents shows a broad range from 25 to over 55 years, with a concentration in the middle age categorys (35-55 years). This diversity in age provides a wide range of experiences and perspectives on conservation issues. The younger respondents (25-35 years) may bring fresh ideas and approaches to conservation, while the older groups (45-65 years) offer depth of experience and

historical context. This mix is essential for a comprehensive understanding of conservation challenges and innovative solutions.

Table 4.2: Age category

Age category	Count	Percentage (%)
25 - 35	3	23.08
35 - 45	4	30.77
45 - 55	3	23.08
55 - 65	3	23.08
Total	**13**	**100.00**

C. Position analysis

The respondents' positions range from junior to senior management levels, with a majority being in senior roles (Senior Officers and Management). This indicates that the perspectives gathered predominantly reflect the views of those with significant responsibility and decision-making power within the Ministry. The insights from management-level respondents are critical as they highlight strategic thinking and policy direction, while senior officers provide a closer look at operational challenges and implementation issues.

Table 4.3: Position role

Position	Count	Percentage (%)
Junior Officer	1	7.69
Management	5	38.46
Senior Officer	7	53.85
Total	**13**	**100.00**

D. Years in the position analysis

Years in the position range from less than 5 years to over 15 years, indicating varied levels of experience within their current roles. Notably, several respondents have relatively short tenures (0-5 years) in their current positions and suggest recent changes or promotions. This can imply a phase of adaptation or new strategic directions within the Ministry. Conversely, respondents with longer tenures (10 years and above) provide continuity and institutional memory, which are invaluable for understanding long-term trends and the effectiveness of conservation strategies.

Table 4.4: Years in the position

Years in position	Count	Percentage (%)
0 - 5	7	53.85
10 - 15	2	15.38
15 and above	1	7.69
5 - 10	3	23.08
Total	**13**	**100.00**

By implication, the demographic composition of the respondents provides a well-rounded perspective on the conservation of endangered species in Namibia. The dominance of male respondents points towards ongoing gender dynamics in the field, thereby necessitating continued efforts towards gender equality. The age diversity ensures a blend of innovation and experience in addressing conservation challenges. Positions held by respondents indicate that the study captured a hierarchy of insights, from strategic to operational levels, thus offering a comprehensive view of the conservation landscape. The variation in tenure highlights both fresh perspectives and seasoned understanding within the Ministry, which is essential for adaptive management in conservation.

4.2.2 Business people around ENP

Three people from the business community also formed part of the study. They are presented in the table below.

Table 4.5: Businesspeople - Demographics

Respondent	Age category	Distance from the ENP	Years lived there	Sex
R1	25 - 35	0 - 100 KM	1 - 5	**Female**
R2	35 - 45	0 - 100 KM	5 - 10	**Female**
R3	55 - 65	100 - 150 KM	1 - 5	**Male**

A. Age

The respondents fall into three distinct age categories: 25-35, 35-45, and 55-65. This range suggests a diverse business community with varying levels of experience and

potentially different business focuses. Younger entrepreneurs (25-35) might bring innovative approaches to eco-tourism and conservation-related businesses, possibly focusing on digital marketing and sustainable practices. The middle age category (35-45) likely holds established businesses with a strong local network and understanding of the market dynamics around the ENP. The senior age category (55-65) offers a wealth of experience, potentially acting as mentors or investors in conservation and community projects. This diversity is crucial for a vibrant economy around the ENP, thus fostering resilience and innovation.

B. Distance from the ENP

Two respondents are located within 0-100 km of the ENP, and one is situated 100-150 km away. Proximity to the park is a critical factor for businesses directly linked to tourism and conservation efforts. Those within 100 km are likely to be more directly involved in providing services to tourists, such as accommodation, guided tours, and wildlife experiences. Their businesses can significantly benefit from the park's visitors but also bear the responsibility of promoting sustainable tourism practices. The respondent living 100-150 km away might be involved in a business that indirectly benefits from the park, such as supplying goods or services to tourism-related businesses closer to the ENP. This distribution highlights the park's economic influence beyond its immediate vicinity.

C. Gender

The gender breakdown shows two female respondents and one male, indicating women's active participation in the business sector around the ENP. This is significant as female-led enterprises can bring different perspectives to business practices including a focus on community and sustainability aspects that are crucial for

conservation efforts. Women entrepreneurs around conservation areas like the ENP can play a vital role in community development and environmental stewardship, thereby aligning business objectives with conservation goals.

Overall, the demographic information of businesspeople around the ENP paints a picture of a dynamic and diverse economic landscape influenced by the park. The age diversity suggests a blend of innovation, established business acumen, and deep experience, thereby creating a robust environment for economic activities that can support conservation efforts. The geographical distribution of businesses relative to the ENP indicates the park's role as an economic driver for the region, with its impact being felt across a wide area. The gender diversity, with a notable presence of female entrepreneurs, enriches the business community, thus potentially fostering inclusive growth and innovative approaches to integrating conservation and economic development. The involvement of women in the business sector around the ENP is particularly encouraging as it can lead to more sustainable and community-focused business practices.

4.2.3 Middle-aged people around the ENP

Two people from the community also formed part of the study. They are presented in the table below.

Table 4.6: Middle-aged people - Demographics

Respondent	Age category	Distance from ENP	Years lived there	Sex
R4	25 - 35	0 - 100KM	Since birth	**Male**
R5	25 - 35	0 - 100KM	10 years and above	**Male**

A. Age category

Both respondents, R4 and R5, fall within the 25-35 age bracket, indicating a younger segment of the middle-aged population. This age category is typically characterised by individuals who are in the early to mid-stages of their career paths. They may be more open to adopting new technologies and innovative practices, which could be beneficial in promoting sustainable development and conservation-related activities around the ENP. Their energy and progressive outlook may drive community-based conservation initiatives, eco-tourism, and other sustainable business ventures that leverage proximity to the ENP.

The demographic details presented in Table 4.6 (Middle-aged people around the ENP) contribute to the study by providing insights into the local community's socio-economic conditions and their proximity to conservation activities. This is particularly relevant because individuals residing within the 0-100 km range of ENP are likely to have direct encounters with conservation efforts, poaching incidents, and wildlife conflicts. Their demographic characteristics influence their perceptions of conservation policies, law enforcement efficiency, and economic incentives that may drive poaching activities.

For instance, Respondent R4 has lived in the ENP vicinity since birth, providing longitudinal insights into conservation challenges, whereas Respondent R5, with over a decade of residence, offers a relatively newer perspective on recent conservation efforts. These insights help assess how community dynamics impact conservation and anti-poaching strategies. Additionally, both respondents being male highlights gendered dimensions in community roles regarding wildlife conservation, reinforcing the need for inclusive conservation policies that involve diverse community members.

B. Distance from the ENP

The proximity of both respondents to the ENP (0-100 km) suggests a direct interaction with the ecosystem and economy of the park. Living close to the ENP, these individuals are likely to experience first-hand the benefits and challenges of residing near a major conservation area. This proximity can foster a deep understanding and appreciation of the park's value, potentially translating into strong advocacy and support for conservation efforts. It may also mean that their livelihoods are directly or indirectly connected to the tourism and conservation activities associated with the park.

C. Years lived around the ENP

R4 has lived in the vicinity of the ENP since birth, while R5 has resided there for over ten years. This difference in the duration of residence provides varied perspectives on the changes and developments in the area over time. R4's lifelong residence offers deep-rooted knowledge of the local environment, community, and the historical context of conservation efforts. In contrast, R5's decade-long residence might bring fresh insights and comparisons from possibly different backgrounds or regions. Both perspectives are valuable for understanding community engagement in conservation,

the socio-economic evolution of the area, and the impact of the ENP on local livelihoods.

D. Gender

Both individuals are male, which presents an opportunity to explore the roles and perceptions of men in conservation and community development around the ENP. Understanding gender dynamics is crucial in conservation work as men and women may engage with and impact the environment differently. Focusing on male perspectives could reveal insights into traditional and emerging roles that men play in conservation, community leadership, and sustainable development practices. It also highlights the need for gender-inclusive approaches to ensure that conservation strategies and community benefits are equitably distributed and that both men and women are equally empowered as stakeholders in conservation efforts.

Overall, the demographic information of middle-aged individuals around the ENP, specifically those aged 25-35 living within 0-100 km of the park, indicates the potential for dynamic engagement with conservation efforts. Their youthful energy, combined with proximity to and experience within the area, position them as pivotal actors in shaping the future of conservation and sustainable development around the ENP. The lifelong connection of R4 to the area enriches the community's cultural and environmental heritage, while R5's significant, though comparatively shorter, residence period adds valuable perspectives to the evolving relationship between the community and the park.

Essentially, the demographic section serves an essential role in contextualizing the study findings by providing a socio-economic and institutional profile of the

respondents. This is crucial for interpreting responses in the thematic analysis, as individual perspectives on poaching and conservation are shaped by age, gender, professional role, and community affiliation (Scholtz & Rennkamp, 2022).

For example, the high percentage of male respondents in MEFT (76.92%) suggests gendered disparities in conservation leadership, which may impact policy formulation, enforcement, and engagement with local communities. Similarly, the diverse age categories among respondents (ranging from 25 to 65 years) provide varied perspectives, with younger individuals potentially advocating for technological interventions such as drones and CCTV surveillance while older respondents emphasize traditional conservation knowledge.

