



**AN EXPLORATION OF FACTORS CONTRIBUTING
TO THE ILLEGAL HUNTING OF ANTELOPE IN
MALOTI-DRAKENSBERG PARK, KWAZULU-NATAL**

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ILLEGAL HUNTING OF ANTELOPE IN MALOTI-DRAKENSBERG
PARK, KWAZULU-NATAL**

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SUPERVISED BY DR SIYANDA DLAMINI

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DURBAN**

2018

DECLARATION

I, Lindie Schutte, hereby declare that:

- i. The research in this dissertation, except where otherwise indicated, is my own unaided work.
- ii. This research has not been submitted for any degree or examination at any other university.
- iii. The sources have been properly referenced both in text and in the list of references.

Signature:

Date:

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DEDICATION

This dissertation is dedicated to all the animals of South Africa.

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My family, whose immeasurable support and faith, which kept me going, cannot go unacknowledged.

ABSTRACT

The illegal hunting of wildlife animals has a severe negative impact on a country's economy, wildlife population, and the environment. The extinction of a species can have a negative economic effect on a country's tourism industry. A country such as South Africa relies on its wildlife, among other things, to attract tourists and is at great risk of economic hardship if the prevalence of illegal hunting is high. This means that a need exists to reduce the levels of illegal hunting of wildlife animals in South Africa. However, to establish these much-needed prevention methods, the reason for the illegal hunting of specific animals in a given environment must be explored first. Therefore, the main aim of this study is to ascertain why the illegal hunting of antelope exists in Maloti-Drakensberg Park in KwaZulu-Natal. A mixed methods research approach is adopted in this study. The key purpose is to focus on the exploration of the factors that contribute to the illegal hunting of antelope in the above-mentioned park. Mixed methods research is defined as "a research design (or methodology) in which the researcher collects, analyses, and mixes (integrates or connects) both quantitative and qualitative data in a single study or a multiphase program of inquiry". It is important to adopt a mixed methods research approach because this study aims to explore the factors that contribute to the illegal hunting of antelope in Maloti-Drakensberg Park as well as to explain why this form of illegal hunting exists in that park. This study uses a concurrent triangulation design in which different but complementary data are collected on the same topic. In this study, surveys in the form of face-to-face questionnaires were used to test the theory that a relationship (correlation) exists between poverty and the illegal hunting of antelope in the park. Concurrent with this data collection, qualitative interviews explored the feelings and attitudes that residents of the surrounding villages, as well as the staff members from the park, have towards the illegal hunting of antelope in Maloti-Drakensberg Park. The data for this study were collected in the following four locations in and around the park: Giant's Castle Game Reserve, Lotheni Nature Reserve, Emahlutshini, and Hlatikulu. Furthermore, the surveys were used for the quantitative aspect of this study. The findings demonstrate that poverty is the most common reason for the existence of such illegal hunting in this park and that there is a need for more employment opportunities in the area. This study ends by recommending methods of education and awareness for the staff and community members on how they can go about reducing the levels of illegal hunting.

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CHAPTER ONE: GENERAL ORIENTATION AND PROBLEM FORMULATION

1.1 Introduction

The main aim of this study was to ascertain why the illegal hunting of antelope exists in Maloti-Drakensberg Park in KwaZulu-Natal. The illegal hunting of wildlife animals has severe negative side effects on a country's economy, wildlife populations, and the environment. Furthermore, the extinction of a species can have a negative economic effect on a country's tourism industry. A country such as South Africa (SA) relies on its wildlife, among other things, to attract tourists and is at great risk of economic hardship if the prevalence of illegal hunting is high. Extinction is the greatest threat to animals that are victims of illegal hunting, and according to Cowlshaw, Mendelson, and Rowcliffe (2005:460), "overexploitation by human hunters is responsible for the decline of one-third of all mammal and bird species threatened with extinction".

The illegal hunting of wildlife animals is also dangerous to the environment. When an animal that hunts other animals becomes endangered or extinct, such as a lion that feeds off antelope, the antelope population will soar. With no natural predator to keep the population at a sustainable number, that species will eat a specific plant to extinction. In turn, if antelope become endangered or extinct in a specific area, then the plant that the antelope eat will overgrow and suffocate other plants that feed other species of animals. The earth's ecosystems are sensitive and must be preserved – the earth needs various species of fauna and flora in the environmental ecosystems so that it can remain healthy and balanced.

This means that a need exists to reduce the levels of illegal hunting of wildlife animals in SA. However, to establish these much-needed prevention methods, the reason for this illegal hunting of specific species in a given environment must be explored first. Therefore, the main objective of this study is to ascertain why the illegal hunting of antelope exists in the Maloti-Drakensberg Park in KZN. Ezemvelo KZN Wildlife is the provincial agency instructed to carry out biodiversity conservation and associated activities in KZN. The primary focus of the organisation is on biodiversity conservation, which includes the management of 99 protected areas and two World Heritage sites. The Maloti-Drakensberg Park is one of the protected areas for which Ezemvelo KZN Wildlife is responsible.

In the field of Criminology, little research has been conducted that focuses on the illegal hunting of antelope in SA. Most research on the illegal hunting of wildlife in this country focuses on rhino and elephant only. Therefore, this study seeks to offer a valuable contribution in the field of Criminology by focusing on the reasons behind the illegal hunting of antelope. It also seeks to offer awareness of the challenges that Ezemvelo KZN Wildlife faces in reducing the number of illegally hunted antelope.

It is essential to begin the study with a basic orientation of the key concepts. This includes definitions of various important terms, which will be operationalised for the purposes of this research. The rationale for the study will be presented in reference to the specific aims/objectives of the study, followed by a concise outline of the research dissertation.

1.2 Conceptualisation and Operationalisation

For basic orientation to the topic and to provide the context in which concepts will be used, an introduction to certain terms is necessary. They are as follows: antelope, bushmeat, hunting, and poverty.

1.2.1 Antelope

According to the Oxford English Dictionary (OED Online, 2017), the term antelope refers to “any of numerous mammals of the ruminant family Bovidae, native to Africa and Eurasia, which resemble deer in general body form, typically swift-running, with smooth hair and slender, often upward-pointing horns, including gazelles, impala, gnus, and elands”. This study focuses on the different breeds of African antelope, including elands, impala, kudu, waterbuck, bushbuck, nyala, common reedbuck, and mountain reedbuck, amongst others. These breeds of antelope live in the Maloti-Drakensberg Park.

1.2.2 Bushmeat

According to the Oxford English Dictionary (OED Online, 2017), the term bushmeat refers to “wild animals hunted for food, esp. in Africa; the meat from these animals”. In this study, bushmeat is the meat that comes from the antelope species. Cowlshaw et al. (2005) state that bushmeat is one of the most valuable resources to rural households living in extreme poverty as it can make a significant contribution to the income they receive as a household. Nasi, Brown, Wilkie, Bennett, Tutin, Van Tol, and Christophersen (2008) state that hunters favour large animals over smaller ones because they supply a large amount of meat. This means that the hunters will not have to hunt as often, and they will make a higher profit should they decide to sell the meat from the antelope.

Grey-Ross, Downs, and Kirkman (2010:43) explain that the term bushmeat generally refers to “meat from wild animals”. They further explain that the hunting of wild animals has existed for centuries within African cultures. “However, the bushmeat trade in Africa has developed over recent years from purely subsistence hunting into a lucrative commercial industry” (Grey-Ross et al., 2010:43).

1.2.3 Hunting

According to the Oxford English Dictionary (OED Online, 2017), the term hunting refers to “the action or practice of chasing game or other wild animals, either for profit or sport”. Nasi et al. (2008) define hunting as the removal of any wildlife animal from the wild by whatever means and for whatever reason. They further state that wildlife animals are hunted for various reasons, such as for food, trophies, medicines, and other traditional uses, as well as for pets. The primary reasons, however, are to eat them and to sell them for profit.

Illegal hunting is also known as poaching. According to the Oxford English Dictionary (OED Online, 2017), the term poaching refers to “the action of trespassing in pursuit of game, fish, etc.; (more generally) the taking of something illegally or by underhand methods”. Herbig and Warchol (2011:4) define poaching as “a game law violation; the unlawful taking of wildlife from a landlord’s property; and the taking of a game animal out of season or through illegal means”. In other words, the poaching of wildlife is an illegal act of killing or taking an animal or its body parts from the protected area where it lives.

The poaching of wildlife animals is an illegal act. The Constitution of the Republic of South Africa Act (Act No. 108, 1996) – Chapter 2, Section 24: Bill of Rights (South Africa, 2018) – states that “Everyone has the right

1. to an environment that is not harmful to their health or well-being; and
2. to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that
 - I. prevent pollution and ecological degradation;
 - II. promote conservation; and
 - III. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.”

This means that South African citizens have a duty to protect the environment and all the species that live therein. This makes the poaching of wildlife illegal, and if someone poaches a wild animal, he/she becomes a criminal. In this study, the term “illegal hunting” will be used in place of “poaching”.

1.2.4 Poverty

According to the Oxford English Dictionary (OED Online, 2017), the term poverty refers to “the condition of having little or no wealth or few material possessions; indigence, destitution”. Another definition from Norcia, Rissotto, and Noci (2011) is that poverty is “a deprivation of the material resources necessary to cover the costs for production and reproduction of a given individual or collective subject”, and it further explains that “poverty is detected mainly through monetary indicators of well-being, referring to wealth, income or consumption”.

In this study, poverty will be defined by the income of the participants as well as their obligations to their family members. This is because the definition indicates that poverty can be caused through collective subjects rather than an individual.

Participants were asked to indicate the number of family members for whom they were liable and whom they supported from their salary. This information is pertinent because the Stats SA national poverty lines are broken down to the rand-value per individual that one would need to escape or rise above poverty in the South African context (Statistics South Africa, 2018). However, as stated by the participants in this study, an individual may be responsible for the

care of multiple members of a family, in which case the rand-value per individual would need to be multiplied by the number of family members.

Poverty lines are an integral part of the statistical reporting of poverty levels and patterns in the South African context. In 2008, Stats SA conducted a pilot study that utilised the cost-of-basic-needs approach to calculate three poverty lines, namely the food poverty line (FPL), the lower-bound poverty line (LBPL), and the upper-bound poverty line (UBPL) (Statistics South Africa, 2018).

The cost-of-basic-needs approach, which was used to define the poverty lines in SA, is an approach that calculates the estimated cost of purchasing food that will result in “adequate nutrition”, which is defined as 2 100 calories per person per day, as well as other essential non-food items such as clothing and shelter (Haughton and Khandker, 2009). In April 2017, the FPL, LBPL, and UBPL were R531, R758, and R1 138 per person per month respectively.

1.3 Aim and Objectives of the Study

The main aim of the study is to explore the factors contributing to illegal hunting of antelope in Maloti-Drakensberg Park, KwaZulu-Natal. The problem in the study area, which is in the Maloti-Drakensberg Park, is that illegal antelope hunting still occurs and is on the rise. After talking to Ian Rushworth, the manager of Ecological Advice for Ezemvelo KZN Wildlife, it was noted that the park is struggling with this issue, especially oribi, which are endangered small- to medium-sized antelope.

When this park came into existence, locals formed communities around the park. This study hypothesises that residents from these communities know no better than to illegally hunt for their food because their ancestors did the same when it was not illegal. According to the park’s rules and regulations, “The Nature Conservation Ordinance 15/1974 and the regulations made hereunder provide, among others, that it is an offence to injure or disturb any form of wildlife or be found in the possession of a snare in the reserve” (Ezemvelo KZN Wildlife, 2018). Therefore, the hunting of antelope in the park is an offence and an illegal act. However, this study also hypothesises that these communities do not understand that.

The level of understanding and cooperation between the community members and the park's staff must improve if the level of illegal hunting is to be reduced or prevented. In considering the above-mentioned background, it should become clear that there is a need for research pertaining to the factors that contribute to the illegal hunting of wildlife, particularly antelope, in KZN. To adequately address the problems and draw informed conclusions, the following measurable aims have been constructed:

- to identify the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park
- to identify the frequency/extent and nature of the illegal hunting of antelope in this park
- to identify the most common method used to illegally hunt antelope in the park
- to identify the methods that have been established to combat the illegal hunting of antelope in the Maloti-Drakensberg Park
- to explore the effectiveness of the prevention methods that have been established to combat the illegal hunting of antelope in the park

1.4 Research Questions

One of the main reasons individuals participate in illegal hunting is for meat – for survival – and according to Nyahongo, East, Mturi, and Hofer (2005), this is becoming a growing problem for wildlife managers in many countries. Despite the best efforts of these managers to prevent the illegal hunting of wildlife, it remains a challenge that has an impact on all South African citizens, directly or indirectly. This research aims to make a valuable contribution to discovering the factors that play a role in the illegal hunting of antelope in the Maloti-Drakensberg Park in KZN. To determine these factors, the following questions are asked in this research:

1. What are the factors contributing to the illegal hunting of antelope in the Maloti-Drakensberg Park?
2. What is the frequency/extent and nature of the illegal hunting of antelope in this park?
3. What is the most common type of illegal hunting method used in the park?
4. Are there methods established to combat the illegal hunting of antelope in the study area?

- i. What are the methods established to combat the illegal hunting of antelope in the Maloti-Drakensberg Park?
5. Are the current methods of combating this type of illegal hunting effective in the park?

1.5 Challenges Encountered During Research

Some of the challenges that the researcher encountered during this study were the following:

- Finding literature on this study. Not much research has been done on this topic.
- Using a mixed methods approach.
- Finding participants for the study.

1.6 The Value of the Study

This study aims to explore the factors that contribute to illegal hunting of antelope in Maloti-Drakensberg Park, KwaZulu-Natal. It is a valuable study because the residents who live around this park have lived there for many years, before the park came into existence. They have always relied on hunting of wildlife in that area for food and to sell for profit. Now, a park has come into existence and has made hunting of animals illegal. This study shows that most of these people live in poverty and still hunt for their food in the park, although it is illegal.

It is indicated in this study that more employment opportunities are required for the people living in these areas. This is to allow them to earn money and buy their food at a shop rather than take part in an illegal act, which is illegally hunt for their food.

1.7 Dissertation Outline

The thoughts underpinning the inquiry attempted here are organised in different chapters. They are structured as follows:

Chapter one is the present chapter, which provided the introduction and purpose of the study. It then highlighted the need for this study and the problem formulation. Thereafter, it provided definitions of the different key concepts, followed by the objectives of the study and the research questions. The chapter ends with an outline of the dissertation's chapters.

Chapter two will provide a discussion about the literature that is relevant to the study being conducted. The literature review will provide a background to the study on the illegal hunting of wildlife. Existing literature will be reviewed and will offer an indication as to where the research fits into the existing body of knowledge. The chapter will then outline the theoretical frameworks, which will demonstrate an understanding of different theories and concepts that are relevant to this research. This chapter introduces and describes the general strain theory, which will explain why the research problem under this study exists.

Then, an in-depth description of the research methodology and various research techniques that are to be used in the study will be presented in chapter three. Furthermore, the chapter offers a detailed explanation of the data collection instruments to be utilised.

Chapter four contains an analysis of the data, and it will provide an interpretation of the results collected. This is done in light of the aims and overall objectives of the research. Finally, chapter five will provide recommendations and suggestions for further research on the illegal hunting of both wildlife and antelope.

Together, the above chapters constitute a diagnosis, conceptualisation, contextualisation, review, and description of an inquiry that attempts to provide answers and suggestions to a troubling question of why the illegal hunting of antelope in the Maloti-Drakensberg Park exists and how it can be reduced. The next chapter is a review of the literature and theoretical frameworks relating to this inquiry.

1.8 Summary

The purpose of this study was to explore the factors contributing to illegal hunting of antelope in Maloti-Drakensberg Park, KwaZulu-Natal. This chapter provides conceptualisation and operationalisation of the concepts used in this study to give a basic orientation to the study. After that, the objectives and research questions for this study are outlined. Following that, the

challenges the researcher encountered during this study are listed and the value of this study is described. Lastly, an outline of the dissertation is provided explaining what each chapter consists of. In the next chapter, a discussion about the literature will be provided, and the theoretical framework used for this study will be outlined.

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

According to Whittemore and Knafl (2005), a literature review is a review method that summarizes past literature to provide a better understanding of a particular topic or problem. Randolph (2009) states that there are various reasons a literature review is conducted, including to represent an author's knowledge about a field of study and to inform one of the relevant research that exists concerning that particular field. Furthermore, Randolph (2009:2) states that conducting a literature review includes "delimiting the research problem, seeking new lines of inquiry, avoiding fruitless approaches, gaining methodological insights, identifying recommendations for further research, and seeking support for grounded theory". He further explains that conducting a literature review "provides a framework for relating new findings to previous findings in the discussion section of a dissertation. Without establishing the state of the previous research, it is impossible to establish how the new research advances the previous research" (Randolph, 2009:2).

The central theme of this study's literature is based on the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park, KZN. This chapter begins with the extent of illegal rhino and elephant hunting in SA. It then discusses the small amount of literature available on the extent of illegal antelope hunting in Africa. Thereafter, the chapter discusses what South African legislation protects animals and what makes hunting legal in SA. It then goes on to look at an international country, Vietnam, and finally ends with two theoretical frameworks.

2.2 The Extent of Illegal Hunting of Rhino and Elephant in South Africa

It is important to have access to the statistics of illegal hunting from every region of the country to study the nature and extent of illegal hunting in SA. Using these statistics, strategies can be developed to combat this issue and make the South African public aware of the extent and seriousness thereof in the country. Not much research has been done on the illegal hunting of antelope in KZN or SA. Therefore, this chapter will focus on the extent of the illegal hunting

of other animals in SA, especially rhino and elephant first, and it will then examine the small amount of research done on the illegal hunting of antelope.

The illegal hunting of animals – specifically threatened rhino and elephant species – has made media headlines in SA a significant number of times in recent years. Minister Edna Molewa from the South African Department of Environmental Affairs released the 2017 illegal hunting of rhino numbers from across SA in January 2018 (Save the Rhino, 2018). According to these numbers, 1 054 and 1 028 rhino were illegally killed in 2016 and 2017 respectively (Save the Rhino, 2018).

In 2016, the statistics indicate that there was a slight decline of incidents of rhino poaching, however, 1 028 rhino killed equates to nearly three species killed per day. Save the Rhino (2018) also adds that although there is a decline in the illegal hunting of animals at the Kruger National Park, there is a significant increase thereof in KZN. On 14 December 2017, the SABC News published an article stating that Ezemvelo KZN Wildlife is highly concerned as the number of rhino poached in KZN climbed to 218 – this is 37 more than in 2016. Some statistics of rhino poaching, according to KZN Wildlife as of 20 November 2016, are as follows: 140 total number of rhino illegally hunted, 133 total number of rhino illegally hunted in Ezemvelo state parks, 7 total number of rhino illegally hunted in private/CCA parks, and 101 total number of people arrested for incidents related to the suspected illegal hunting of rhino (Ezemvelo KZN Wildlife, 2016).

On 8 August 2018, the SABC News (2018) published another article about the illegal hunting of rhino in SA. The article states that although the country has seen a drop in rhino poaching numbers nationwide, significant increases have been noted in Limpopo and the North West. The Pilanesberg Game Reserve lost 31 rhino in 2017 and 10 rhino in the first 2 months of 2018. Rhino are being slaughtered for their horns and for other organs. According to a private breeder, they lost 8 rhino in the last four years, and in 2017, they caught three poachers, each of whom received R500,00 bail.

According to Anon. (2018), The World Wildlife Fund estimates that 1 054 rhino were killed in SA in 2016 and 1 028 in 2017. It is estimated that there are only 30 000 rhino left in the world, and 19 000 to 21 000 of them are living in SA (Anon., 2018). Therefore, countries such as Vietnam are targeting SA for rhino horns because most of the world's rhino are living in SA.

The Department of Environmental Affairs expressed that it is concerned about the increase in elephant poaching from 2015 to now (SABC News, 2018). Frances Craigie, the department's Chief Director of Enforcement, says that the illegal killing of elephants in SA has increased from 24 in 2015 to 67 in 2017. Africa's elephants are being slaughtered on an industrial scale to meet demand for ivory products in Asia (SABC News, 2018). It is estimated that SA's elephant population has dwindled from 1 300 000 in the '90s to 400 000 today. From the above statistics, it can be noted that the illegal hunting of rhino and elephant is still a growing problem in SA.

According to Milliken, Shaw, Emslie, Taylor, and Turton (2012), SA has the world's most successful conservation record for rhino. "In 2011, this country alone conserved 83% of Africa's rhino and nearly three-quarters of all wild rhino worldwide. As one of the most biologically diverse nations globally, South Africa has long promoted biodiversity conservation through the sustainable use of natural resources" (Milliken et al., 2012:8). However, SA's excellent wildlife conservation record of more than 100 years is unfortunately under threat.

According to Biggs, Cooney, Roe, Dublin, Allan, Challender, and Skinner (2017), the illegal wildlife trade (IWT) has become an international catastrophe that has attracted a considerable amount of attention and requires millions of dollars for funding and donor support. "The sudden and rapid escalation of IWT on the international agenda has been driven by a drastic increase in poaching of Africa's iconic elephants and rhinoceroses and concerns for other already endangered taxa such as tigers and pangolins" (Biggs et al., 2017). They further state that the IWT covers a wide range of activities. Illegal hunting by indigenous people and local communities for subsistence is on one end of the spectrum, and highly organised crime-related individuals who illegally hunt for profit are on the other end (Biggs et al., 2017). They explain that the reason communities illegally hunt is that "many local people may consider subsistence use and extraction of wildlife as legitimate – on the basis of longstanding tradition, customary law, or livelihood need – even if it may be technically illegal" (Biggs et al., 2017).

Gandiwa (2011:446) warns that "the exploitation of animal populations has been highlighted as one of the central reasons why wildlife species are currently threatened". Grey-Ross et al. (2010:43) also state that "hunting and commercial trade are the primary threats to biodiversity", and they go on to say that one-third of the extinction of animals is because of humans who hunt for their food and for commercial trade. Bitanyi, Nesje, Kusiluka, Chenyambuga, and

Kaltenborn (2012) also warn that the increase in unsustainable hunting has been the major cause of biodiversity loss and wildlife population losses throughout Africa.

2.3 The Extent of Illegal Hunting of Antelope in Africa

As it has been stated above, statistics regarding the illegal hunting of antelope in SA are scarce because of the small amount of research done on this topic. According to Bitanyi et al. (2012:209), bushmeat, or the meat derived from wild animals, “has been the most common subsistence activity in many rural parts of Africa throughout history”. Bushmeat is the main protein source for community members who still live in rural areas today. Other reasons for the illegal hunting of animals can be as diverse as “household consumption, commercial gain, recreational experiences, building social status in a community, thrills, outsmarting anti-poaching wardens by demonstrating superior knowledge of terrain and hunting, necessity, denial of law, rebellion against what is perceived as unjust policies, exercising traditional rights, or gamesmanship” (Bitanyi et al., 2012). However, over the years, the hunting of animals has become illegal in most places because of extensive bushmeat hunting, which has caused a massive decline in their numbers. People living in poverty often have no other choice but to illegally hunt for their food and for profit; therefore, it is difficult to restrict the hunting of bushmeat.

The need for meat for household consumption and money from selling wild animal products have been found to be the most common reasons for illegal hunting (Gandiwa, 2011). A study conducted by Edson Gandiwa in Zimbabwe in 2009 found that “59% of the respondents reported that they saw bushmeat, or meat derived from wild animals, and/or wild animal products being sold at least once every 6 months” (Gandiwa, 2011). His study also found that the most common animals being illegally hunted were African buffalo, Burchell’s zebra, kudu, impala, spotted hyena, leopard, and African lion. The most common methods of illegally hunting animals are snaring and hunting with dogs (Gandiwa, 2011); bows and arrows, pitfall traps, and snares (Bitanyi et al., 2012); and spears, clubs, bows and arrows, snares, and hunting dogs, but no firearms (Holmern and Roskaft, 2009).

Gandiwa (2011) recommends stronger law enforcement, increased awareness and environmental education, and the development of mechanisms to reduce human-wildlife conflicts to combat the illegal hunting of wildlife in Zimbabwe. Bitanyi et al. (2012) express

that understanding the conditions of people living in poverty is essential for reducing the illegal hunting problem.

2.4 National Legislation Regulating the Protection of Wildlife

A country's legislation can be defined as the laws governing that specific country. Those laws are in place to protect people as well as animals and the environment. The law that protects SA's animals and environment is known as *Act No. 10 of 2004 – National Environmental Management: Biodiversity Act, 2004*. According to Milliken et al. (2012), legislation that conserves wildlife in SA has been revised in recent years. "Historically, nature conservation in South Africa was governed at the provincial level, but since 2004 wildlife management has been regulated nationally by the *National Environmental Management: Biodiversity Act, Act 10 of 2004* (NEMBA)" (Milliken et al., 2012).

2.4.1 National Environmental Management: Biodiversity Act 10 of 2014

"To provide for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act 1, 998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith" (South Africa, 2014:2).

2.4.2 Objectives of the Act

"The objectives of this act are

- a) within the framework of the National Environmental Management Act 107 1998, to provide for
 - i. the management and conservation of biological diversity within the Republic and of the components of such biological diversity
 - ii. the use of indigenous biological resources in a sustainable manner and
 - iii. the fair and equitable sharing among stakeholders of benefits arising from bioprospecting involving indigenous biological resources;
- b) to give effect to ratified international agreements relating to biodiversity, which are binding on the Republic;

- c) to provide for co-operative governance in biodiversity management and conservation; and
- d) to provide for a South African National Biodiversity Institute to assist in achieving the objectives of this Act” (South Africa, 2014:22).

2.4.3 State’s Trusteeship of Biological Diversity

“In fulfilling the rights contained in section 24 of the constitution, the state, through its organs that implement legislation applicable to biodiversity, must

- a) manage, conserve, and sustain South Africa’s biodiversity and its components and genetic resources; and
- b) implement this Act to achieve the progressive realisation of those rights” (South Africa, 2014:22).

2.4.4 Application of Act

1. “This Act applies
 - a) in the Republic, including
 - i. its territorial waters, exclusive economic zone, and continental shelf described in the Maritime Zones Act, 1994 (Act No. 15 of 1994) and
 - ii. the Prince Edward Islands referred to in the Prince Edward Islands Act, 1948 (Act No. 43 of 1948);
 - b) to human activity affecting South Africa’s biological diversity and its components.
2. This Act binds all organs of state
 - a) in the national and local spheres of government and
 - b) in the provincial sphere of government, subject to section 146 of the Constitution” (South Africa, 2014:22).