Likewise, the businesspeople's demographic data indicate how proximity to ENP influences economic incentives related to conservation and tourism. Those located within 100 km of ENP are more likely to directly benefit from eco-tourism, whereas those in the 100-150 km range may rely on indirect economic linkages. Understanding these distinctions helps in framing conservation strategies that balance economic benefits with environmental sustainability (Biggs et al., 2017).

4.3 THEMATIC ANALYSIS

The findings presented in this section were derived from semi-structured interviews conducted with eighteen respondents, including MEFT officials, businesspeople, and community members near ENP. Interview responses were recorded, transcribed, and subjected to thematic analysis using ATLAS.ti software to extract key themes related to the motivations behind poaching, economic incentives for poachers, and the role of

the justice system in deterring poaching. Each theme is substantiated with direct quotes from interview participants, ensuring that voices from the field are accurately represented in this study. The anonymity of respondents has been maintained in compliance with ethical research protocols.

4.3.1 The motivations leading to the poaching of rhinos in the ENP

Theme 1: Economic desperation and unemployment

"In terms of poaching, we have a number of youngsters who are unemployed in the country" (R1). Respondents consistently linked economic hardship to poaching, emphasising the lack of employment opportunities as a direct driver. R2, R3, and R4 echoed the sentiment that economic desperation and unemployment are significant drivers for the poaching of rhinos. Economic desperation, particularly among the youth, emerged as a critical motivator, suggesting that addressing unemployment could significantly reduce poaching incentives. The direct link between economic desperation and the poaching of rhinos underlines a broader socio-economic issue that transcends the act of poaching itself. This insight suggests that interventions should not only focus on punitive measures but also on creating economic opportunities and educational programmes for the youth. The emphasis on unemployment as a motivator reveals the critical need for comprehensive development strategies that address the root causes of poaching by integrating job creation with conservation efforts. Such an approach could mitigate the compulsion towards illegal activities by providing viable alternatives and fostering a sense of ownership and responsibility towards natural resources.

Theme 2: Exploitation by foreign nationals

"These are foreigners. Some foreign nationals also find it appropriate and fit for them to use the innocent. Maybe specifically the youngsters." R1, R5 and R6 provided similar observations on the aspect of exploitation by foreign nationals, indicating a pattern of external actors leveraging local vulnerabilities. This theme highlights the complexity of poaching networks involving international syndicates that exploit local economic conditions, thereby necessitating a multi-layered approach to combat poaching.

Essentially, this theme reflects a complex global problem where international demand and exploitation intersect with local vulnerability. It indicates the necessity for international collaboration in tackling rhino poaching, highlighting the need for cross-border policies and actions that target the entire supply chain of the illegal wildlife trade. The exploitation by foreign nationals not only perpetuates poaching but also exacerbates social inequalities, thereby underscoring the importance of global awareness and responsibility in combating wildlife crimes. Strengthening local governance and capacity to resist such exploitation is paramount, alongside international efforts to curb demand.

Theme 3: Influence of greed and economic gain

One respondent raised greed and economic gain as the reasons for poaching. "It's all about greed" (R1). Multiple respondents discussed the lure of quick financial gains from poaching, thereby underlining the role of greed. Specifically, R7, R8, and R9 highlighted the role of greed and economic gain as motivations for poaching. The greed factor, tied to the lucrative illegal wildlife trade, shows the need for robust legal frameworks and community education to mitigate poaching's allure.

The point here is and in the view of the current researcher, the mention of greed as emphasising the human inclination towards short-term benefits over long-term sustainability and ethical considerations. This insight calls for education and awareness programmes that shift community values and perceptions towards conservation and the sustainable use of resources. Additionally, it highlights the need for a stronger legal framework that deters involvement in poaching by making the risks outweigh the gains. Cultivating a conservation ethic within communities could reduce the allure of immediate financial gains from illegal activities.

Theme 4: Insufficient rewards for poaching

"They were given a kind of reward or payment in a range of from N$15,000.00 to N$25,000.00," said R1. Discussions reveal a disparity in the distribution of profits within poaching syndicates, with ground-level poachers receiving minimal compensation. R10 and R11 discussed the disparity in rewards within poaching operations, indicating minimal compensation for ground-level poachers. The economic benefits for poachers are often outweighed by risks, thus suggesting interventions that could focus on providing alternative and sustainable livelihoods.

Notably, the minimal compensation received by ground-level poachers compared to the high risks involved points to the exploitation within the poaching hierarchies. This disparity suggests that many involved in poaching may not fully benefit from their risky endeavours, thus highlighting the potential effectiveness of offering alternative livelihoods. Providing community-based conservation jobs, skills training, and education can offer a more attractive and safer alternative to poaching, thus reducing its appeal among the most vulnerable populations.

Theme 5: Rhino horns' economic value

"Nowadays, they get more or less than that" (R1). From R4, "it's a commodity used in the Asian countries. It's organised crime. There is a lot of money involved." There is a perceived high value of rhino horns that was frequently mentioned as driving illegal activities despite decreasing rewards. R12 and R13 support R1's sentiment and mention the high value of rhino horns as a driving factor behind rhino poaching activities. The allure of significant financial gains from the sale of rhino horns, often perpetuated by organised crime networks, was a commonly cited factor. This economic motivation, combined with the symbolic status of rhino horns, creates a powerful incentive for individuals to engage in poaching. Addressing the demand side of rhino horns, particularly through international cooperation and demand reduction campaigns, is essential.

The high economic value attributed to rhino horns driven by international demand indicates the global nature of the poaching crisis. This situation calls for international demand reduction strategies, coupled with efforts to devalue the perception of rhino horns through education and public awareness campaigns. Tackling both the supply and demand sides of the illegal wildlife trade is crucial for diminishing the economic incentives behind poaching.

Theme 6: Utilisation of unemployed youth

"In my experience working within conservation enforcement, I have noticed that many young people in the communities surrounding Etosha National Park struggle with unemployment. Because of this, some of them are lured into poaching by organized crime groups who promise quick money. The issue is that they often do not fully understand the legal consequences, nor do they realize that the real profits go to

the syndicates and not to them" (R1). The trend of targeting unemployed youths for poaching activities highlights a vulnerability that syndicates exploit. Enhancing youth employment opportunities and education could serve as preventative measures against their involvement in poaching. The strategic targeting of unemployed youths by poaching syndicates reveals a societal vulnerability that can be mitigated through targeted youth engagement and empowerment programmes. Initiatives that focus on education, vocational training, and employment in conservation and sustainable industries can offer alternatives that divert the youth from the path of illegal activities. Strengthening community resilience through youth empowerment can play a critical role in preventing rhino poaching and fostering a new generation of conservation advocates.

4.3.2 The Benefits gained by poachers of rhinos in the ENP

Theme 1: Immediate economic benefits

"The poachers...they don't really get much. They get underpaid between N$8,000.00 to N$15,000.00" (R2). This is supported by R3 and R4, who noted the financial rewards, albeit small for ground-level poachers, thus highlighting the economic motivation behind poaching. This theme is recurrent, with many respondents pointing out the immediate but limited financial benefits for ground-level poachers. The immediate economic benefits, although significant for individuals in desperate situations, highlight the need for economic development strategies as part of anti-poaching efforts. The minimal financial rewards for ground-level poachers suggest an exploitation within the illegal poaching networks, where individuals risk their lives for meagre sums. This financial desperation highlights the socio-economic vulnerabilities

that drive individuals towards such high-risk activities. To counteract this, development strategies that offer viable and sustainable economic opportunities could serve as effective deterrents. Investment in community development and sustainable livelihood projects could alleviate the economic pressures that push individuals towards poaching, thereby making it a less attractive option.

Theme 2: Complex reward systems within syndicates

"Different levels of benefits within a poaching syndicate" (R9). In support, R10 and R11 discussed the lucrative nature of the rhino horn trade, emphasising the high rewards at higher syndicate levels. The existence of hierarchical reward systems within poaching operations is noted, emphasizing disparities in the distribution of profits. Understanding the organisational structure of poaching syndicates can inform targeted interventions to disrupt these networks. The hierarchical nature of poaching syndicates, where the distribution of profits is disproportionately skewed towards the top, reflects broader issues of inequality and exploitation in illegal trade networks. This structural imbalance necessitates a multifaceted approach that targets the entire syndicate chain from the ground-level poachers to the top beneficiaries. Disrupting these networks requires not only local law enforcement efforts but also international cooperation to tackle the demand that fuels these lucrative, illegal markets.

Theme 3: Financial rewards versus risks

"So, to them they see that as a reward, but if you take that reward versus the risk when you get arrested and prosecuted, it doesn't justify you because N$3000.00 versus 30 years in jail, it's two different things" (R12). Two respondents (R6 and R7) are in support of this. R6 and R7 highlighted the role of organised crime in poaching, with local poachers, some of which are farmers, often exploited by larger syndicates. The

calculation of risk versus reward is a critical consideration for individuals involved in poaching. Enhancing legal deterrents and raising awareness about the severe consequences of poaching may alter the risk-reward calculation for potential poachers.

The comparison of financial rewards against the severe risks, including lengthy imprisonment, indicates a desperate gamble by those involved in poaching. This desperation is a clear indicator of the socio-economic conditions that underpin poaching activities. Strengthening legal frameworks and enforcement to increase the perceived risks, coupled with raising awareness about the severe consequences of involvement in poaching, could shift the risk-reward balance and deter potential poachers.