Therefore, in short, this act protects all species in SA, including endangered and non-endangered species. It ensures that all of SA’s biological resources are always used in a sustainable manner to protect specific species from becoming extinct or endangered. The act also ensures that medicinal drugs and other commercially valuable compounds obtained from different plant and animal species are shared fairly and sustainably. The act makes it clear that the state is responsible for the conservation, management, and sustainability of SA’s plant and

animal life. Finally, this act applies to all South African citizens to protect all wildlife as well as marine life.

2.5 What Makes Hunting Legal in South Africa

The minister of Water and Environmental Affairs released a Government Gazette: namely the National Environment Management Laws Second Amendment Act 30 of 2013. This contains the regulations for the registration of professional hunters, hunting outfitters, and trainers. In this gazette, the minister states that an individual may not operate as a professional hunter, hunting outfitter, or hunting trainer if he/she has not registered in terms of those regulations (South Africa, 2014).

2.5.1 Purpose and Application of these Regulations

1. “The purpose of these Regulations is to provide a system for the national registration of professional hunters, hunting outfitters, and trainers.
2. These Regulations must be read in conjunction with the TOPS Regulations and applicable provincial registration.
3. Only a South African citizen may register in terms of these Regulations as a professional hunter, hunting outfitter, or trainer.
4. These Regulations do not absolve the holder of registration to comply with the provisions of applicable provincial legislation, particularly as far as it relates to professional hunters, hunting outfitters, and trainers.
5. The provisions of these Regulations, as far as it relates to hunting, apply to a specimen on an indigenous animal species” (South Africa, 2014:7-8).

2.5.2 Requirements to Register as a Professional Hunter

1. “A person who applies for registration as a professional hunter in terms of these Regulations must submit the following to the relevant provincial conservation authority:
 - a) A completed application form and any other documents required by the relevant provincial conservation authority in order to support the application;

- b) Proof that he/she is either a citizen of South Africa or has a valid permanent residency permit;
- c) Proof that he/she is 18 years or older;
- d) Proof that he/she has obtained the necessary knowledge, ability, skill, and experience required to act as a professional hunter, by having attended and passed the professional hunting course;
- e) A copy of a valid permit issued by any relevant provincial conservation authority authorizing him/her to operate as a professional hunter in that particular province; and
- f) Proof of payment of a prescribed application fee” (South Africa, 2014:9).

2.5.3 Requirements to Register as a Hunting Outfitter

1. “A person who applies for registration as hunting outfitter in terms of these regulations must submit the following to the relevant provincial conservation authority:
 - a) a completed application form and any other documents required by the relevant provincial conservation authority in order to support the application;
 - b) proof that he/she is either a citizen of South Africa or has a valid permanent residency permit;
 - c) proof that he/she is 18 years or older;
 - d) a copy of a valid permit issued by any relevant provincial conservation authority authorizing him/her to operate as a hunting outfitter in that particular province; and
 - e) proof of payment of a prescribed application” (South Africa, 2014:9).

2.5.4 Requirements to Register as a Trainer

1. “A person who applies for registration as a trainer in terms of these regulations must submit the following to the relevant provincial conservation authority:
 - a) a fully completed application form and any other documents required by the relevant provincial conservation authority in order to support the application;
 - b) proof that he/she is a South African citizen;
 - c) a full *curriculum vitae* containing

- i. the applicant's personal details
 - ii. the applicant's past 10 years' experience in the accompanying of hunting clients and the organizing and management of hunts, including an approximate number of hunts organized and total number of hunting clients accompanied, where the hunting clients accompanied by the applicant himself/herself are separated from those accompanied by other professional hunters
 - iii. references from hunting clients
 - iv. copies of professional hunters and hunting outfitters permits, valid at the time of this application
 - v. references from an internationally recognized professional hunter's association
 - vi. details of experience in marketing hunting overseas, including details of at least one major international hunting convention attended and
 - vii. a summary of presentations made by the applicant in order to demonstrate the applicant's communication and presentation skills;
- d) proof that he/she is in possession of a valid permit issued by any relevant provincial conservation authority authorizing him/her to operate as a trainer in that particular province;
- e) a resumé of the lecturers who will be appointed to lecture on the various subjects;
- f) details of the necessary training facilities, which must include, as a minimum, the following:
- i. accommodation, washing, and sanitary conveniences for 10 students
 - ii. sufficient ablution facilities
 - iii. shooting range
 - iv. gun safe sufficient to hold all students' firearms
 - v. terrain where free roaming wild animals are present for practical experience
 - vi. hunting, skinning, handling, and dispatch services
 - vii. transport
 - viii. first aid and firefighting services
 - ix. staff services and

- x. a lecture room with the necessary audio-visual equipment and slide shows for species identification, which includes small and large mammals and birds;
- g) a copy of the training manual to be used by the applicant; and
- h) proof of payment of a prescribed application fee” (South Africa, 2014:9-11).

2.5.5 Refusal, Suspension, or Cancellation of a Registration as a Professional Hunter, Hunting Outfitter, or Trainer

1. “An application for the registration as professional hunter, hunting outfitter, or trainer may be refused, or the registration as a professional hunter, hunting outfitter, or trainer may be cancelled, if
 - a) the applicant or holder of the registration has failed to comply with any provision of the Biodiversity Act;
 - b) the applicant or holder of the registration has been convicted of an offence in terms of the Biodiversity Act;
 - c) the applicant or holder of the registration is under investigation and a docket has been registered with the South African Police Services for the contravention or failure to comply with any provision of the Biodiversity Act, until such time that the investigation is concluded and
 - i. no prosecution in respect of such contravention or failure is instituted against the applicant or holder of the registration
 - ii. the applicant or holder of the registration is acquitted or found not guilty, if a prosecution in respect of such contravention or failure has been instituted, or
 - iii. The applicant or holder of the registration has been convicted by a court of law of an offence in respect of such contravention or failure and the applicant or holder of the registration has in respect of the conviction exhausted all the recognized legal proceedings pertaining to appeal or review;
 - d) a permit issued in terms of provincial conservation legislation to operate as a professional hunter, hunting outfitter, or trainer of the applicant or holder of the registration has been revoked in any province prior to this application for registration or during the validity of the registration;

- e) the applicant or holder of the registration has failed to fulfill his/her responsibilities as a professional hunter or hunting outfitter, as the case may be, as provided in terms of applicable provincial legislation; or
 - f) the applicant or holder of the registration has failed to address a formal complaint lodged by a hunting client against the applicant to the satisfaction of the relevant provincial conservation authority.
2. In addition to the circumstances contemplated in sub-regulation 1, a registration as a professional hunter, hunting outfitter, or trainer may be cancelled if
- a) the holder of the registration, who is acting as the professional hunter for a particular hunting client, allows any person other than such hunting client to hunt a specimen of an indigenous animal species on behalf of such a hunting client, except in the case where the holder of the registration applies a *coup-de-grâce* (final shot or a shot of mercy);
 - b) the holder of the registration has breached a condition subject to which the registration was issued;
 - c) the holder of the registration has fraudulently altered the registration certificate; or
 - d) for any other reason as it may deem necessary.
3. In addition to the circumstances contemplated in sub-regulations 1 and 2, the issuing authority must cancel the registration as a professional hunter or hunting outfitter if the holder of such registration has not conducted as a professional hunter or organized as a hunting outfitter, as the case may be, any hunts within the Republic for a period of three years.
4. In addition to the circumstances contemplated in sub-regulations 1 and 2, the issuing authority must cancel the registration as a trainer if the holder of such registration has not presented the professional course as a trainer in the Republic for a period of five years.
5. Prior to the cancellation of a registration contemplated in sub-regulations 1, 2, 3, or 4, the issuing authority must
- a) notify the holder of a registration of its intention to cancel the registration, together with the reasons for the cancellation of the registration; and
 - b) afford the holder of the registration reasonable opportunity to submit representations regarding the proposed cancellation.

6. If the issuing authority becomes aware of non-compliance with any provision of the Biodiversity Act or any provision of these Regulations by the holder of a registration as a professional hunter, hunting outfitter, or trainer, the issuing authority may suspend the registration.
7. Prior to the suspension of a registration contemplated in sub-regulation 6, the issuing authority must
 - a) notify the holder of a registration of its intention to suspend the registration, together with the reasons for the suspension of the registration; and
 - b) afford the holder of the registration reasonable opportunity to motivate why the registration should not be suspended.
8. If the holder of a registration provides proof of compliance, the registration must be reinstated immediately.
9. The issuing authority must inform the holder of the registration of his/her rights to appeal against the decision of the issuing authority to suspend or cancel the registration” (South Africa, 2014:14-16).

2.5.6 Consequences (Offences and Penalties)

1. “A person is guilty of an offence if such person operates as a professional hunter, hunting outfitter, or trainer without having been registered.
2. A person is guilty of an offence if such person knowingly makes any false statement or submits any false report for the purpose of obtaining a registration in terms of these Regulations.
3. The holder of a registration, issued in terms of these Regulations, is guilty of an offence if such holder
 - a) does not comply with any of the conditions of the registration;
 - b) does not comply with any norms and standards to which the registration applies;
 - c) has fraudulently altered the registration; or
 - d) allows any person other than his/her hunting client to hunt a specimen of an indigenous animal species on behalf of such a hunting client, except in the case where the holder of the registration applies a *coup-de-grâce* (final shot or a shot of mercy).
4. A person who is convicted of an offence in terms of sub-regulation 1 is liable to
 - a) imprisonment for a period not exceeding 5 years;

- b) a fine not exceeding five million rand, and in the case of a second or subsequent conviction, to a fine not exceeding ten million rand or imprisonment for a period not exceeding 10 years, or in both instances to both a fine and such imprisonment; or
- c) both a fine and such imprisonment” (South Africa, 2014:17).

2.6 The Protection of Wildlife in Vietnam

The threat of the extinction of rhino in SA is linked with market forces in Hanoi, Vietnam (Milliken et al., 2012). Vietnam, whose own rhino population recently became extinct, imports more rhino horn than any other country in the world. Vietnam was home to Asia’s only surviving population of Javan rhinoceros, which was critically endangered. By the end of 2010, the last Javan rhinoceros was illegally killed for its horn. Since then, Vietnam’s rhino horn trade shifted to Africa, specifically SA, as its new source. “... for nearly a decade, the country has been the paramount destination for a resurgent illegal commerce out of Africa, especially from South Africa, where Vietnamese criminal operatives have become firmly embedded in the trade” (Milliken et al., 2012).

2.6.1 Uses and Consumers

There are numerous uses for and consumers of rhino horn in Vietnam, with the most well-known use being medicine for various illnesses. It is believed to cure high temperatures, delirium, severe headaches, measles, convulsions, epilepsy, strokes, and even cancer, among many other illnesses. “Cancer causes the deaths of some 82 000 Vietnamese each year, according to the International Agency for Research on Cancer, and is indisputably a major growing health concern in the country. On the other hand, there is no clinical evidence of rhino horn having any pharmacological value as treatment for cancer in the peer-reviewed medical literature anywhere in the world. Although rhino horn remains widely associated with cancer treatment in Vietnam, some local NGOs, including Education for Nature-Vietnam, report that such usage may be more limited than originally suspected” (Milliken et al., 2012). Rhino horn has been made into medicine for thousands of years. In elite Vietnamese families, they will have a small piece of rhino horn that has been passed down through the generations.

It is believed that there are crime syndicates in Vietnam promoting rhino horn as a cure for terminal illnesses amongst dying and desperate people in hospitals. However, this is "... a cynical marketing ploy to increase the profitability of the illicit trade ..." (Milliken et al., 2012). This false perception of rhino horn by desperate families in Vietnam is on the increase and only recently started to emerge in the Vietnamese media.

Apart from it being a perceived cure for illnesses, there are at least three other rhino horn user groups in Vietnam (Milliken et al., 2012). The first one comprises of consumers who believe in its detoxification properties, especially after the consumption of alcohol or rich food. These consumers will mix rhino horn powder with water or alcohol to promote good health and to avoid/cure a hangover. This group of consumers also includes men who believe rhino horn enhances sexual performance. The second consumer group includes middle to upper-income young mothers who believe that rhino horn is the cure for high fever in children. The third consumer group "... embraces the cultural imperative of giving expensive gifts as a means to curry favor with socio-economic or political elites. Thus, many rhino horns are apparently purchased and offered as high-value, status-conferring gifts ..." (Milliken et al., 2012). Related to this extravagant gift giving, rhino horn has also been used as a form of currency, for example paying for a new car with money and rhino horn.

According to Save the Rhino (2018), rhino horn has become increasingly desirable in Vietnam because of its false symbolism of power and wealth as well as it being perceived as a cure for illnesses and hangovers. These beliefs lack any scientific proof that rhino horn works, because the horn is made from keratin, which is the same material as that of a human being's hair and nails. "Though most consumers understand that purchasing rhino horn results in a rhino's death, they feel disconnected and do not see themselves as part of the rhino poaching crisis" (Save the Rhino, 2018).

TimesLive published an article on 15 May 2018 saying that a study was conducted on the reasons Vietnamese consumers buy rhino horn. This study revealed that rhino horn is being used as a hangover cure and for cancer treatments as well as to console terminally ill relatives. "The surprising trend is that horn is increasingly being used as a symbolic gesture to console terminally ill family members, said Martin Nielsen of the University of Copenhagen. The horns are intended to provide the ill with a final source of pleasure and to demonstrate that their families have done everything possible to help them" (Anon., 2018). According to Nielsen, knowing the reasons consumers buy rhino horn is important and should be considered when

establishing methods of reducing its trade. “The rhino horn trade is among one of the most organized forms of environmental crime, and the number of rhinos killed by poachers has increased markedly since 2008. Because Vietnam is the country with the greatest demand for horn, it also bears the brunt of the blame for poaching” (Anon., 2018).

2.6.2 Vietnam’s Legislation

Rhino horn trade in any form is apparently illegal under Vietnamese law. “*Government Decree 32/2006/ND-CP on the Management of Terrestrial Endangered, Precious, and Rare Species of Wild Plants and Animals*, of 30 March 2006, makes it illegal to hunt, shoot, trap, capture, keep, slaughter, endanger, exploit and use for commercial purposes, transport, process, advertise, trade, use, hide, export, or import listed species, including Vietnam’s native rhinos or their products” (Milliken et al., 2012). Rhino horn is unfortunately still being secretly traded in Vietnam; however, this has become “... a relatively ‘open secret’ in many local traditional medicine and wild meat markets” (Milliken et al., 2012).

2.7 Theoretical Framework

According to Tibbetts & Hemmens (2015), “theory can be defined as a set of concepts linked together by a series of statements to explain why an event or phenomenon occurs”. A theory explains why the world works the way it does, and a theoretical framework demonstrates an understanding of concepts and theories that are relevant to a study and relates to the broader areas of knowledge being considered. The selection of a theoretical framework depends on its appropriateness, ease of application, and explanatory power. Peacock (2013) postulates that a theoretical framework strengthens a study in three ways. First, an explicit statement of theoretical assumption permits the reader to evaluate the theory critically. Second, a theoretical framework connects the researcher to existing knowledge. Therefore, being guided by a relevant framework, one is provided with a basis for a hypothesis and choice of research methods. According to Grant and Osanloo (2014), the theoretical framework in a dissertation is one of the most important part, however, it can be the most difficult, yet not impossible. Lastly, having such a framework helps one to limit generalisation. Therefore, a theoretical framework introduces and describes the theory that explains why the research problem exists.

Tibbetts & Hemmens (2015) further list six characteristics of good theories. The first characteristic is parsimony, which “is achieved by explaining a given phenomenon – in this case criminal activity – in the simplest way possible” (Tibbetts & Hemmens, 2015). The simpler a theory is, the better it is. The second characteristic is scope. The scope of a theory “indicates how much of a given phenomenon a theory seeks to explain” (Tibbetts & Hemmens, 2015). The third characteristic is logical consistency, which refers to how much a theory makes sense in terms of its ideas and propositions (Tibbetts & Hemmens, 2015).

The fourth characteristic of a good theory is testability. This is “the extent to which a theory can be put to empirical, scientific testing” (Tibbetts & Hemmens, 2015). Some theories unfortunately cannot be tested, but the more testable a theory is, the better. Tibbetts & Hemmens (2015) go further to say that “fortunately, most established criminological theories can be examined through empirical testing”. The fifth characteristic is empirical validity. This is “the extent to which a theoretical model is supported by scientific research” (Tibbetts & Hemmens, 2015). This sounds similar to the previous characteristic of testability. However, although most criminological theories can be examined through empirical testing, this does not mean they are always empirically valid. Tibbetts & Hemmens (2015) argue that “empirical validity is perhaps one of the most important characteristics used in determining how good a theory is at explaining a given phenomenon or behavior. If a theory has good empirical validity, it is an accurate explanation of behavior; if it does not have good empirical validity, it should be revised or dismissed because it is simply not true.”

Finally, policy implications form the last characteristic of a good theory. This characteristic refers to “the extent to which a theory can create realistic and useful guidance for changing the way society deals with a given phenomenon” (Tibbetts & Hemmens, 2015). In this case, it means establishing new, yet realistic prevention methods to minimise the illegal hunting of antelope. This study focuses on two theoretical frameworks to explain why and how the illegal hunting of antelope occurs: general strain theory and routine activities theory.

2.7.1 General Strain Theory

General strain theory assumes that people deal with frustrations every day, and in return, they will act out in different ways to deal with those frustrations. “Previous strain theories, such as the models proposed by Merton, Cohen, and Cloward and Ohlin, focused on individuals’

failure to achieve positively valued goals that they had been socialized to work to obtain” (Tibbetts & Hemmens, 2015). The difference between general strain theories and previous strain theories is that in addition to focusing on the above-mentioned source of strain, it also identifies two more categories of strain, namely the *presentation of noxious stimuli* and the *removal of positively valued stimuli*. The presentation of noxious stimuli, such as bad things, can be the cause of stress and frustration that would lead an individual to commit a crime to deal with those frustrations and stress. Examples of noxious stimuli include an abusive parent or spouse, or the divorce of parents or spouses.

The removal of positively valued stimuli is known as the largest cause of frustration (Tibbetts & Hemmens, 2015). Examples of this removal include the loss of a spouse or parent by death or divorce, the loss of a child by death, or the loss of a job. “Such losses, like the other two sources of strain, may have varying degrees of influence depending on the individual. One person may not feel much frustration in losing a job or divorcing a spouse, whereas another person may experience severe anxiety or depression from such events” (Tibbetts & Hemmens, 2015).

Therefore, this theory suggests that these three categories of strain will cause an individual to become frustrated and stressed, and this will ultimately lead to anger. “It is predicted that, to the extent that the three sources of strain cause feelings of anger in an individual, he or she will be predisposed to commit crime and deviance” (Tibbetts & Hemmens, 2015). This means that according to this study, general strain theory suggests that the frustrations of everyday routine life cause hunters to engage in the illegal hunting of antelope. It suggests that in addition to the failure to achieve one’s goals, the presentation of noxious stimuli in these illegal hunters’ lives could cause major stress and frustration. If the individual has an abusive parent or spouse who constantly blames their collective poverty on that individual, then this could cause anger and frustration in him/her that could cause him/her to engage in illegal hunting to stop the abuse from happening.

The other strain category that illegal hunters could experience is the removal of positive stimuli, which is likely the largest cause of frustration. It suggests that if they lose their role as the breadwinner in their homes, then they would turn to illegal hunting to obtain food for their families and loved ones. These illegal hunters engage in illegal hunting and not in other crimes, if they are presented with these three sources of strain, because they have to obtain food and/or

money for their families. They live in a rural area where there is easy access for them to enter the park and illegally hunt animals.

2.8 Summary

Statistics regarding the illegal hunting of rhino and elephant are still on the rise in SA, and so is the number of antelope being illegally hunted in Africa for their bushmeat. It is important to be aware of these statistics to establish methods to reduce those numbers. It is also important to know the laws that protect these animals, such as the South African legislation. The largest prevention method to protect rhino is to stop consumers in Vietnam. The theory, namely the general strain theory, make it easier to understand why the illegal hunting of antelope exists in Africa. In the next chapter, an in-depth description of the research methodology and various research techniques that were used in the study is presented, alongside a full explanation of the data collection instruments utilised.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The aim of the research was to explore the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park. A mixed methods research approach was adopted in this study. A research method can be defined as the approach used to perform the study. It refers to the techniques employed and processes applied in the research to assess a research problem and achieve the specified objectives. “Research methods may be understood as all those methods/techniques that are used for conduction of research” (Kothari, 2004:7). It aims to find answers to research questions, and it consists of the tools that researchers utilise to explore the nature of the world.

On the other hand, the research methodology of a study explains or justifies why the research methods were adopted. It aims to understand the employment of the correct procedures to find answers to research questions. “Thus, when we talk of research methodology, we not only talk of the research methods but also consider the logic behind the methods we use in the context of our research study and explain why we are using a particular method or technique and why we are not using others so that research results are capable of being evaluated either by the researcher himself or by others” (Kothari, 2004:8).

Finally, the research design is the blueprint for any study. Bayens and Roberson (2010:23) state that “a research design refers to the processes of planning and carrying out a research study after the research question or problem has been conceptualized”.

This chapter describes the research methodology along with the assessment instruments used in the study to fulfil the aims outlined in chapter one. These are followed by a presentation of relevant participant characteristics to provide a description of the overall profile of the sample. Lastly, the techniques used to analyse the collected data are presented and explained.

3.2 Research Design

The aim of this study was to explore the underlying causes of the high volumes of illegal antelope hunting in the Maloti-Drakensberg Park. The question asks whether the establishment of the current prevention methods regarding the illegal hunting of antelope is an effective strategy to combat this crime within the park. This study adopted a phenomenological design that is both exploratory and explanatory in nature – the former relates to the qualitative aspect of this study, and the latter relates to the quantitative aspect thereof.

3.2.1 Explanatory Research

Explanatory research intends to explain a phenomenon by finding explanations to problems, testing the probability that certain relationships exist between variables, and understanding those relationships (Bayens and Roberson, 2010). Furthermore, this type of research explains why things happen. Explanatory research is not used to provide researchers with some conclusive evidence but rather aids them in understanding the problem on a deeper level. Considering the above, an explanatory design facilitated the explanation of why people are illegally hunting antelope in the Maloti-Drakensberg Park.

3.2.2 Exploratory Research

Exploratory research, as the name suggests, serves to merely explore the research questions and does not seek to offer final and conclusive solutions to existing problems. Bryman (2004) holds the view that exploratory research is conducted to determine the nature of a problem; it is not intended to provide conclusive evidence, but it helps to gain a better understanding of the problem. Moreover, “the exploratory research designation suggests that little is known about a subject and therefore the task is to ‘do some digging’, ‘delve into’, or ‘investigate’” (Bayens and Roberson, 2010:27).

In congruence with the study aims, an exploratory design facilitated the exploration of participants’ reasons for illegally hunting antelope in the Maloti-Drakensberg Park. This exploratory account was used to further understand this phenomenon and inform future interventions aimed at improving the status quo.

3.3 Research Philosophies

The research philosophy in a study is the belief about how data should be gathered and analysed. There are many research philosophies, and it is important to choose the correct one for a study. Research philosophies relate to the development of knowledge and the nature of that knowledge. They contain important assumptions about the way in which people view the world. This study adopted a mixed methods approach and therefore has two research philosophies: positivism, which is based on objectivist epistemology and is quantitative, and interpretivism, which is based on subjectivist epistemology and is qualitative.

3.3.1 *Positivism*

According to this philosophy, there are patterns and relationships between variables. Positivism assumes a coherent/consistent external reality. It is not flexible in its research design, and it is more scientific than interpretivism – it deals with statistics, numbers, and measurements. The positivist philosophy is appropriate for this study because the research therein aims to find explanations for why people are illegally hunting antelope in the Maloti-Drakensberg Park. To achieve this, the study had to compare different variables to determine whether there were relationships or differences between them to ultimately understand what causes people to illegally hunt antelope.

3.3.2 *Interpretivism*

This philosophy emphasises the importance of understanding the processes through which people assign meaning to their world. It is flexible in its research design, and it is less scientific than positivism – it looks at people's interpretation of reality. The interpretivist philosophy is appropriate for this study because the research explores the attitudes and feelings that people have towards the illegal hunting of antelope in the Maloti-Drakensberg Park. It thus studies people's interpretations of the illegal hunting of antelope and how it is taking place.

3.4 Discussion of Research Approaches

At present, there are three well-known and recognised approaches to research, namely qualitative, quantitative, and mixed methods. These three approaches differ radically from one another.

The qualitative research approach is interpretive and ethnographic in nature. The researcher collects data in the form of words. Bayens and Roberson (2010:25) add that “the aim of qualitative research is to capture the dynamics of a phenomenon. A researcher chooses methods that allow in-depth inquiries in the hopes that they will reveal the breadth of the problem under study”.

Notwithstanding the empirical nature of the quantitative research approach, it is also known as a scientific research approach, since the researcher collects data in the form of numbers. The quantitative approach uses methods that generally include surveys to determine the relationships between variables.

Lastly, the mixed methods approach is a combined approach that gathers data using both qualitative and quantitative designs and methods in a single research project. By combining the two types of designs and methods, one can capitalise on the strengths of each approach and offset the weaknesses. The combination may also provide more comprehensive answers to research questions and hypotheses by going beyond the limitations of a single approach to study a phenomenon. A researcher will first decide on the main approach to be used and then add the design and method of data collection of the less dominant approach (Bezuidenhout, 2011).

Considering the above discussion, a mixed methods research approach was adopted in this study. The key purpose was to focus on the exploration of the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park. Johnson, Onwuegbuzie, and Turner (2007:119) define mixed methods research as “a research design (or methodology) in which the researcher collects, analyses, and mixes (integrates or connects) both quantitative and qualitative data in a single study or a multiphase program of inquiry”. Another definition of a mixed methods approach is “research in which the researcher collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study” (Doyle, Brady and Byrne, 2009:176).

This study used a concurrent triangulation design in which different but complementary data are collected on the same topic. Surveys in the form of face-to-face questionnaires were used to test the theory that a relationship (correlation) exists between poverty and the illegal hunting of antelope in the Maloti-Drakensberg Park. Qualitative interviews concurrently explored the feelings and attitudes that residents of the surrounding villages, as well as the staff members from the park, have towards the illegal hunting of antelope in that park.

Doyle et al. (2009) explain that there are various strengths and rationales for why a mixed methods approach should be used. A few of them are listed next. The first rationale is triangulation; “This allows for greater validity in study by seeking corroboration between quantitative and qualitative data” (Doyle et al., 2009:178). The second rationale is completeness. This means that “using a combination of research approaches provides a more complete and comprehensive picture of the study phenomenon” (Doyle et al., 2009:178). The third rationale is “offsetting weaknesses and providing stronger inferences” (Doyle et al., 2009:178). Next is answering different research questions. This means that “mixed methods research helps answer the research questions that cannot be answered by quantitative or qualitative methods alone and provides a greater repertoire of tools to meet the aims and objectives of a study” (Doyle et al., 2009:178).