Theme 4: Symbolic value of rhino horns

Beyond financial gains, the symbolic value of rhino horns plays a role in their demand. For instance, R6 said, “To some of them, it’s something like a symbolic value”. Addressing cultural and symbolic drivers of rhino horn demand is crucial for reducing incentives for poaching. The symbolic value attributed to rhino horns, particularly in certain cultures, exacerbates the demand and, consequently, the poaching problem. Resolving these cultural and symbolic drivers requires targeted education and awareness campaigns that challenge and change perceptions. International collaboration to reduce demand in consumer countries is critical, alongside local efforts to devalue the symbolic status of rhino horns.

Theme 5: Economic incentives for syndicate leaders

According to the respondents, the substantial economic incentives for those higher up in the poaching hierarchy are highlighted. R6 specifically raised that “The end user, how he will benefit is that obviously, it will be money”. Targeting the financial flows

and assets of syndicate leaders could disrupt poaching operations at a strategic level. The significant economic gains for syndicate leaders highlight the profitability of wildlife crime, which is sustained by high demand and market values for rhino horns. To dismantle these operations, efforts must focus on tracing and disrupting the financial flows that fuel these syndicates, including measures such as asset seizures and financial sanctions. By targeting the economic incentives at the top, it is possible to destabilise the operations and reduce the motivation for organising poaching activities.

Theme 6: Utilising community intelligence for prevention

"The ministry responsible for anti-poaching should in any way embark on awareness too". (R1) "The community...should be able...to give out information to the Rangers" (R6). In support of R1's and R6's calls are R8 and R9, who emphasised the importance of engaging local communities and raising awareness about the impacts of poaching. Engaging communities in intelligence sharing is seen as a potential benefit in combating poaching. Strengthening community-based surveillance and reporting mechanisms can enhance the early detection and prevention of poaching activities. The role of community intelligence in preventing poaching is pivotal. Engaging communities as active participants in conservation efforts fosters a sense of ownership and responsibility towards wildlife protection. By enhancing community-based surveillance and reporting mechanisms, authorities can leverage local knowledge and networks to detect and prevent poaching activities more effectively. This collaborative approach not only empowers communities but also strengthens the overall conservation strategy, thereby making it more resilient to the threats posed by poaching.

4.3.3 The extent to which the justice system deters poachers from killing rhinos in ENP

Theme 1: Inadequate legal deterrents

A common critique by many respondents is the perceived leniency of laws and sentences for poaching. For example, R1 specifically said that "Some poachers are well known, being wildlife criminals... and they are. Some of them are well known being repeated offenders. Yet you find them being given bail". This is supported by R6, who said, "Our laws are too lenient". Further supporting R1 and R6 are R2, R3, and R4 who highlighted issues with the judicial system's ability to effectively deter poachers, noting the leniency in punishments.

Strengthening legal frameworks and ensuring the enforcement of stringent penalties are necessary to enhance deterrence. In essence, the perception of leniency in the legal system towards poachers, as highlighted by respondents, indicates a critical gap in the fight against poaching. The fact that known repeat offenders are often granted bail reflects a systemic leniency that may embolden potential poachers, thus underscoring the urgent need for a judicial review. Strengthening legal deterrents requires not only harsher penalties but also a more consistent application of the law to send a clear message that wildlife crimes are serious offenses with severe consequences. Enhancing the legal framework to include more severe penalties and ensuring their strict enforcement could significantly deter individuals from engaging in poaching activities.

Theme 2: Challenges in legal and judicial response

Inadequate law enforcement response - The challenges in the legal and enforcement response are exacerbated by the issue of corruption. R1 particularly mentioned that "there are individual investigators who seem to be benefiting from the pockets of the poachers". This is supported by R5 and R6, who discussed challenges in law enforcement, including corruption and lack of resources. In addition, according to R2, "The justice system also is...not well vested with the subject matter" (R2).

According to the respondents, the inefficiencies and lack of specialisation in handling wildlife crimes are identified as key issues. This shows that specialised training for legal and judicial personnel on wildlife crime could improve prosecution rates and case outcomes. In addition, the respondents' insights into the challenges faced by the legal and enforcement system, including corruption and a lack of specialised knowledge in wildlife crimes, point to systemic weaknesses that hinder effective poaching deterrence. Specialised training for law enforcement and judicial personnel, coupled with efforts to root out corruption, could enhance the effectiveness of the justice system. Addressing these challenges requires a concerted effort to improve the capacity of law enforcement agencies and the judiciary to deal with wildlife crimes effectively, including the provision of adequate resources and the promotion of integrity within these institutions.

Theme 3: Sentencing and legal deterrents

According to R9, there is a "Need for stringent punishments to deter poaching activities". The call for harsher sentences is echoed across responses (R7 and R8), thus indicating a gap in the current deterrent effect. Implementing and enforcing

stricter sentencing guidelines could serve as a more effective deterrent against poaching. The call for more stringent punishments reflects a widely recognised need to enhance the deterrent effect of the legal system on potential poachers. Implementing and enforcing stricter sentencing guidelines could serve as a significant deterrent, thereby signalling a zero-tolerance stance towards poaching. This approach necessitates a comprehensive review of existing laws and penalties related to wildlife crimes, thus ensuring that they are commensurate with the severity of the offenses and are effectively applied.

Theme 4: Corruption facilitating poaching

Corruption within enforcement and judicial systems is cited as a factor undermining anti-poaching efforts. “Thirdly, I can also mention corruption”, echoed R6. This is evident in supporting discussions by R10 and R12, who highlighted the importance of international cooperation in addressing the cross-border nature of poaching syndicates. Addressing corruption through transparency initiatives and accountability mechanisms is crucial for strengthening the justice system’s role in deterring poaching. Corruption is a significant barrier to effective poaching prevention and prosecution, thus allowing illegal activities to flourish. Tackling corruption involves implementing robust transparency and accountability measures within law enforcement and judicial systems. Strengthening institutional integrity and promoting ethical conduct among officials are crucial steps towards dismantling the networks that facilitate poaching and wildlife trafficking.

Theme 5: Community-based justice initiatives as a response to the judicial system's failure to deter poaching

Community policing appeared to be the best option, according to the respondents. R6, for instance, said that "the community neighbouring Etosha National Park should take the lead". In agreement with R6 are R4 and R5, which emphasised the role of community-based initiatives in supporting justice efforts against poachers. Engaging communities in justice processes can enhance surveillance, reporting, and overall deterrence against poaching. Community-based initiatives offer a proactive approach to combating poaching by leveraging local knowledge and stakeholder involvement to enhance surveillance and reporting mechanisms. Empowering communities to take a leading role in conservation efforts fosters a collective sense of responsibility and can lead to innovative and locally adapted solutions to deter poaching. Such initiatives should be supported by the legal and institutional framework and ensure that community efforts are recognised and integrated into broader conservation strategies.

Theme 6: Need for comprehensive anti-poaching strategies

There is an emphasis on the necessity of revisiting and enhancing anti-poaching strategies, including legal measures. "We need to go back to the drawing board", said R4. This is evident in R2's assertion that "the justice system also is...not well vested with the subject matter". Further supporting discussions are from R3 and R9, who mentioned the need for better training and resources for judicial officers to effectively handle poaching cases. Enhancing the capacity of judicial officers through training and resources is essential to improving the effectiveness of the justice system in deterring poaching. Developing a comprehensive anti-poaching strategy that

integrates legal, community, and conservation efforts is essential for addressing the multifaceted nature of poaching.

Therefore, the recognition of the need for comprehensive anti-poaching strategies indicates the complexity of addressing poaching effectively. A multifaceted approach that includes legal reform, enhanced enforcement capabilities, community engagement, and international cooperation is essential. Tailoring strategies to address specific local and regional challenges and ensuring the involvement of all stakeholders can create a more resilient and effective framework for combating poaching and preserving wildlife.

The themes identified in this analysis were cross-verified through multiple sources, including interview transcripts, field notes, and secondary literature on poaching in Namibia. Additionally, responses were compared across different respondent groups (MEFT officials, businesspeople, and community members) to ensure the consistency and reliability of findings. Where contradictions emerged, follow-up interviews and document reviews were conducted to clarify discrepancies. This triangulation approach enhances the robustness of the study's conclusions, ensuring that reported findings reflect an accurate representation of respondents' experiences and perspectives.

4.4 CHAPTER SUMMARY

This chapter presented a detailed analysis of the data collected from respondents associated with the Ministry of Environment, Forestry, and Tourism, some local businesspeople, and residents around the Etosha National Park. Section 4.1 detailed the demographic analysis, revealing insights into the gender, age, positions, and tenure

of the MEFT employees, as well as the characteristics of local businesspeople and middle-aged residents in the vicinity of the ENP. This section provided a foundation for understanding the perspectives and backgrounds of those involved in or affected by the conservation efforts. Section 4.3, the thematic analysis, delved into the motivations leading to the poaching of rhinos by examining aspects such as economic desperation, exploitation by foreign nationals, and the allure of quick financial gains. It also assessed the benefits gained by poachers and evaluated the effectiveness of the justice system in deterring poaching activities. Through this analysis, the chapter highlighted the complexity of the poaching issue by emphasising the need for a multifaceted approach to combat this challenge. The upcoming chapter (Chapter Five: Discussion of findings) further explores these themes by interpreting the findings in view of the existing literature and providing a comprehensive discussion on the implications of this study's results.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 INTRODUCTION

Discussions of findings provide an in-depth examination of the empirical results derived from the study on the poaching of rhinos in the Etosha National Park (ENP). This chapter is structured around a comprehensive discussion of the findings by dissecting the motivations behind poaching, the benefits poachers gain, and the efficacy of the justice system in deterring such illegal activities. Sections 5.1.1 - 5.1.3 hereunder specifically articulate the discussion of findings across the three main areas:

5.1.1 The motivations leading to the poaching of rhinos in the ENP - This section looks into the socio-economic factors, including economic desperation, unemployment, and the exploitation by foreign nationals, which drive individuals towards rhino poaching activities.