Bezuidenhout (2011:47), citing Green et al., identified five major purposes for the mixed-method approach:

- *Triangulation.* Findings are obtained through different qualitative and quantitative methods.
- *Complementary.* The results from one method will be clarified and illustrated by the use of another method; for example, interviews will add information and will qualify scores and statistics.
- *Development.* Results from one method will shape subsequent methods or steps in the research process; partial results from a study might suggest that other assessments should be incorporated.
- *Initiation.* Research questions, hypotheses, or challenges based on results obtained through one method will stimulate new research questions, hypotheses, or challenges.
- *Expansion.* Richness and detail are present in the study as it explores specific features of each method and provides better results.

In addition to the above-mentioned purposes of the mixed-method approach, Creswell et al., as cited by Bezuidenhout (2011), believed that there are four main reasons to combine qualitative and quantitative methods. They are to

- explain or elaborate on quantitative results with subsequent qualitative data;
- use qualitative data to develop a new measurement instrument or theory that is subsequently tested;
- compare qualitative and quantitative data sets to produce well-validated conclusions; and
- enhance a study with a supplemental data set – either qualitative or quantitative.

A research strategy that integrates methods is more likely to produce better results in terms of quality, reliability, and scope. A mixed methods approach is a way in which to devise creative alternatives to traditional techniques for undertaking research.

3.5 Limitations of a Mixed Methods Research Approach

Although it seems that a mixed methods approach has more to offer than a qualitative or quantitative approach alone, there have been criticisms of its use. According to Doyle et al. (2009:183), these criticisms of a mixed methods approach focus on “the belief that quantitative and qualitative research methods cannot be mixed in a single study as they have such different ontological and epistemological origins”. Other limitations of a mixed methods approach are that it is more time-consuming to collect both quantitative and qualitative data, the study may require more resources to collect both types of data, the research procedures are more complicated, and the researcher may not be trained in both methods.

For this study, the researcher maintains that the usage of the mixed methods approach allowed for an understanding of the research topic. It also solved the research problem by drawing from the participants’ responses to gain insight into the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park.

3.6 Study Locations

The data for this study were collected in four locations in and around the Maloti-Drakensberg Park. They are Giant's Castle Game Reserve, Lotheni Nature Reserve, Emahlutshini, and Hlatikulu.

3.6.1 *Giant's Castle Game Reserve*

Giant's Castle Game Reserve is situated in the northern part of the Maloti-Drakensberg Park (Figures 1 and 2) in the province of KZN, SA; and it borders Lesotho. The Giant's Castle camp is positioned on a plateau overlooking the deep valleys running down from the face of the High Drakensberg. This reserve is home to many species of wild game, the most famous being eland, caracal, baboon, and mountain reedbuck (giantscastle.info, 2016:np).



Figure 1: Map of Giant's Castle

Source: Google Maps (2018:np).



Figure 2: Area image of Giant's Castle

Source: giantscastle.info (2016:np).

3.6.2 Lotheni Nature Reserve

Lotheni Nature Reserve is situated in a remote and secluded part of the southern section of the Maloti-Drakensberg Park (Figures 3 and 4). It is known for its exquisite scenery and tranquil atmosphere, and it is home to mountain reedbuck, grey reedbuck, eland, grey duiker, oribi, the Cape clawless otter, and baboons (Ezemvelo KZN Wildlife, 2018).

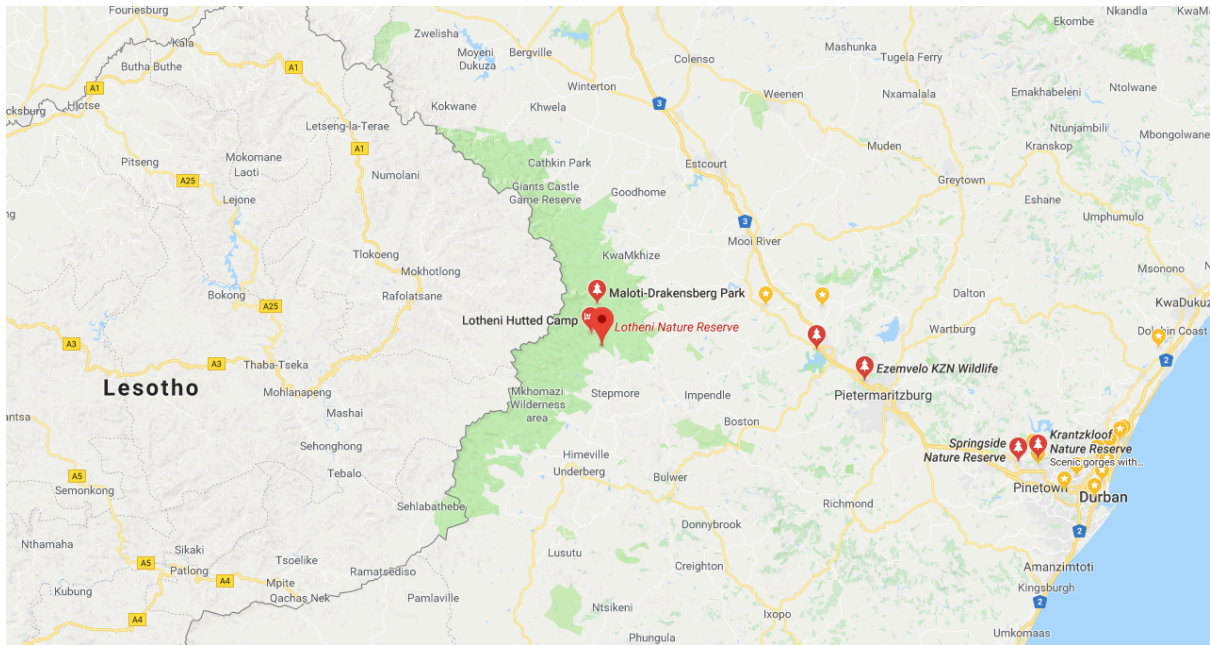


Figure 3: Map of Lotheni Nature Reserve
Source: Google Maps (2018:np).



Figure 4: Area image of Lotheni Nature Reserve
Source: SA-Venues.com (2018:np).

3.6.3 *Emahlutshini*

Emahlutshini (Figures 5 and 6) is a rural village situated outside the Maloti-Drakensberg Park.



Figure 5: Map of Emahlutshini

Source: Google Maps (2018:np).



Figure 6: Area image of Emahlutshini

Source: trip-suggest.com (2009:np).

3.6.4 Hlatikulu

Hlatikulu (Figure 7) is a rural village situated outside the Maloti-Drakensberg Park.



Figure 7: Map of Hlatikulu

Source: Google Maps (2018:np).

The study locations were chosen because, as explained in chapter one, illegal antelope hunting is on the rise in Maloti-Drakensberg Park. Giant's Castle Game Reserve and Lotheni Nature Reserve are located inside Maloti-Drakensberg Park and the three villages, namely Emahlutshini, Hlatikulu and KwaMkhize are located around the border of Maloti-Drakensberg Park.

3.7 Sampling Methodology

Table 1: The selected study sample

KwaMkhize community members	Emahlutshini community members	Hlatikulu community members	Giant's Castle Game Reserve staff members	Lotheni Nature Reserve staff members	Total Study Population
6	29	4	14	14	67

In the presentation in Table 1 overall, the sample for this study consisted of 67 participants. Their knowledge and understanding of the illegal hunting of antelope in the Maloti-Drakensberg Park was explored. As previously explained, the study in question was both exploratory and explanatory in nature, and it was conducted by means of the application of surveys in the form of questionnaires and key informant interviews. Six participants from KwaMkhize completed questionnaires. Twenty-four participants from Emahlutshini completed questionnaires, and five were interviewed. Four participants from Hlatikulu were interviewed. Nine participants from Giant's Castle Game Reserve completed questionnaires, and five were interviewed. Ten participants from Lotheni Nature Reserve completed questionnaires, and four were interviewed. Participants only included male and female Africans, some of whom were fluent in English; however, most participants could only understand isiZulu.

3.7.1 Study Population

The target population is the population to which the researcher would ideally like to generalise his or her results (Maluleke, 2016). It can include people or television programmes, curricula, or anything that is investigated as the focus of the research project.

The selected sample of this study (Table 1) consisted of Giant's Castle Game Reserve staff members; Lotheni Nature Reserve staff members; and community members from Emahlutshini, Hlatikulu, and KwaMkhize.

3.7.2 Sample Size and Procedures

Although the use of mixed methods sampling strategies can greatly strengthen the research design of most studies in the social sciences, there were factors preventing the use of multiple sampling methods. The target population for this study was not easily accessible; therefore, snowball sampling was used to select participants for the quantitative and qualitative aspect. The chosen sampling technique was important for this study as it was difficult to reach the residents of these communities to gain their trust, and the use of snowball sampling strategies provides a means of accessing vulnerable and otherwise impenetrable social groupings.

Snowball sampling is a non-probability sampling technique that Atkinson and Flint (2001) define as “a technique for finding research subjects. One subject gives the researcher the name of another subject, who in turn provides the name of a third, and so on”. They further explain that snowball sampling can be viewed as a solution to overcome the difficulties that researchers can face when sampling hard-to-reach populations such as criminals (Atkinson and Flint, 2001). Bayens and Roberson (2010) also state that snowball sampling is useful to researchers conducting exploratory research in which respondents are difficult to find. Researchers use this sampling method if the sample for the study is rare or is limited to a small subgroup of the population.

Advantages of snowball sampling include the ability to recruit hidden populations and the possibility to collect primary data in a cost-effective manner. Disadvantages of snowball sampling include the following: oversampling a network of peers can lead to bias, and respondents may be hesitant to provide the names of peers and asking them to do so. The sample sizes for this study were small due to participants not being present on the day of data collection.

Ezemvelo KZN Wildlife was the gatekeeper for this study. The researcher was accepted by Ezemvelo to conduct the research at its game reserves and in the communities surrounding them. Ezemvelo approached the chief of each community to arrange a day on which to meet to collect the data for this study. The chief of each community then found the participants who were willing to be part of this study.

The above-mentioned sampling sizes were chosen for the questionnaires because the goal was to create a representative sample of the target population, which is made up of the residents of

and the people who work within the two previously stated areas that exist in the Maloti-Drakensberg Park. This park consists of different areas/nature reserves/game reserves. Therefore, in the hopes of generalising the findings and gaining perspectives from differing backgrounds, the following samples were chosen: staff members from two of the areas that exist within the park and residents from surrounding rural communities. However, the sampling sizes for this study were too small, and the findings could thus not be generalised. A second study with a larger sample size is recommended for that purpose. Nevertheless, the aforementioned sample sizes were large enough to conduct a sufficient number of interviews to obtain respondents' opinions about the previously stated issue of illegal antelope hunting in the park.

3.8 Data Collection Techniques

Key informant interviews were used to collect the qualitative data in this study. Data also consisted of information from surveys – in the form of face-to-face questionnaires – that were conducted on a large group of respondents. These surveys were used for the quantitative aspect of this study.

Prior arrangements were made with the willing participants regarding the times at which they would be available for an interview and for completing a questionnaire. The interviews took place at four different locations. The first was at Giant's Castle Game Reserve for the staff members from that reserve. The second was at Emahlutshini for the 29 community members from that community as well as the 6 community members from KwaMkhize. The third was at Hlatikulu for four community members. The last location was at Lotheni Nature Reserve for the staff members from that reserve.

3.8.1 Surveys (Questionnaires)

Surveys are the most common methods used for gathering data in criminal justice research. "As techniques of gathering information, surveys describe the nature and extent of a specified set of data ranging from physical counts and frequencies to attitudes and opinions" (Bayens and Roberson, 2010). According to Neuman (2014), surveys can take various forms, such as phone interviews, internet opinion polls, and questionnaires. This study used the form of a face-

to-face questionnaire (see annexure A and B). They define surveys as a method of asking “many people (usually called *respondents*) about their beliefs, opinions, characteristics, and past or present behaviours” (Neuman, 2014:317). This study used a survey to ask many respondents what their opinions are about the illegal hunting of antelope in the Maloti-Drakensberg Park. The advantage of a face-to-face questionnaire is that it has the highest response rate out of all the types of surveys (Neuman, 2014:347).

The surveys first asked demographic questions. Furthermore, they also consisted of yes or no questions to test the theory that a relationship exists between poverty and the illegal hunting of antelope in the Maloti-Drakensberg Park. These questions were coded, with yes being coded as 1 and no being coded as 2. The researcher handed out the questionnaires to the participants, and pens were also provided. Moreover, four translators were present to help the participants fill in the questionnaires. The researcher explained the questionnaires in detail in English before they were translated into isiZulu by the translators and the participants started filling them in. Once all the participants were finished, the questionnaires were handed back to the researcher. See annexures A and B for questionnaires. The researcher then transcribed the questionnaires and analysed them.

3.8.2 Interviews

An interview “refers to any person-to-person interaction between two or more individuals with a specific purpose in mind” (Centre for Civil Society, 2003:73). Interviews are the most commonly employed method for collecting information for qualitative research (Harding, 2013).

This study’s qualitative data collection was based on semi-structured key informant interviews conducted on an individual basis. Grey-Ross et al. (2010) explain that there are two strengths associated with in-person interviews, especially to people who live in rural communities: “In-person interviews are a preferable sampling method to postal and telephonic surveys, especially of rural people who do not have easy access to post or telephone and are often illiterate.” The other reason they gave is that they wanted to target specific rural communities based on their proximity to conservation areas known to have illegal hunting. That is also the reason this study chose interviews, since its goal was to target rural communities near the Maloti-Drakensberg Park.

The interviews began with less sensitive questions to facilitate the conversation between the interviewer and the interviewee by creating an informal, friendly atmosphere that allowed for a natural flow of ideas and opinions. These less sensitive questions consisted of social demographic enquiries, and they were followed by more in-depth, sensitive questions. An isiZulu translator was used during the one-on-one interview sessions, unless the participant was fully proficient in English. Each interview lasted between 20 and 30 minutes.

In the interviews, the researcher posed the questions in English, and the translator translated them into isiZulu for the participants. They then responded in isiZulu, and the translator translated the answers back into English for the researcher who wrote down the participants' responses instead of recording them. This was because all the participants did not want to be recorded as the study topic is highly sensitive. See annexures C and D for the interview schedule. The researcher then transcribed the interviews and analysed them.

3.9 Data Analysis

3.9.1 Analysing the Quantitative Data

Data were captured and coded in Excel, where numbers were assigned to categorical responses. The spreadsheet was imported into IBM SPSS 24, and it was analysed descriptively and inferentially. Furthermore, this study had two levels of measurement: nominal and ordinal.

The reliability refers to this study's internal consistency. When Cronbach's alpha is > 0.7 , then the study is said to have internal consistency. Descriptive and inferential statistics were produced. Descriptives, such as frequencies, and measures of central location, such as the median as well as the shape and spread using skewness and kurtosis, were also produced and presented. Inferential statistics ensued after testing the underlying parametric assumptions using Kolmogorov-Smirnov and Shapiro-Wilk tests. For instances where data violated the assumptions, non-parametric equivalents were utilised, including the Kruskal-Wallis test where there were more than two sample means and the Mann-Whitney test where there were two sample means, in order to test for differences. Spearman's ranked rho was used to test correlations in a non-parametric way.

3.9.2 Analysing the Qualitative Data

The transcripts were imported into Nvivo 12 Pro, where they were segmented and coded into nodes and child nodes. The qualitative, inductive, thematic analysis was performed utilising Nvivo 12 Pro. Each interview was transcribed verbatim and imported into Nvivo for analysis. The analysis was an iterative process of segmenting and coding data. An initial, thorough reading of transcripts was performed, creating a preliminary coding scheme, which was updated and amended as the analysis progressed. This coding scheme was further developed through exploratory tools such as Word Frequency Tag Clouds, Word Trees, and Matrix Coding. Thereafter, each interview was coded and analysed, and memos were made of any additional observations. Nodes and child nodes were created in Nvivo, including annotations. After a preliminary inductive analysis was performed, interviews were read, and any additional uncoded information was coded according to the updated and subsequent analysis.

3.10 Measures of Quality

3.10.1 Rigour in Quantitative Research

To measure the trustworthiness of the quantitative methods of this study, validity and reliability were used. It is rare, if not nearly impossible, that an instrument is 100% valid and reliable. Validity and reliability are ideas that help to establish the truthfulness, credibility, or believability of findings.

The first measure of quality in a study is reliability, or the accuracy of an instrument. In other words, reliability is the extent to which a research instrument – in this case the surveys – consistently has the same results if it is used in the same situation on repeated occasions.

An example of this is a scale. This instrument should have consistent results if a person weighs him-/herself everyday over a period of two days. If there is a significant difference in the weight on day two, then the scale is not reliable. While it is not possible to calculate the reliability of a research instrument exactly, it can be estimated in the following different ways:

1. *Test-retest*. This is when the researcher issues the research instrument to a group of people at two different times. The results from the first time are compared to those from the second time to determine how well the instrument consistently obtains the same results.
2. *Parallel forms*. This is when a group of people complete two similar versions of a research instrument. Each version of the instrument is attempting to measure the same thing. Then, the results from the two versions are compared to determine the consistency of the results among the similar versions of an instrument.
3. *Internal consistency reliability*. This is when different instrument items, or questions on the survey, that are trying to measure the same construct are compared to observe how they produce similar results. There are two types of consistency reliability:
 - *Average inter-item correlation*. This is when a group of people complete an instrument and then all of the items on the instrument that are measuring the same construct are compared to one another. This must be done one at a time in pairs. Then, the items are compared overall to create an average of those comparisons.
 - *Split-half reliability*. This is when a group of people complete a research instrument and then all of the items on the instrument that are measuring the same construct are split in half to form two sets of items. Then, these two sets are compared to each other to see how well they consistently measure the construct.
4. *Inter-rater reliability*. This is when the decisions from different “raters” – researchers who rate or judge a variable in the research study – are compared to one another to determine how consistent those “raters” decisions are.

This study did not use all five of the above ways to estimate the reliability of the instrument, since it would have been too time-consuming. However, the researcher used internal consistency reliability by comparing similar questions in the research instrument to see whether they produce similar results.

The second measure of quality in a study is validity. As a process, validation involves collecting and analysing data to assess the accuracy of an instrument. Validity refers to how accurate an instrument is. In this study, the instrument consists of surveys, is at measuring what it is trying to measure.

There are five types of validity, as indicated below. This study used the last two, namely construct validity and criterion-related validity.

1. *Internal validity*. This is when a research study demonstrates a causal relationship between two variables, namely the dependent variable and the independent variable.
2. *External validity*. This refers to the extent to which the results can be generalised to the target population that the survey sample is representing. The way in which a study asks questions will determine the answers it will obtain. Therefore, the questions should reflect how the target population talks and thinks about the issue under research; this often calls for exploratory qualitative research, which this research also does.
3. *Face validity*. This is when researchers simply look at the items on the research instrument and offer their opinion if the items appear to accurately measure what they are trying to determine. This is the least scientific of all measures of validity as it is simply the researcher's opinion.
4. *Construct validity*. This is when the researcher can generalise about his/her construct of interest because he/she is accurately measuring that construct. Here, the researcher must be truthful about how he/she is labelling his/her construct. This type of validity is concerned with the extent to which a research study measures what it claims to measure.
5. *Criterion-related validity*. This is when the results from the instrument accurately relate/predict the external variable.

3.10.2 Rigour in Qualitative Research Approach – Ensuring Trustworthiness

The gathering of raw data in a semi-structured way confirms the data collection process in qualitative research. This study adopted semi-structured interviews with key informant interviews as the preferred qualitative data collection technique. Raw data have been kept in the form of transcripts of responses from the questions posed to the participants in this study. It should be noted that a true reflection of qualitative study findings is ensured by means of the maintenance of vast interview records and by documenting the data analysis in detail. The researcher listened attentively to the selected participants of this study during the interviews in an attempt to attain trustworthiness and validity of the study findings. The researcher maintained the accuracy of those findings by reporting the exact interview responses and seeking feedback from the participants when the need arose.

This study followed and took into account qualitative processes to ensure that data collection methods meet the requirements of trustworthiness. Methodological and disciplinary conventions and principles were also applied to ensure trustworthiness of this study.

“The trustworthiness of qualitative research generally is often questioned by positivists, perhaps because their concepts of validity and reliability cannot be addressed in the same way in naturalistic work. Nevertheless, several writers on research methods, notably Silverman (2001), have demonstrated how qualitative researchers can incorporate measures that deal with these issues, and investigators such as Pitts (1994) have attempted to respond directly to the issues of validity and reliability in their own qualitative studies. Many naturalistic investigators have, however, preferred to use different terminology to distance themselves from the positivist paradigm. One such author is Guba (1981), who proposes four criteria that he believes should be considered by qualitative researchers in pursuit of a trustworthy study. By addressing similar issues, Guba’s constructs correspond to the criteria employed by the positivist investigators” (Shenton, 2002:63).

3.10.3 Credibility (in Preference to Internal Validity)

One of the key criteria addressed by positivist researchers is that of internal validity, in which they seek to ensure that their study measures or tests what is intended. According to Shenton (2002), the qualitative investigator’s equivalent concept – credibility – deals with the following question: “how congruent are the findings with reality?” Lincoln and Guba (1985) argue that ensuring credibility is one of the most important factors in establishing trustworthiness. For this study, the researcher interpreted the data received from the participants in a theoretically sound manner using two theories (discussed in the previous chapter). The researcher further used KIIs to collect the data and even spent long periods of time with the selected participants in the natural setting to understand their perceptions of the subject under investigation. This helped in gaining a better understanding of their views regarding the combating of illegal antelope hunting.

Furthermore, the following provisions were made by the researcher to promote confidence in the accuracy of the collected data in this study:

- a) The adoption of research methods was well established in a qualitative research approach.
- b) An early familiarity with the culture of participating organisations was developed before the first data collection took place. This was achieved through consulting appropriate documents.
- c) A snowball sampling method was utilised in the selection of study participants.

- d) The adoption of only one qualitative data collection method (KIIs) was important.
- e) Tactics were employed to help ensure informants' honesty when contributing data. Each person who was approached was given an opportunity to refuse to participate in the project so as to ensure that the data collection sessions involved only those who were both genuinely willing to take part and prepared to offer data freely. Participants were encouraged to be frank from the outset of each session, with the researcher aiming to establish a good rapport in the early stages of interviewing.
- f) Frequent debriefing sessions were held between the researcher and her supervisor. Through discussion, the vision of the investigator was widened as the supervisor brought to bear his experiences and perceptions. The researcher utilised such collaborative sessions to discuss alternative approaches and draw attention to flaws in the study.
- g) Peer scrutiny of the research project from colleagues and academics was welcomed. Feedback offered to the researcher at presentations (at colloquiums) over the duration of the project was also welcomed. Different perspectives that such individuals brought allowed them to challenge assumptions made by the researcher, whose closeness to the project frequently inhibited her ability to view it with real detachment.

3.10.4 Transferability (in Preference to External Validity and Generalisability)

External validity is concerned with the extent to which the findings of one study can be applied to other situations. In positivist work, the concern often lies in demonstrating that the results of the work at hand can be applied to a wider population. Since the findings of a qualitative project are specific to a small number in a particular environment and among certain individuals, it is impossible to demonstrate that the findings and conclusions are applicable to other situations and populations. However, if the situations are similar to those described in the study, then transferability could occur. Again, if another researcher can subject the findings of this study to similar circumstances, or apply the same research design and methodology, then almost the same results could be obtained.

3.10.5 Dependability (in Preference to Reliability)

In addressing the issue of reliability, the positivist employs techniques to demonstrate that if the work was repeated in the same context, with the same methods, and with the same participants, then similar results would be obtained. However, the changing nature of the phenomena scrutinised by qualitative researchers renders such provisions problematic in their work. This is because the published descriptions are static and frozen in the ‘ethnographic present. Lincoln and Guba (1985) stress the close ties between credibility and dependability, arguing that, in practice, a demonstration of the former goes some distance in ensuring the latter.

To address the issue of dependability more directly, the processes within the study should be reported in detail, thereby enabling a future researcher to repeat the work, if not necessarily to gain the same results. Thus, the research design may be viewed as a “prototype model”. Such in-depth coverage also allows the reader to assess the extent to which proper research practices have been followed. In addition, it will enable readers of the research report to develop a thorough understanding of the methods and their effectiveness. To analyse the collected data, this study used NVivo 12 Pro software, which helped to prevent the researcher from making incorrect deductions and interpretations of the themes. The researcher was also cautious and did not make her own deductions or suggestions to direct the viewpoint of the participants. She took additional care to not manipulate the collected data to fit a certain viewpoint.

This study used a well-defined research design. It involved describing what was planned and executed; explaining the operational details of data gathering; addressing the specifics of what was done in the field; and performing a reflective appraisal of the project, thereby evaluating the effectiveness of the process of inquiry undertaken.

3.10.6 Confirmability (in Preference to Objectivity)

The concept of confirmability is the qualitative investigator's comparable concern with objectivity. Here, steps must be taken to help ensure, as far as possible, that the findings are the result of the experiences and ideas of the informants rather than the characteristics and preferences of the researcher.

The role of triangulation in promoting such confirmability must again be emphasised – in this context, to reduce the effect of investigator bias. The detailed explanation of how the data were collected and analysed in this study supports confirmability. This enables other researchers to scrutinise the adopted research design and methodology and to determine whether the same data collection methods can establish similar conclusions. Furthermore, in this study, the researcher considered the following principles of confirmability, as suggested by Miles and Huberman (1994):

- a) The beliefs underpinning decisions made and methods adopted were acknowledged within this study.
- b) The reasons for favouring one approach when others were explained and the weaknesses in the techniques employed were admitted.
- c) In terms of results, preliminary theories that ultimately were not borne out by the data were discussed. Much of the content in relation to this was derived from the ongoing “reflective commentary”.
- d) A detailed methodological description was acknowledged, which enables the reader to determine how far the data and the constructs emerging from them may be accepted. Critical to this process is the “audit trail”, which allows any observer to trace the course of the research step-by-step via the decisions made and procedures described. The researcher chose a data-oriented approach, demonstrating how the data that eventually led to the formation of recommendations were gathered and processed during this study.