5.1.2 The benefits gained by poachers of rhinos in the ENP - Here, the focus shifts to examining the immediate economic benefits that poachers receive, the complex reward systems within poaching syndicates, and the financial rewards versus risks involved in rhino poaching deeds.

5.1.3 The extent to which the justice system deters poachers from killing rhinos in the ENP - This part evaluates the current legal deterrents, challenges in the legal and judicial response, and the potential for community-based justice initiatives to enhance anti-poaching efforts.

Through these sections, the chapter aims to contextualise the empirical findings within the broader literature on wildlife conservation, thus offering insights into the multifaceted nature of rhino poaching and the integrated strategies required to combat it.

5.2 DETAILED ANALYSIS

5.2.1 The motivations leading to the poaching of rhinos in the ENP

Theme 1: Economic desperation and unemployment

Economic desperation and unemployment have consistently been identified as major drivers of wildlife poaching, particularly in regions with limited economic opportunities (Haenlein & Smith, 2017). The findings of this study corroborate earlier research, which argues that communities living near conservation areas, such as ENP, often turn to poaching as an alternative livelihood due to the absence of formal employment opportunities (Khumalo, 2015). Respondents emphasised that youth unemployment exacerbates this issue, aligning with previous studies showing that unemployed youth are more susceptible to recruitment by illegal wildlife syndicates (Massé, 2017). This underscores the necessity for conservation-linked employment strategies, such as community-based natural resource management (CBNRM), which has demonstrated success in regions where wildlife-based tourism is integrated with economic incentives (Mbaiwa, 2017).

Furthermore, the relationship between economic factors and the poaching of rhinos in the ENP indicates the multifaceted nature of wildlife conservation challenges. The narrative that economic desperation and unemployment drive individuals towards poaching is not unique to the ENP but reflects a global crisis where marginalised

communities are pushed towards illegal activities as a survival strategy. This theme reiterates the critical importance of addressing the root causes of poaching, such as poverty and lack of economic opportunities, which aligns with the broader conservation paradigm that advocates for integrating conservation efforts with community development (Mkono, 2023). Sustainable livelihood initiatives that offer viable alternatives to poaching are essential in this view, suggesting a shift from purely punitive approaches to more holistic socio-economic interventions.

Theme 2: Exploitation by foreign nationals

The exploitation of local vulnerabilities by foreign nationals highlights the global nature of the poaching crisis, aligning with findings that international syndicates play a significant role in wildlife trafficking (Wyatt, 2013). This theme indicates the necessity for a multi-layered approach that combines local socio-economic development with international law enforcement cooperation to dismantle transnational poaching networks. The complexity of poaching networks involving external actors necessitates robust international collaboration and legal frameworks to combat wildlife trafficking effectively. Moreover, the exploitation by foreign nationals' theme highlights the transnational dimension of wildlife trafficking, thus emphasising the role of international demand in driving local poaching activities. This supports the argument for a global response to a global problem, thus necessitating international cooperation in law enforcement, legal extradition processes, and the harmonisation of wildlife protection laws to prevent the exploitation of legal loopholes by syndicates (Huang et al., 2021). It also points to the importance of international awareness campaigns that target consumer countries to reduce demand for illegal wildlife products.

Theme 3: Influence of greed and economic gain

The lure of quick financial gains from poaching, driven by greed, echoes the economic theory of crime, where the expected benefits of criminal activities outweigh the perceived costs (Herbig & Minnaar, 2018). The high value placed on rhino horns, driven by demand in markets where they are used for medicinal purposes or as status symbols, exacerbates this issue. Addressing the demand side through international campaigns to reduce demand for rhino horns is as crucial as bolstering legal deterrents to mitigate the allure of poaching.

In essence, the finding of greed and economic gain reflects the broader economic models of crime, where the benefits of illegal activities are weighed against the risks. This is particularly relevant in the view of high-value wildlife products, where the potential for significant financial gain can override ethical considerations and the fear of legal consequences. Effective demand-reduction strategies, alongside strengthening the legal and enforcement framework to increase the risks associated with poaching activities, are crucial components of a comprehensive approach to wildlife conservation (Biggs et al., 2016).

Theme 4: Insufficient rewards for poaching

The disparity in the distribution of profits within poaching operations, with minimal compensation for ground-level poachers, points to the exploitation that occurs within these networks. This insight could inform strategies focused on providing alternative livelihoods to those most at risk of being drawn into poaching due to economic desperation. It also highlights the need for targeted interventions to disrupt these networks by addressing the economic inequalities inherent in the illegal wildlife trade.

The issue of insufficient rewards for ground-level poachers reveals the exploitative nature of poaching networks, where the most vulnerable individuals bear the greatest risks for the least reward. This insight supports the need for targeted interventions that provide sustainable economic alternatives to those at the grassroots level of poaching operations, potentially deterring involvement in illegal activities (Mbaiwa, 2017). Additionally, disrupting the economic benefits for higher levels in the poaching hierarchy through financial investigations and asset seizures could reduce the operational capabilities of these networks (Couzens, 2017; Shaw & Rademeyer, 2016).

Theme 5: Rhino horns' economic value

The high economic value of rhino horns as a driving factor behind poaching activities indicates the need for a comprehensive strategy that addresses both the supply and demand sides of the illegal wildlife trade. Efforts such as the Rhino Horn Trade Ban have sought to curb demand, but persistent illegal markets indicate the need for continued international cooperation and innovative strategies to combat demand (Chen, 2016).

By implication, the economic value of rhino horns represents a significant challenge to conservation efforts, necessitating a multi-pronged strategy that includes demand reduction, legal trade regulation, and the development of synthetic alternatives to reduce pressure on wild populations (Andrew, 2017). The persistent demand for rhino horns, despite conservation efforts, shows the need for innovative solutions that address the cultural and economic factors driving this demand.

Theme 6: Utilisation of unemployed youths

The strategic targeting of unemployed youths by poaching syndicates highlights a significant vulnerability that can be addressed through enhanced youth employment opportunities and education. This aligns with the broader literature on the importance of engaging local communities in conservation efforts and providing alternative livelihoods to reduce the incentives for poaching (Morais et al., 2015; Mbaiwa, 2017).

By implication, the strategic targeting of unemployed youth by poaching syndicates highlights a critical area for intervention. Providing education, training, and employment opportunities for youths can reduce their vulnerability to exploitation by illegal networks. Engaging young people in conservation and community development projects can also foster a sense of stewardship towards natural resources, thereby contributing to long-term conservation success (Khumalo, 2015).

5.2.2 The benefits gained by poachers of rhinos in the ENP

Theme 1: Immediate economic benefits

The immediate, albeit limited, financial benefits for ground-level poachers indicate the economic desperation driving individuals towards poaching. This finding highlights the need for socio-economic interventions that offer viable alternatives to poaching. The empirical literature on CBNRM (Khumalo, 2015) suggests that empowering local communities through sustainable use and management of natural resources can create alternative sources of income, thus reducing the economic allure of poaching.

The analysis of the benefits gained by poachers of rhinos in the ENP reveals a complex interplay of economic desperation, organised crime, and cultural values that fuel the illegal wildlife trade. The immediate economic benefits for ground-level poachers draw attention to the acute socio-economic challenges faced by communities

surrounding conservation areas. This insight aligns with the broader literature advocating for Integrated Conservation and Development Projects (ICDPs) that aim to provide sustainable livelihoods to reduce reliance on poaching (Mogomotsi et al., 2020). Such projects, however, need to be carefully designed to ensure that they effectively address the economic motivations behind poaching, with a focus on inclusivity and long-term sustainability.

Theme 2: Complex reward systems within syndicates

The hierarchical reward system within poaching syndicates, where the financial rewards are significantly higher at the top, reflects the organised crime aspect of poaching. This complexity necessitates targeted interventions aimed at dismantling these networks. Strategies may include disrupting the financial flows that fuel these operations, a tactic supported by the findings on the role of international syndicates in wildlife trafficking (Wyatt, 2020).

The complex reward systems within poaching syndicates highlight the sophisticated nature of wildlife trafficking as a form of organised crime. This indicates the necessity for multifaceted approaches that combine local socio-economic development with international efforts to disrupt the financial and logistical networks of these syndicates. The success of such interventions requires collaboration across borders, thereby leveraging international law enforcement cooperation and employing financial intelligence to trace and dismantle the economic underpinnings of these criminal operations (Andrew, 2017).

Theme 3: Financial rewards versus risks

The theme of financial rewards versus risks highlights the need for stronger legal deterrents. Enhancing legal penalties and ensuring their strict enforcement can shift

the risk-reward balance, thereby making poaching less attractive. This is in line with empirical evidence suggesting that stringent legal measures, combined with robust enforcement, can act as effective deterrents to wildlife crimes (Massé, 2017).

The discussion on financial rewards versus risks brings to the forefront the critical role of the justice system in deterring wildlife crimes. The current gap in legal deterrents suggests a need for comprehensive legal reforms that increase the costs associated with poaching activities. This includes not only stricter penalties but also improvements in the capacity of law enforcement agencies to enforce these penalties effectively, thereby altering the risk-reward calculation for potential poachers (Ferreira, 2014).

Theme 4: Symbolic value of rhino horns

Addressing the symbolic value of rhino horns requires targeted demand reduction strategies that challenge the cultural beliefs and practices driving the demand. International campaigns and education programmes aimed at debunking myths about the medicinal properties of rhino horns can contribute to reducing demand (Anderson & Jooste, 2014; Andrew, 2017).

As such, addressing the symbolic value of rhino horns requires a different understanding of the cultural settings within which these beliefs are embedded. Demand reduction strategies must therefore be culturally sensitive, aiming to shift perceptions and values through education and awareness campaigns. These efforts need to be supported by research into the social and cultural drivers of demand for rhino horns to develop targeted interventions that can effectively reduce demand (Hübschle, 2016).

Theme 5: Economic incentives for syndicate leaders

Targeting the economic incentives for syndicate leaders involves both disrupting their financial operations and enhancing legal penalties for high-level traffickers. This approach aligns with recommendations for tackling organised crime by focusing on the financial structures that support these operations (UNHCR, 2018).

In essence, targeting the economic incentives for syndicate leaders highlights the importance of financial investigations in wildlife conservation efforts. By focusing on the "follow the money" approach, conservation efforts can benefit from methodologies used in other areas of organised crime control, applying financial sanctions, and asset forfeiture to disrupt the economic viability of poaching operations (Shaw & Rademeyer, 2016).

Theme 6: Utilising community intelligence for rhino poaching prevention

Engaging local communities in anti-poaching efforts by leveraging community intelligence for prevention can enhance early detection and intervention. This theme indicates the importance of community-based conservation approaches, which have been shown to contribute to the effective management and protection of natural resources (Anderson & Jooste, 2014).

The finding of utilising community intelligence for prevention emphasises the critical role of local communities in conservation efforts. This approach resonates with the growing recognition of the value of community-based conservation to harness local knowledge and support for protecting wildlife. Such strategies not only enhance the effectiveness of anti-poaching efforts but also foster a sense of ownership and responsibility towards conservation among local communities (Massé, 2017).

5.2.3 The extent to which the justice system deters poachers from killing rhinos in ENP

Theme 1: The justice system's deterrent effect

The perceived inadequacy of legal deterrents against poaching aligns with studies critiquing the effectiveness of wildlife crime legislation and enforcement practices (Ferreira et al., 2018). Strengthening legal frameworks and ensuring the enforcement of stringent penalties are necessary to enhance the deterrent effect of the justice system. This theme indicates the need for a comprehensive approach that includes legal reforms, specialised training for law enforcement and the judiciary, and international cooperation to effectively combat wildlife trafficking.

Furthermore, the deterrent effect of the justice system on poaching activities in the Etosha National Park (ENP) illuminates the critical gaps within the legal frameworks and enforcement mechanisms. The challenge is not only in crafting laws that are stringent enough to deter wildlife crimes but also in ensuring their effective enforcement. This necessitates a multifaceted approach, as highlighted by Martin (2013), which advocates for enhancing both the legal frameworks and the capacity of law enforcement agencies. Strengthening the deterrent effect requires a robust legal system capable of imposing and enforcing penalties that reflect the severity of poaching crimes, thus making the risk to outweigh the potential benefits for poachers.

Theme 2: Challenges in legal and judicial response

The inadequacies in the legal and judicial response, exacerbated by corruption and inefficiencies, highlight the need for reforms aimed at strengthening the judiciary's capacity to handle wildlife crimes effectively. Specialised training for legal and judicial personnel, as well as measures to combat corruption, are essential steps in

enhancing the justice system's role in deterring poaching (UNHCR, 2018). The findings indicate the multifaceted nature of the legal and judicial challenges in addressing poaching, particularly in view of the Etosha National Park. The respondents' insights into corruption and inefficiencies within the system resonate with broader themes in conservation literature, highlighting the persistent obstacles to effective wildlife crime prosecution. The UNHCR's (2018) emphasis on the need for specialised training for legal and judicial personnel mirrors the respondents' observations, suggesting that enhancing the judiciary's understanding and handling of wildlife crimes could significantly improve prosecution rates and deter poaching activities. Moreover, the complexities of legal responses necessitate not only training but also systemic reforms to address corruption. Anti-corruption measures are critical in restoring the integrity of legal and enforcement institutions, thereby strengthening their role in wildlife conservation. This aligns with global conservation efforts that advocate for an integrated approach combining legal reforms, capacity building, and international cooperation to dismantle poaching networks and enhance the legal system's deterrent effect on wildlife crimes.

Theme 3: Sentencing and legal deterrents

The call for stricter sentencing guidelines reflects a gap in the current legal framework's ability to deter poachers effectively. Implementing and enforcing harsher penalties for wildlife crimes can serve as a more effective deterrent, a strategy supported by empirical evidence on the effectiveness of legal deterrents (Martin, 2013). The essence of this finding is that of an emphasis on stricter sentencing guidelines for poaching offenses, and it reflects a critical gap in the existing legal frameworks. The call for harsher penalties is grounded in the principle of deterrence,

a cornerstone of criminal justice theory, which posits that the certainty, swiftness, and severity of punishment can deter criminal behaviour. Lemieux's (2014) research supports this by indicating that effective legal deterrents are essential for mitigating wildlife crimes. The implementation of stringent sentencing guidelines for poaching and related offenses could shift the cost-benefit calculus for potential offenders, thereby making the risks associated with poaching outweigh the potential rewards. However, for legal deterrents to be effective, they must be part of a comprehensive anti-poaching strategy that includes robust enforcement mechanisms, community engagement, and international collaboration. Strengthening the legal deterrent effect requires a multi-pronged approach that addresses both the supply and demand sides of wildlife trafficking by incorporating public education campaigns, community-based conservation initiatives, and international treaties to reduce the demand for illegally sourced wildlife products. This holistic approach is essential for creating a legal and social environment in which poaching is not only risky but also socially unacceptable and unrewarding.

Theme 4: Corruption facilitating poaching

Corruption within enforcement and judiciary systems undermines efforts to combat poaching, thus echoing systemic challenges facing anti-poaching efforts (Hübschle, 2017). Addressing corruption requires comprehensive governance reforms and the implementation of transparency and accountability mechanisms, which are crucial for strengthening the rule of law in conservation areas.

Corruption within the legal and enforcement sectors significantly undermines anti-poaching efforts. The role of corruption in facilitating poaching is well-documented in wildlife conservation literature, with Hübschle (2017) emphasising how it erodes the

effectiveness of anti-poaching laws and initiatives. Addressing corruption necessitates governance reforms that foster transparency, accountability, and public trust in institutions tasked with wildlife conservation.

Theme 5: Community-based justice initiatives

Community-based justice initiatives offer a promising approach to enhancing the effectiveness of anti-poaching efforts. By involving local communities in surveillance and reporting, these initiatives can improve the detection and prevention of poaching activities. This aligns with the empirical literature on the benefits of community engagement in conservation efforts (Morais et al., 2015; Mbaiwa, 2017).

Community-based justice initiatives indicate the potential of local communities as pivotal stakeholders in anti-poaching efforts. The engagement of communities in surveillance and reporting mechanisms not only enhances the detection of poaching activities but also fosters a collective responsibility towards conservation. This approach is supported by empirical evidence from Morais et al. (2015) and Mbaiwa (2017), which highlights the success of community engagement in conservation efforts. Such initiatives can bridge the gap between conservation policies and local realities, thereby ensuring a more inclusive and effective approach to combating poaching.

Theme 6: Comprehensive anti-poaching strategies

The call for comprehensive anti-poaching strategies reflects a recognition of the multi-dimensional nature of the poaching problem. This aligns with conservation literature advocating for integrated approaches that combine legal, socio-economic, and community engagement strategies (Hübschle, 2017). Engaging communities in conservation efforts, enhancing socio-economic development, and strengthening legal

and enforcement frameworks are critical components of a comprehensive strategy to combat poaching.

Essentially, the call for comprehensive anti-poaching strategies reflects an acknowledgment of the complex nature of poaching, which is influenced by a myriad of factors, including economic, social, and legal dimensions. A holistic strategy that integrates legal reforms, socio-economic development, community engagement, and international cooperation is crucial for addressing the multifaceted challenges of poaching. Hübschle (2017) emphasises the need for integrated approaches that not only focus on enforcement but also address the root causes of poaching, including poverty and unemployment, thereby providing sustainable solutions to the poaching crisis.

5.3 CHAPTER SUMMARY

In this chapter, the study embarked on a detailed discussion of the findings related to rhino poaching in the Etosha National Park. The chapter scrutinised the motivations behind poaching, including economic desperation and the influence of foreign nationals, alongside the benefits that poachers gain and the role of the justice system in deterring poaching activities. This examination revealed the complex interplay between socio-economic factors, the allure of quick financial gains, and the inadequacies within the justice system that collectively contribute to the persistence of poaching. By aligning these findings with existing conservation literature, the chapter indicated the necessity for a holistic approach that incorporates socio-economic development, community engagement, and robust legal frameworks to combat rhino poaching. The upcoming chapter (six) comprises the summary, conclusions and recommendations, which will synthesize the insights garnered from the discussion and

propose actionable strategies aimed at curbing rhino poaching in the ENP and beyond, thereby marking an important step towards the conservation of this critically endangered species.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1. INTRODUCTION

This chapter synthesises the key findings of the study, drawing conclusions based on the evidence presented in the preceding chapters. The chapter is structured into three main sections: a summary of the findings based on the study's objectives, conclusions drawn from these findings, and recommendations aimed at addressing the factors contributing to rhino poaching in ENP. The recommendations focus on policy development, law enforcement, community engagement, and international cooperation, all of which are critical for curbing poaching and promoting sustainable conservation efforts. The chapter concludes with suggestions for future research, highlighting areas that require further investigation to enhance conservation strategies.