3.11 Ethical Considerations

Ethical issues form an integral part of any research project. Bryman (2004) argues that access to the research site is usually mediated by gatekeepers who are concerned about the researcher's motives. Entry into the field was gained after all the formal requirements were fulfilled. In all cases, informants participated voluntarily, and they were assured that their identity would remain anonymous. This research ensured anonymity and confidentiality by using pseudonyms, and informed consent was obtained from the participants.

The importance of good research ethics is growing, both locally and internationally, to promote the application of ethical standards to human beings, animals, and the environment. The National Committee for Research Ethics in Science and Technology (NENT) (2007) highlights that just as ethics is about a vision of the good life, research ethics are about a vision of good knowledge. The term "research ethics" refers to a diverse set of values, norms, and institutional regulations that help constitute and regulate scientific activity. Ethics may be operationalised as good research practice, which stipulates that the aims of research do not violate common morality, ethics, and respect for human dignity. Good research practice also entails the researcher respecting current regulations and principles of research ethics. Both the researcher and the research institution are responsible for accommodating and exercising good research practice.

The field of research ethics contains many elements. Research has a fundamental ethos, namely the search for truth. At the same time, research ethics emphasise that research has a more general responsibility to society. They are also concerned with the internal relationships among researchers, as well as the relationship between researchers and other people. In addition, research may have consequences for animals and the environment. These guidelines attempt to cover all the above-mentioned elements for everyone who is involved in research.

The researcher understands the ethical and legal responsibilities of conducting research. With that in mind, the participants were treated with respect, as co-creators of knowledge within the social science context. Bryman (2004) states that researchers have two basic categories of ethical responsibilities: the responsibility to those, both human and non-human, who participate in the research project or study and the responsibility to the discipline, namely to be accurate and honest in the reporting of their research.

The researcher further advocates that research ethics constitute a set of moral principles that are suggested by any individual or group, that are subsequently widely accepted, and that offer rules and behavioural expectations about correct conduct towards experimental subjects and participants, employers, sponsors, other researchers, research assistants, and students. Therefore, the researcher abided by the ethical code of conduct in the social sciences research. She also exercised the ethical obligations regarding the participants involved in this study, since they were informed that this study would not contain any derogatory statements towards other human beings and would not involve any object that might harm them, either physically or emotionally. The participants were also not obliged to partake in this study, and if they did take part, their identities would remain anonymous.

For this study, the researcher strictly abided by both the Ezemvelo KZN Wildlife's expectations of researchers and the University of KwaZulu-Natal's (UKZN's) policy on research ethics. The following known ethical principles were honoured by the researcher:

1. The researcher understands that she is not supposed to harm (protection from harm) the experimental subjects or participants – the interviewees should be given the assurance that they will be identified against any physical and emotional harm.
2. The researcher must seek informed consent from institutions prior to conducting the research, and the necessary permission from the participants shall be obtained as well after they have been thoroughly and truthfully informed about the purpose of the interview and the investigation (see annexure E).
3. In no way is the researcher meant to or allowed to deceive participants.
4. The researcher shall not at any time violate the privacy of participants. This shall be ensured at all costs.
5. Researchers shall guard against manipulating participants or treating them as objects or numbers rather than individual human beings.
6. The researcher is neither supposed to nor allowed to release or publish the findings of the study without the consent of the participants.

3.11.1 Ezemvelo KZN Wildlife (Gatekeeper)

Ethical clearance was given to the researcher by Ezemvelo KZN Wildlife's relevant ethics committee (see annexure E). Permission was granted to the researcher by the gatekeeper to conduct her research within this organisation and the rural communities surrounding it.

The University of KwaZulu-Natal Policy on Research Ethics

Ethical clearance was granted by the UKZN's Human and Social Sciences Research Ethics Committee (see annexure F). This study adhered to UKZN's Policy on Research Ethics (UKZN, 2014: np). Research at this university is conducted and governed within the framework of policies and guidelines that promote impeccable ethical standards. All research protocols, irrespective of the level (undergraduate, postgraduate, post-doctoral, or staff research), are reviewed using a standard pre-determined set of criteria. Studies are categorised as either green, meaning no risk (no human participant involvement); orange, symbolising minimal or low risk; or red, denoting either an increase in minimal risk or high risk. Expedited reviews are conducted on protocols in the green and orange categories, and any research protocol classified as red is subject to a full committee review. Studies classified as red include but are not limited to the following: children (depending on the nature of the enquiry), teenagers (under 18 years of age), pregnant women, women living in unequal relationships, people living in poor socio-economic conditions, people living with HIV, prisoners, and mentally compromised individuals.

3.11.2 Gatekeeper Permission

Gatekeeper permission refers to access to an institution/organisation. This access can be either physical or informational, and all institutions/organisations have the right to be aware of and be given the right to grant or decline permission to a researcher to conduct research in their domains. Research being conducted in public settings does not usually need gatekeeper permissions; however, one must be aware that some "public" spaces, for example malls and concerts, among others, are private spaces where management permission is required to conduct research.

Gatekeepers can only provide access permission and do not provide consent for the study. Consent is only obtained from, inter alia, the individual participants, caregivers, and guardians. The gatekeeper permission letter must ideally be presented as an official document bearing

either a school/company/clinic stamp or letterhead. An electronic piece of communication is accepted provided that a corresponding email address is attached. Permission was granted from Ezemvelo KZN Wildlife.

3.11.3 Consent

The consent process consisted of two documents, namely the information sheet and the declaration of consent. The information sheet covered the aims of the study, data collection instruments, duration of data collection, risks/benefits of the study, HSSREC contact details, PI/supervisor, and student contact details. The sheet also included information on how confidentiality and privacy would be maintained, how the psychosocial needs of the participants would be addressed, what available referral patterns/mechanisms are in place, what costs and benefits are involved, and what would be done to actively minimise potential risks. Other considerations included the way in which the study findings would be appropriately disseminated among the research participants and the social value of the study.

The declaration of consent solicited participant confirmation that they understood the research process and their rights, including the right to refuse participation and/or withdraw from the study without any negative consequences. It also included a request for permission to audio-record/video record an interview. The form bore participants' signatures and the date. While parental consent must be considered, where applicable, for children under 18 years, this study did not include children under 18 years of age. Consent forms submitted for ethics review were not signed as recruitment comments after the study were approved.

3.12 Summary

This chapter has outlined the research methodology, as well as ethical considerations, for this study. Based on this information, it can be deduced that this investigation was executed using an appropriate research design and methodology to fulfil the research aims and objectives outlined in chapter one. The following chapter presents the study's findings.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

4.1 Introduction

This chapter presents the primary findings collected from Giant's Castle Game Reserve staff members, Lotheni Nature Reserve staff members, and community members. This study used two modes of data collection, namely surveys in the form of questionnaires and key informant interviews, to obtain the participants' understanding, attitudes, experiences, views, and opinions on the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park. The findings are presented as verbatim quotations from the interviewees. Individuals were not identified by name; this is in keeping with the policy of anonymity discussed earlier and for reasons associated with the ethical considerations outlined in the previous chapters.

This study adopted a mixed methods approach. Therefore, the quantitative findings will be presented first, followed by the qualitative findings and then the triangulation of both types of findings.

4.2 Quantitative Findings

This section of the chapter reports, analyses, and debates the empirical findings of the primary data collected from the questionnaire administered to 49 participants from two rural communities and two game/nature reserves in the Maloti-Drakensberg Park, KZN. These were KwaMkhize, Emahlutshini, Giant's Castle Game Reserve, and Lotheni Nature Reserve. A primary analysis was conducted using SPSS 25 to produce both descriptive and inferential statistics in an effort to answer the research questions and achieve the research objectives.

Where data existed at a nominal and ordinal level of measurement, it had implications for the choice of tests to perform. What follows is a brief synopsis of the statistical tests that were conducted, the motivation for them, and a presentation of the results. Thereafter, a review of the research instrument and the sample will be done, commenting on reliability, validity,

representivity, and generalisability. Following this, primary findings relating to answering each of the research questions will be presented.

This study provided questionnaires to two different groups, namely the staff from both Giant's Castle Game Reserve and Lotheni Nature Reserve, and community members from KwaMkhize and Emahlutshini. The questions from these two groups were different. The findings from the residents will be presented first, followed by the findings related to the staff, and then the findings from both groups will be discussed together.

4.2.1 Resident-related Findings

Normality

As per annexure G, both the Kolmogorov-Smirnov and Shapiro-Wilk tests are significant for most of the data. This means that those responses were not normally distributed, and as a result, non-parametric tests were used.

4.3 Research Instrument

Response Rate

A total of 30 questionnaires were distributed to participants. All 30 of them were completed and returned, illustrated as follows:

Table 2: Residents' response rates

Total Population	Unknown
Sample Available for Research	n = 30
Total Responses	30
Non-response Bias	
Usable Responses	30
Unusable Responses	0
Usable Response Rate	100%

Reliability

Cronbach's alpha is < 0.7 ; therefore, the research instrument was unreliable ($\alpha = 0.519$, $N = 11$). Potential reasons and sources of inconsistency could be attributable to the following: the sample of participants was too small and the instrument measures different things, which makes it multidimensional. The KMO indicates that the sample was inadequate, while the item-total correlation indicates that each item contributes favourably to the overall alpha measure, and no items specifically create inconsistency and therefore need to be dropped.

4.4 Sample Characteristics

The participant characteristics investigated included level of education, age, gender, race, country of citizenship, province of citizenship, village of residence, duration of residence in that village, employment status, title of occupation if employed, monthly income if employed, and number of family members he/she supports. From Figure 8 below, 10% (3) of the participants did not fill in this question on the questionnaire. Furthermore, 13.3% (4) of the sample had a qualification below grade 10, 16.7% (5) had a qualification below grade 12, 30% (9) had a qualification below grade 7, and 30% (9) had a grade 12 qualification ($n = 30$). The median measure was 3.00, and there was a left negative skew of -0.044, with the bulk of the distribution falling to the right. The kurtosis was -1.734, which indicates a highly dispersed distribution.

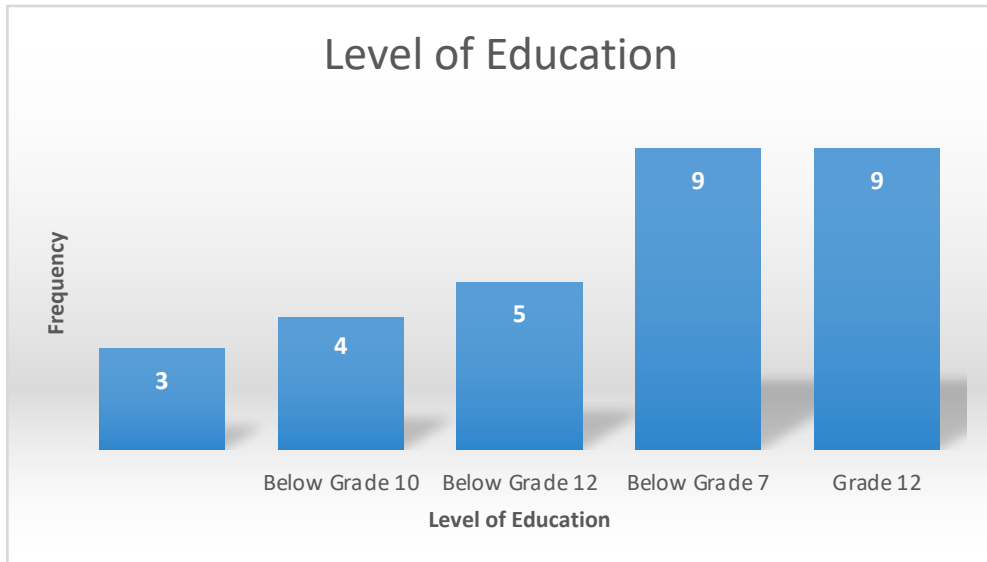


Figure 8: levels of education

Figure 9 illustrates that most of the participants were aged 53-57 years (20% [6], $n = 30$), with 6.7% (2) who did not fill in this question on the questionnaire. Furthermore, 13.3% (4) were between the ages of 18 and 22 years, 16.7% (5) were aged 23-27 years, 3.3% (1) were between the ages of 28 and 32 years, 10% (3) were between the ages of 33 and 37 years, 10% (3) were between the ages of 38 and 42 years, 3.3% (1) were between the ages of 43 and 47 years, 10% (3) were between the ages of 48 and 52 years, and 6.7% (2) were 57 years and older. The median measure was 6.00 with a left negative skew of -0.032, with the bulk of the distribution falling to the right. The kurtosis was -1.555, which indicates a highly dispersed distribution.