6.2 SUMMARY OF THE FINDINGS

The study revealed that economic desperation and unemployment are key drivers of rhino poaching in the ENP. Respondents highlighted that a lack of alternative economic opportunities, particularly among the youth, makes poaching an attractive option despite its risks. The study found that foreign nationals exploit local vulnerabilities, recruiting individuals into poaching syndicates by offering them financial incentives, often with little understanding of the broader implications. Furthermore, greed and economic gain emerged as motivators, with some individuals engaging in poaching purely for financial enrichment. However, findings indicate that poachers at the lower levels of syndicates receive minimal financial rewards, as most

profits are accrued by the syndicate leaders. The high economic value of rhino horns in illegal markets was also identified as a major factor, driving the demand that sustains poaching activities. Additionally, unemployed youth were found to be particularly vulnerable to recruitment by poaching syndicates, highlighting the need for interventions focused on employment, vocational training, and conservation-linked income opportunities.

Furthermore, the study found that ground-level poachers receive relatively small financial rewards, often between N$8,000 and N$25,000, while the main beneficiaries are the higher-ranking members of poaching syndicates. This hierarchical reward system underscores the exploitative nature of poaching networks, where those taking the greatest risks receive the least benefits. Findings suggest that while the immediate financial rewards may seem attractive, they do not outweigh the legal and personal risks involved, particularly given the high probability of lengthy prison sentences or violent confrontations with law enforcement. The study also highlighted the symbolic value of rhino horns, particularly in international markets, where they are perceived as status symbols or traditional medicine ingredients, further fueling demand. Additionally, syndicate leaders were found to receive significant economic incentives, making it crucial to disrupt financial flows within poaching networks. Respondents emphasised the potential role of community intelligence in anti-poaching efforts, with local populations being well-positioned to detect and report illegal activities, provided they are supported and incentivized to do so.

In the same vein, the findings indicate that the justice system in Namibia is perceived as ineffective in deterring poaching due to lenient legal penalties, corruption, and inefficiencies in enforcement. Respondents noted that repeat offenders are often granted bail, and sentencing guidelines for poaching-related crimes are not consistently enforced. Moreover, the study found that law enforcement agencies lack adequate training and resources to handle wildlife crimes effectively, further weakening deterrence efforts. Corruption within the judicial system was identified as a major enabler of poaching, allowing syndicates to circumvent legal consequences through bribery and political connections. The study also emphasised the need for community-based justice initiatives as an alternative approach to strengthening conservation law enforcement. Respondents suggested that local communities should be integrated into anti-poaching efforts, given their knowledge of poaching activities and ability to monitor suspicious behaviour. Lastly, there was a strong consensus on the need for a comprehensive anti-poaching strategy that includes legal reforms, stronger enforcement mechanisms, international cooperation, and socio-economic interventions to effectively deter poaching in the ENP.

Overall, the findings indicate the multifaceted nature of rhino poaching in the ENP, driven by socio-economic, legal, and international factors. While economic desperation, unemployment, and exploitation by foreign nationals create conditions conducive to poaching, weaknesses in the justice system, corruption, and high rhino horn values further sustain this illicit trade. Addressing poaching requires a holistic approach that integrates economic development, community engagement, legal

enforcement, and international cooperation to disrupt both the supply and demand sides of the illegal wildlife trade.

6.3 CONCLUSIONS

6.3.1 Motivations leading to rhino poaching in the ENP

The motivations behind rhino poaching in the ENP are deeply rooted in economic desperation, unemployment, and exploitation by foreign nationals, thereby reflecting a complex socio-economic and international crime web. Economic hardships, particularly among the youth, serve as a primary driver, aligning with broader socio-economic studies (Haenlein & Smith, 2017), which suggests that mitigating these root causes through targeted economic development and job creation strategies is crucial. The involvement of international syndicates indicates the need for global cooperation in law enforcement to dismantle transnational networks. Greed and the high economic value of rhino horns further fuel poaching activities, thereby necessitating both legal deterrents and international demand-reduction campaigns.

6.3.2 Benefits gained by poachers of rhinos in the ENP

The analysis revealed a complex reward system within poaching syndicates, with ground-level poachers receiving minimal economic benefits, thus highlighting significant disparities in the distribution of profits. This situation calls for interventions providing alternative livelihoods to those most vulnerable to poaching. The hierarchical reward system points to the organised crime aspect of poaching, thus requiring targeted interventions to disrupt these networks financially.

6.3.3 The extent to which the justice system deters poaching in the ENP

The justice system's current deterrent effect against poaching is perceived as inadequate and plagued by challenges, including corruption and inefficiencies within the legal and judicial response. Strengthening legal frameworks, ensuring the enforcement of stringent penalties, and combating corruption are essential steps towards enhancing the deterrent effects of the justice system. Community-based justice initiatives and comprehensive anti-poaching strategies are highlighted as promising approaches to improve the effectiveness of anti-poaching efforts.

Commonly, the factors contributing to rhino poaching in the Etosha National Park are multifaceted, including economic desperation, unemployment, exploitation by foreign nationals, greed, and the high economic value of rhino horns. These factors are compounded by inadequacies within the justice system, including corruption, which hinder effective deterrence. Addressing these issues requires a holistic approach encompassing economic development, legal reform, international cooperation, and community engagement.

6.4 RECOMMENDATIONS

For the security clusters, enhancing surveillance, intelligence sharing, and the capacity of law enforcement agencies to tackle wildlife crimes are paramount. National policy developments should focus on strengthening legal frameworks and penalties associated with wildlife crimes while ensuring that the judiciary is equipped to handle such cases effectively. For other national parks in Namibia, implementing community-based conservation programmes that provide alternative livelihoods can

reduce the local communities' reliance on poaching. Academia can contribute by conducting research that informs policy and practice, and focusing on socio-economic factors driving poaching and effective community engagement strategies.

6.4.1 Ministry of Environment, Forestry, and Tourism (MEFT)

A. Economic development and employment creation - The MEFT should collaborate with other government departments and the private sector to launch economic development programmes targeted at communities surrounding the ENP. These programmes should focus on creating sustainable employment opportunities that do not rely on wildlife exploitation. Vocational training and microfinance initiatives can empower local residents, thereby reducing the economic desperation that leads to poaching.

B. International cooperation and law enforcement - Given the role of foreign nationals and transnational syndicates in poaching, the MEFT should strengthen international cooperation with neighbouring countries and global conservation organisations. This includes sharing intelligence, joint law enforcement operations, and capacity building to effectively combat wildlife trafficking.

C. Demand reduction campaigns - The MEFT should lead and support international campaigns to reduce the demand for rhino horns. These campaigns could focus on educating consumers about the impacts of rhino poaching and promoting alternative materials. Collaborations with countries where the demand is high are crucial for the success of these campaigns.

D. Alternative livelihoods for at-risk populations - To address the exploitation of unemployed youths and provide alternatives to poaching, the MEFT should implement community-based natural resource management (CBNRM) programmes. These

programmes can offer training, employment, and profit-sharing from conservation activities, thus providing a viable alternative to poaching.

E. Strengthening the legal framework - The MEFT should advocate for the review and strengthening of the legal framework governing wildlife crimes. This includes pushing for harsher penalties for poaching and wildlife trafficking, thereby ensuring that the judiciary is well-equipped to handle such cases and reducing the opportunities for corruption within the legal process.

F. Community-based conservation and intelligence sharing - The MEFT should prioritize community-based conservation initiatives that integrate local communities into wildlife protection strategies. Findings from this study revealed that communities living near ENP often feel disconnected from conservation efforts, leading to low cooperation with law enforcement. This aligns with empirical research showing that conservation programs incorporating local participation significantly reduce poaching activities (Mbaiwa, 2017). Establishing structured partnerships with local communities through economic incentives, community patrols, and educational programs can improve conservation efforts and mitigate the economic motivations for engaging in poaching.

G. Comprehensive anti-poaching strategies - Finally, the MEFT should develop and implement a comprehensive anti-poaching strategy that integrates legal, socio-economic, and conservation strategies. These strategies should include measures to improve law enforcement capacity, community engagement, and international cooperation. Monitoring and evaluation should be an integral part of the strategy to assess effectiveness and make necessary adjustments.

6.4.2 Security clusters

Enhancing the capacity of law enforcement agencies involves not only increasing surveillance and intelligence sharing but also investing in technology and training that specialise in tracking and combating wildlife crimes. Initiatives such as drone surveillance, night vision equipment, and advanced data analysis tools can significantly improve monitoring and enforcement capabilities within the ENP and other vulnerable areas. Collaborative efforts with international agencies can bring in expertise and resources, thereby aiding in dismantling the sophisticated networks behind wildlife trafficking.

6.4.3 National policy developments

Legal frameworks need to be revisited to introduce more stringent penalties for wildlife crimes, thereby reflecting the severity of their impact on biodiversity and national heritage. This involves amending existing legislation to close loopholes that poachers and syndicates exploit. Furthermore, policies should encourage the judiciary to specialise in environmental crimes, thus ensuring that judges and prosecutors are well-versed in the complexities of wildlife trafficking and the importance of conservation efforts. Implementing mandatory minimum sentences for convicted wildlife criminals could act as a stronger deterrent.

6.4.4 Management of other national parks

Drawing from the findings, there's a clear need for implementing community-based conservation programmes that offer alternative livelihoods to reduce reliance on poaching. These programmes should focus on the sustainable use and management of natural resources, as well as providing education, training, and employment opportunities in conservation and tourism sectors. Engaging communities in

conservation efforts not only aids in surveillance and protection efforts but also fosters a sense of ownership and responsibility towards natural heritage.

6.4.5 Academia and national policy developments

Research should be directed towards understanding the socio-economic dynamics at play in communities surrounding conservation areas. Studies focusing on the efficacy of community-based conservation initiatives, the impact of legal reforms on poaching rates, and the role of international trade in wildlife products can inform policy and practice. Academia can play a crucial role in developing innovative solutions for wildlife monitoring, anti-poaching strategies, and community engagement models that can be adapted and implemented across Namibia and beyond.

6.4.6 Recommendations for future research

Recommendations for future research include exploring the socio-economic impacts of conservation initiatives, the effectiveness of community-based conservation programmes, and the role of international cooperation in combating wildlife trafficking. Future research should also delve into innovative technologies and methodologies for enhancing surveillance and tracking of wildlife crimes. Specifically, future research should prioritise longitudinal studies that assess the long-term impacts of anti-poaching strategies and legal reforms. Investigating the changing dynamics of wildlife trafficking networks in response to increased enforcement and legal penalties can provide insights into evolving challenges and opportunities for intervention. Additionally, exploring the psychological and socio-economic factors that motivate individuals to engage in or refrain from poaching activities could inform more targeted and effective conservation strategies. Collaboration between

researchers, policymakers, conservationists, and local communities is essential to develop holistic and sustainable solutions to combat poaching.

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APPENDICES

Appendix 1: Ethical Clearance Certificate

UNAM
UNIVERSITY OF NAMIBIA

ETHICAL CLEARANCE CERTIFICATE

Ethical Clearance Reference Number: SOMS 0001 **Date: 02/06/2023**

This Ethical Clearance Certificate is issued by the University of Namibia Ethics Committee (REC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Ethical approval is given in respect of undertakings contained in the Research Project outlined below. This Certificate is issued on the recommendations of the ethical evaluation done by the ethics committee.

Title of Project: **CONSERVATION OF ENDANGERED SPECIES IN NAMIBIA: AN INVESTIGATION OF FACTORS CONTRIBUTING TO POACHING OF RHINOS IN ETOSHA NATIONAL PARK**

Principal researcher(s): EPHRAIM AUHAMBA MOONGELA

Staff Number/ Student number: 219055076

Remarks: APPROVED

Centre for Research Services

Take note of the following:

1. Any significant changes in the conditions or undertakings outlined in the approved Proposal must be communicated to the ethics committee. An application to make amendments may be necessary.
2. Any breaches of ethical undertakings or practices that have an impact on ethical conduct of the research must be reported to the ethics committee.
3. The Principal Researcher must report issues of ethical compliance to the ethics committee (through the Chairperson) at the end of the Project or as may be requested by the ethics committee.
4. The ethics committee retains the right to:

i) Withdraw or amend this Ethical Clearance if any unethical practices (as outlined in the Research Ethics Policy) have been detected or suspected,

ii) Request for an ethical compliance report at any point during the research.

The ethics committee wishes you the best in your research.

Dr. Loide V Shaamhula (Chairperson Decentralized Ethics Committee)

Prof. Davis Mumbengegwi (Head, Multidisciplinary Research)

Appendix 2: NCRST Authorisation of Research Projects

NCRST

AUTHORIZATION OF RESEARCH PROJECTS

Authorization is hereby granted in terms of Section 21 of the RST Act No. 23 of 2004, to:

Name: University of Namibia

Address: Private Bag 13301, Pioneers Park, Windhoek

Coworkers: Ephraim Auhamba Moongela

Certificate Number (if applicable): RCIV00022018 **Authorization No:** 202307010

Type of Research:
Non- Commercial research and the use of resources be limited to what is in the proposal.

Title of Research Authorized:
Conservation of Endangered Species in Namibia: An Investigation of Factors Contributing to Poaching of Rhinos in Etosha National Park.

Locality:
Etosha National Park.

Duration: 17 July 2023 - 31 July 2024

Research / Sample Collection Conditions:
Refer to research conditions on the next page.

Yours sincerely,

National Commission on Research Science & Technology
17 JUL 2023
P/Bag 13253
Windhoek, Namibia

Prof. Anicia Peters
Chief Executive Officer

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Windhoek
+264 61 431 7000
+264 61 249 794

RESEARCH/SAMPLE COLLECTION CONDITIONS

1. You must report to the Park Chief warden and / or Regional Office of the Ministry of Environment and Tourism prior to arrival in fieldwork area, and must present your permit.
2. This permit does NOT entitle the holder to free entry to the protected areas or state land outside protected areas.
3. For Field work in National Parks you have to make arrangement with park management in advance prior to arrival in fieldwork area.
4. Voucher specimens should be deposited with National Museum of Namibia.
5. If you would like to export samples of specimens you must loan them from the National Museum of Namibia.
6. To conduct research work in the rhinos and elephants range all persons listed on the permit must be in possession of a police clearance certificate.
7. The permission of the land owner is required to work/collect on private lands.
8. The permission of the concession holder is required to work/collect in concession areas.
9. The permission of the communal authority is required to work/collect in communal areas.
10. No commercial filming will be permitted without prior approval by the Ministry of Environment and Tourism under this permit.
11. Duplicates of publications and / or final report should be made available to the Ministry of Environment and Tourism and also the final report.
12. The specimens and their derivatives may be used for the purposes of this study only and may not be patented, commercialised, donated or sold to a third party without the written consent of the Ministry of Environment and Tourism.
13. All results (raw materials) or technology derived directly or indirectly from this research must be made available free of charge without reservations to the Ministry of Environment and Tourism.
14. A report on the work conducted under this permit must be submitted to the Ministry of Environment and Tourism not later than one month after the expiry of this permit as well as to regional office in whose area research was conducted.
15. Applications for renewal of this permit must reach this office at least three months prior to the expiry of this permit.
16. Habitat destructive collecting methods must not to be used.
17. Veterinary restriction may apply in the case of movement of samples and it is the applicants' responsibility to obtain such permits.
18. Foreign (or destination) wildlife import, and veterinary import permits may be required.
19. CITES import permit from the country of the destination is required for the application of export permit for CITES –listed species.
20. All field teams must be in possession of the permit and permit copy must accompany the transport of specimens.
21. You are subject to all conditions listed on the entry permit to any of the protected areas, unless specifically exempted.
22. Failure to adhere to the conditions will lead to cancellation of the research permit.
23. It is your responsibility to make the necessary contacts and arrangements as specified above.
24. The applicant should remove question 6 b from the questionnaire.
25. The applicant has to indicate the number and ranks of staff to be interviewed as well as the type of interview, whether individual or focused group, prior to arrival in the park.
26. Results of the study and final thesis should be made available to DWNP and the Etosha Ecological Institute.

Appendix 3: MEFT Free Permit in ENP

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM

Directorate of Wildlife and National Parks

Application for free entry permit to enter National Parks

Name of Park .....**Etosha National Park**.....

Part A: Visitor information

Surname	MOONGELA
First Names	EPHRAIM AUHAMBA
ID/Passport Number	73011400539
Residential Address	NO. 78, ARISTOTELES STREET, ACADEMIA
Postal Address	P. O . BOX 5309, AUSSPANNPLATZ, WINDHOEK
Occupation	ADMINISTRATIVE OFFICER
Telephone Number (Home)	0812575761
Telephone Number (Work)	0811415409
Cellphone Number	0811415409
Next of Kin; Relationship; Contact details	HILMA N. MOONGELA, WIFE 0812380366

Part B: Staff member/park resident information

Surname	
First Names	
ID/Passport Number	
Employer/Organization	
Occupation	
Station	
House Number	
Postal Address	
Telephone Number (Home)	
Telephone Number (Work)	
Cellphone Number	
Relationship to visitor (proof)	
Name of supervisor	

Part C: Reason for entering the park

Visiting relatives		Employment		Education	X	Health	
Baby caretaker		Transit		Official duty		Other	

Explanation in detail on reason for entering the park:

I AM A STUDENT AT UNAM CARRYING OUT THE RESEARCH IN ENP WHERE I HAVE TO ENGAGE EIGHT (8) MEFT WARDENS INDIVIDUALLY.

Part D: Mode of travel

Road	X	Air		Other	
Registration Number: N1297R OR N1049W					

Part E: Gate of entry and exit

Gate of entry	OKAUKUEJO GATE
Date of arrival	06/08/23
Gate of exit	NEHALE LYAMPINGANA GATE
Date of departure	09/08/23

Part F: Conditions

It is against the law to:

a) Be in possession of an unsealed or loaded firearm;
b) Bring into the Park any pets, domestic or otherwise;
c) Leave a rest camp before sunrise or reach it after sunset, or cross the borders of the Park between sunset and sunrise;
d) Make fires at places other than the officially designated fire-places or make excessively large fires;
e) Stay overnight at any place other than a rest camp;
f) Throw away burning or smouldering objects or leave them at places where they may ignite something;
g) Drive at places other than roads marked by official road signs;
h) Kill, injure or needlessly disturb any wild animal;
i) Pick, collect, uproot or disturb any flower, shrub, herb or any other plant;
j) Damage or spoil any object in the park;
k) Leave the rest camp in any other way than in a vehicle, or leave or hang out from the vehicle in any other place than in a rest camp or an assigned camping site;
l) Throw away refuse or rubbish, except at places or in the receptacles provided for the purpose;
m) Make a noise which may disturb other people;
n) Drive or park in the Park in such a way that it may constitute a nuisance, disturbance or inconvenience to other people, or drive faster than the official speed limit of 60 km/h;
o) Enter the Park in an open vehicle or on a deck of a motor truck not fitted with a grid cage or other effective protection;
p) Ignore the lawful instructions of MEFT Park officials;
q) To hitch-hike;
r) To use the tourists' facilities, i.e. swimming pool, etc.

Arrival in the Park must immediately be reported to the nearest Park Management Office.

Your visit to this Park is at your own risk and the Ministry of Environment, Forestry and Tourism will not be held liable for any injuries, damage or losses you or your possessions may sustain.

All other park rules and regulations must be adhered too.

I am fully conversant with the above mentioned conditions.

Moongela	**01/08/23**
Signature of Applicant	**Date**

Part G: For official use only

MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM

.....

APPROVING OFFICER (NAME, POSITION AND SIGNATURE)

UNDER THE AUTHORITY OF THE MINISTER, POHAMBA SHIFETA IN TERMS OF SECTION 78(I) OF THE NATURE CONSERVATION ORDINANCE, 1975 (4 OF 1975), AS AMENDED

Appendix 4: Questionnaire for MEFT Staff Members

QUESTIONNARE FOR MEFT STAFF MEMBERS

1. Introduction

I Ephraim Auhamba Moongela, a final year student, pursuing a Master of Arts in Security and Strategic Studies Program through the Department of Security and Strategic Studies at the School of Military Science, University of Namibia (UNAM). As part of Masters programs requirements, students are required to write a thesis (research project) on a suitable topic of interest to successfully complete the program. My topic is "Conservation of endangered species in Namibia: An investigation of factors contributing to poaching of rhinos in Etosha National Park". Thus, I humbly invite you to participate in this research to provide the needed information. Your participation in this study is voluntary, and you have the right to decide whether to or not to partake in the research. Before you agree, you are free to seek clarity from someone else regarding the research. This consent form may contain words that you do not understand, please, ask the researcher to explain challenging questions. If you agree to take part in this study, the researcher is kindly request you to answer questions to the best of your ability. Further, be aware that the researcher is using a recorder to capture the conversation and a note book for short hand notes. Should you have questions, you are advised to ask the researcher or the supervisor Dr Theophilia Shaanika, at +264 811432788 or email theokondja@yahoo.co.uk (School of Military Science at UNAM).

2. Confidentiality

Information collected during this project will be kept confidential. I will not use your name or any other identifying information and everything that you say will only be used for research purposes.

3. Personal Information

a. Age group 25 - 35 ☐ 35 - 45 ☐ 45 - 55 ☐ 55 - 65 ☐ Other, please specify ☐

b. Management ☐ Senior Officer ☐ Junior Officer ☐

c. Years in current position 0 - 5 ☐ 5 - 10 ☐ 10 - 15 ☐ 15 and above ☐

4. Factors contributing to poaching rhinos in ENP

a. What could be the factors leading to poaching of rhinos in ENP?

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b. What would be the possible reward(s) of rhino poachers?

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c. In your view, what will happen to the environment when rhinos are exterminated?

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d. How does extinction of rhinos in ENP affects the country's tourism industry?

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e. What are the negative effects of rhino poaching?

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5. Reasons of poaching rhinos in ENP

a. Why do poachers kill rhinos in ENP?

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b. Why do you think Wardens have to be adequately compensated for protecting rhinos in ENP?

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c. What could be the possible usage of rhino horns?

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d. Which methods are mostly used by poachers to kill rhinos?

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e. How do poachers remove the horns after killing the rhinos?

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f. In your opinion, are rhino poachers operating on their own or send by a syndicate in Namibia or somewhere?

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6. National deterrence system of poachers from killing rhinos in ENP.

a. Why do poachers not deterred by the current legislation protecting rhinos?

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b. What type of punishments should the courts impose on poachers to prevent them from killing rhinos in ENP?

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c. What would be the appropriate penalty for rhino poach convicts?

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d. Why do the existing anti-poaching techniques do not deter poachers in ENP?

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e. Why do you think introducing stiffer sentence on rhino poach offenders will end or will not end that practice?

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7. Protection of rhinos in ENP

a. How important do you think it is to conserve rhinos in ENP?

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b. What would be an appropriate method(s) of protecting rhinos in ENP?

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c. What other means do you think can be used to reduce rhino poaching in ENP?

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d. Please suggest, what technique(s) can be used to trace rhino poachers in ENP?

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e. What do you know about rhinos?

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f. Do you perhaps have anything else to suggest?

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Thank you for your willingness, time and kindness for participating in this research.

Appendix 5: Questionnaire for Business and Middle-Aged People

QUESTIONNARE FOR BUSINESS AND MIDDLE-AGED PEOPLE

1. Introduction

I Ephraim Auhamba Moongela, a final year student, pursuing a Master of Arts in Security and Strategic Studies Program through the Department of Security and Strategic Studies at the School of Military Science, University of Namibia (UNAM). As part of Masters programs requirements, students are required to write a thesis (research project) on a suitable topic of interest to successfully complete the program. My topic is "**Conservation of endangered species in Namibia: An investigation of factors contributing to poaching of rhinos in Etosha National Park**". Thus, I humbly invite you to participate in this research to provide the needed information. Your participation in this study is voluntary, and you have the right to decide whether to or not to partake in the research. Before you agree, you are free to seek clarity from someone else regarding the research. This consent form may contain words that you do not understand, please, ask the researcher to explain challenging questions. If you agree to take part in this study, the researcher is kindly request you to answer questions to the best of your ability. Further, be aware that the researcher is using a recorder to capture the conversation and a note book for short hand notes. Should you have questions, you are advised to ask the researcher or the supervisor Dr Theophilia Shaanika, at +264 811432788 or email theokondja@yahoo.co.uk (School of Military Science at UNAM).

2. Confidentiality

Information collected during this project will be kept confidential. I will not use your name or any other identifying information and everything that you say will only be used for research purpose.

3. Personal Information

a. Age group 25 - 35 ☐ 35 - 45 ☐ 45 - 55 ☐ 55 - 65 ☐ Other, please specify ☐

b. Do you live between 50 - 100km ☐ 100 - 150km ☐ Other, please specify ☐

c. Have you been living there between 1 - 5 years ☐ 5 - 10 years ☐ 10 years and above ☐

d. Years living at current place 0 - 5 ☐ 5 - 10 ☐ 10 - 15 ☐ 15 years and above ☐

e. Business person ☐ Middle-aged person ☐

4. Factors contributing to poaching rhinos in ENP

a. What are the probable reasons of poaching rhinos in ENP?

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b. What do poachers gain after killing rhino(s) in ENP?

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c. Kindly, elaborate negative effects of rhino poaching in ENP?

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5. Reasons for poaching rhinos in ENP

a. Are there lucrative markets for rhino horns locally, regionally or internationally, and if so, please elaborate?

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b. What are the probable method(s) used by poachers to kill rhinos?

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c. What are the techniques used by poachers to remove rhino horns after killing?

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d. In your opinion, are rhino poachers operating on their own or are they send by a syndicate in Namibia or somewhere?

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e. Do poachers feel entitled to kill rhinos or are they doing it for commercial benefit?

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f. Other than rhino horns, do poachers interested in other parts / products of the endangered species?

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g. As a business person, why do you think it is necessary to safe rhinos in ENP?

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h. As a business person, what do you do to help protect rhinos in ENPP?

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i. Community living in proximity of ENP, how do they reap in terms of (social, cultural, economic and environmental benefits?

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6. National deterrence system of poachers from killing rhinos in ENP.

a. What are the justice pro-active solutions to deter rhino poaching in ENP?

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b. If the government could not have rhino protection program, could there be rhinos in ENP to date? Please elaborate your answer.

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c. What do you think would be the appropriate penalty for rhino poach convicts?

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7. Protection of rhinos in ENP

a. How important do you think it is to protect rhinos in ENP?

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b. As a middle-aged person, why do you think it is essential to safe rhinos in ENP?

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c. As a middle-aged person, what do you do to help protect rhinos in ENPP?

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d. Besides the government efforts to protect rhinos in ENP, can you please suggest any other method(s)?

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e. In your view, what are the community attitudes and perceptions concerning rhino poaching in ENP?

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f. What do you know about rhinos?

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g. Do you perhaps have anything else to add?

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Thank you for your willingness, time and kindness for participating in this research.

Appendix 6: Language Editing

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1 April 2024

To whom it may concern

LANGUAGE EDITING – EPHRAIM AUHAMBA MOONGELA

This letter serves to confirm that a MASTER OF ARTS IN SECURITY AND STRATEGIC STUDIES research titled CONSERVATION OF ENDANGERED SPECIES IN NAMIBIA: AN INVESTIGATION OF FACTORS CONTRIBUTING TO THE POACHING OF RHINOS IN THE ETOSHA NATIONAL PARK, was submitted to me for language editing.

The research was professionally edited, and track changes and suggestions were made in the document. The research content or the author's intentions were not altered during the editing process and the author has the authority to accept or reject my suggestions.

Yours faithfully

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