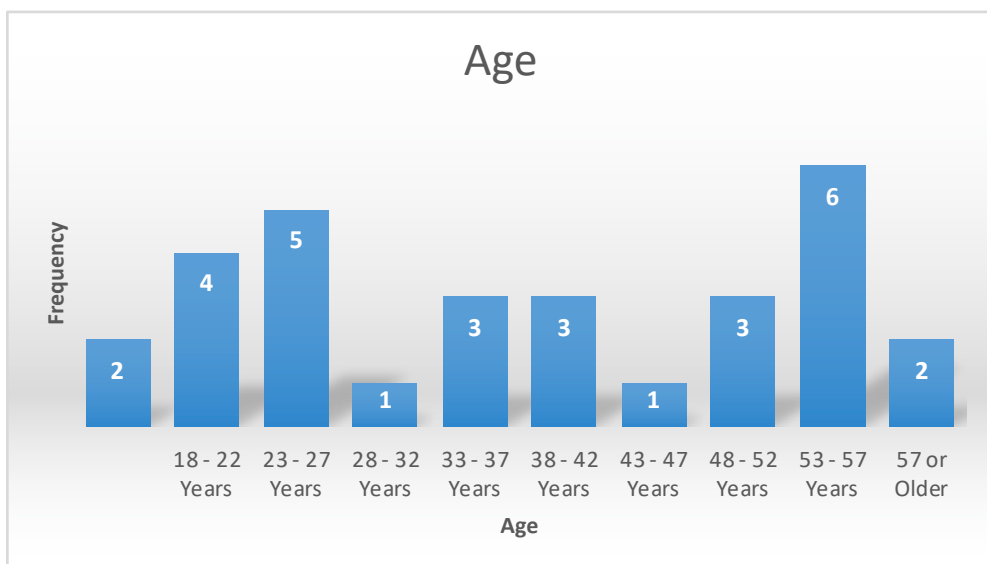


Figure 9: Age

Figure 10 illustrates that most of the participants were female (63.3% [19], n = 30), with 33.3% (10) being male. Moreover, 3.3% (1) of the participants did not fill in their gender on the questionnaire. The median measure was 1.00 with a left positive skew of 0.689, with the bulk of the distribution falling to the right. The kurtosis was -1.644, which indicates a highly dispersed distribution.

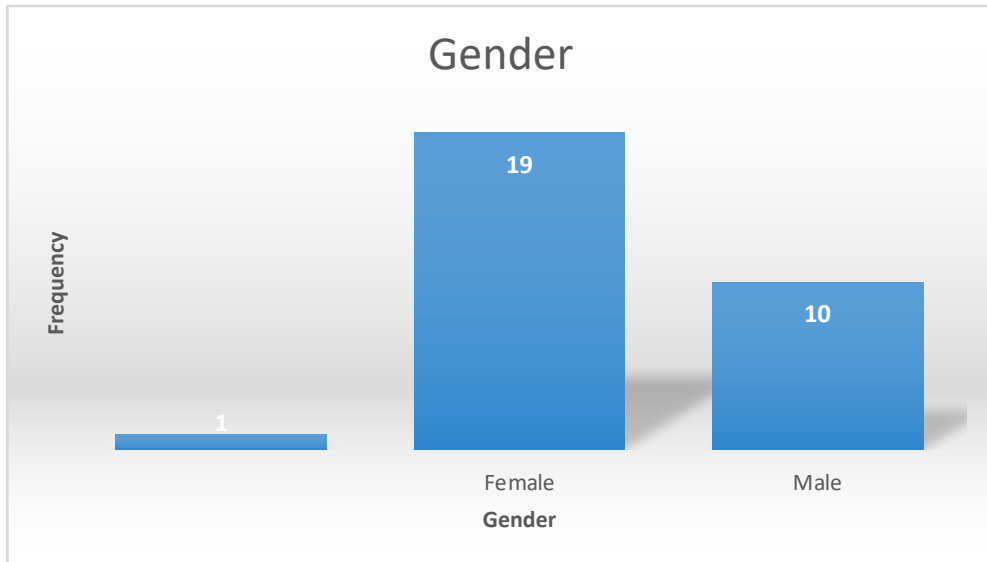


Figure 10: Participants' gender

From Table 3, 100% (30) of the participants were African (n = 30).

Table 3: Race

Race				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid African	30	100,0	100,0	100,0

From Table 4, 100% (30) of the participants were South African citizens (n = 30).

Table 4: Country of citizenship

Country of Citizenship				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid South Africa	30	100,0	100,0	100,0

From Table 5, 100% (30) of the participants were citizens of KZN (n = 30).

Table 5: Province of citizenship

Province of Citizenship					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	KwaZulu-Natal	30	100,0	100,0	100,0

Figure 11 indicates that most of the participants were from Emahlutshini (70% [21], n = 30), with 20% (6) coming from KwaMkhize and 10% (3) coming from Ezindonzeni. The median measure was 1.00 with a left positive skew of 1.206, with the bulk of the distribution falling to the left. The kurtosis was -0.347, which indicates a highly dispersed distribution.

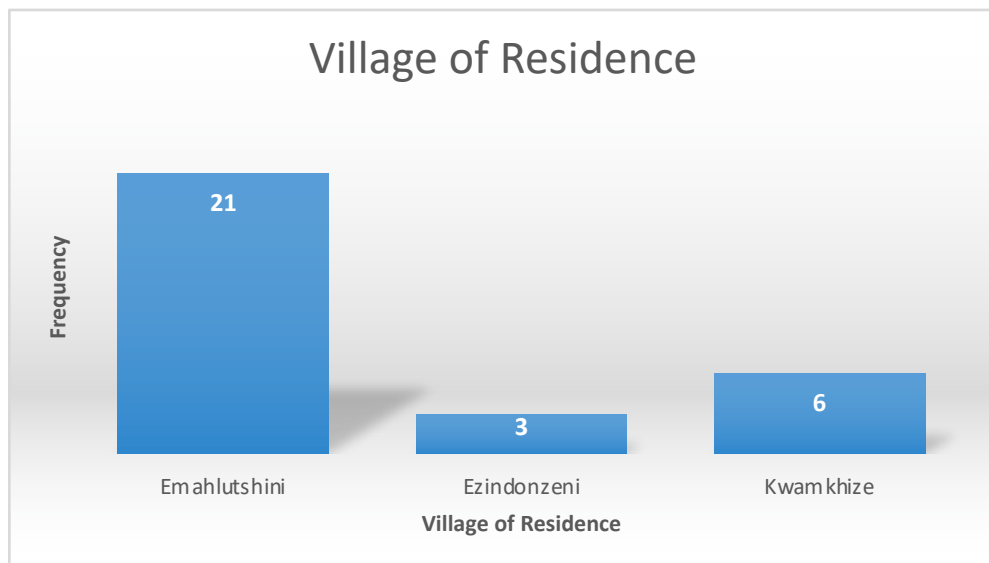


Figure 11: Village of residence

Figure 12 illustrates that most of the participants have been living in their respective villages for more than 40 years (30% [9], n = 30), with 20% (6) of the responders not answering this question on the questionnaire. Furthermore, 3.3% (1) of the participants have been living there for between 11 and 15 years, 3.3% (1) for between 16 and 20 years, 10% (3) for between 21 and 25 years, 3.3% (1) for between 26 and 30 years, 16.7% (5) for between 31 and 35 years, 6.7% (2) for between 36 and 40 years, and 6.7% (2) for between 6 and 10 years. The median measure was 5.00 with a right negative skew of -0.855, with the bulk of the distribution falling to the left. The kurtosis was -0.377, which indicates a highly dispersed distribution.

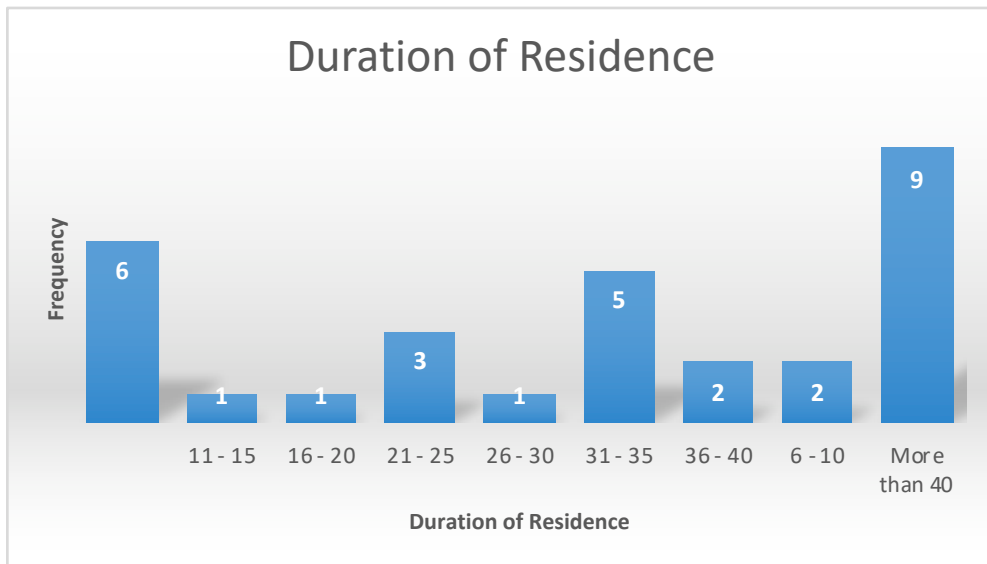


Figure 12: Duration of residence

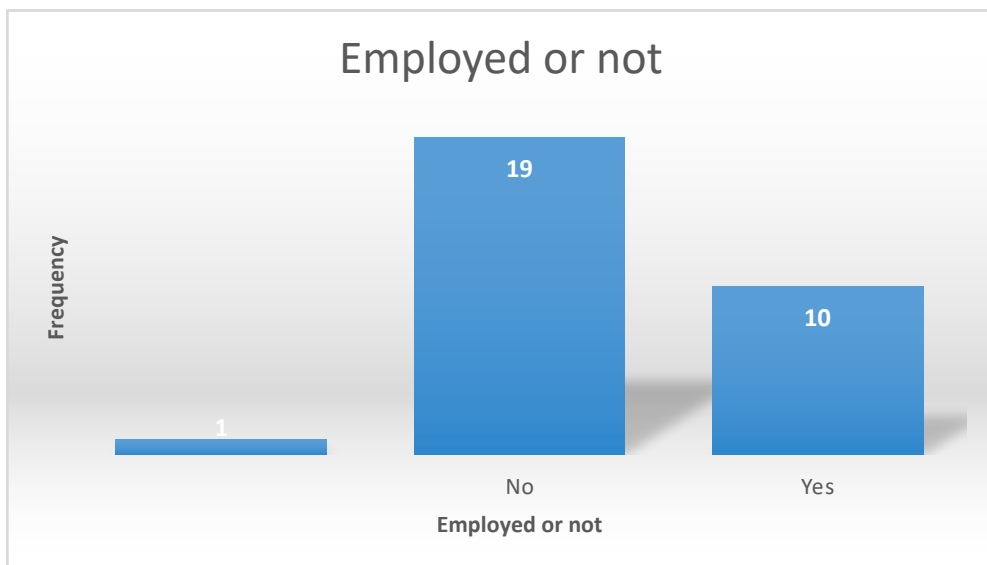


Figure 13: Employed or not

Figure 14 demonstrates that most of the participants answered not applicable (63.3% [19], $n = 30$); this is because most of them were unemployed and this question was thus not applicable to them. In addition, 10% (3) of the participants did not answer this question. Of those who did, 20% (6) filled in that they were general workers, 3.3% (1) said they were roadworkers, and 3.3% (1) indicated that they were tractor drivers. The median measure was 2.00 with a left positive skew of 1.042, with the bulk of the distribution falling to the right. The kurtosis was 3.857, which indicates a sharp peak in the distribution.



Figure 14: Title of occupation

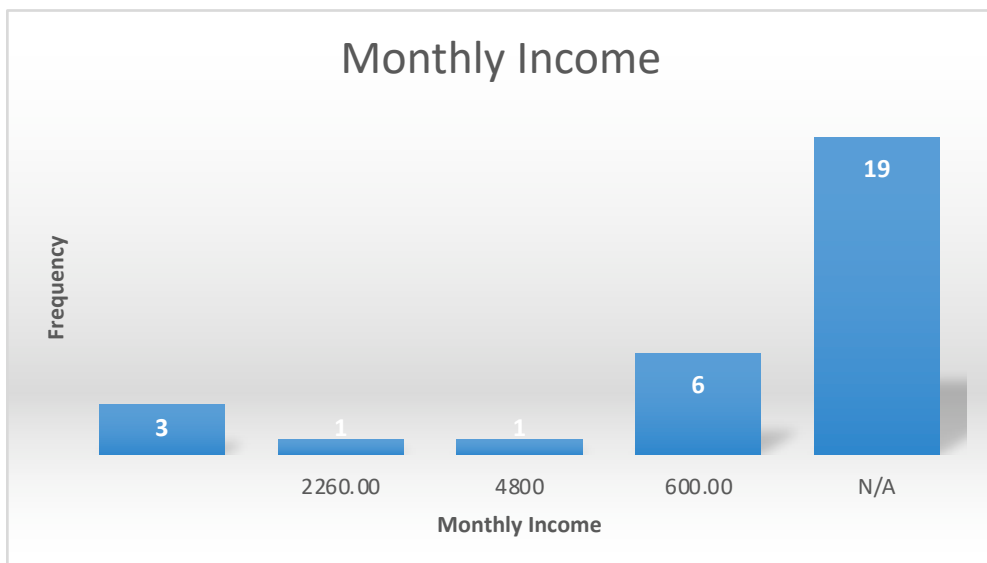


Figure 15: Monthly income

Figure 16 shows that most of the participants support more than 8 family members (33.3% [10], $n = 30$). While 23.3% (7) did not answer this question on the questionnaire, of those who did, 3.3% (1) are supporting 1 family member, 3.3% (1) are supporting 2 family members, 6.7% (2) are supporting 3 family members, 6.7% (2) are supporting 4 family members, 3.3% (1) are supporting 5 family members, 3.3% (1) are supporting 6 family members, 6.7% (2) are supporting 7 family members, and 10% (3) are supporting 8 family members. The median measure was 8.00 with a right negative skew of -0.895, with the bulk of the distribution falling to the left. The kurtosis was -0.640, which indicates a highly dispersed distribution.

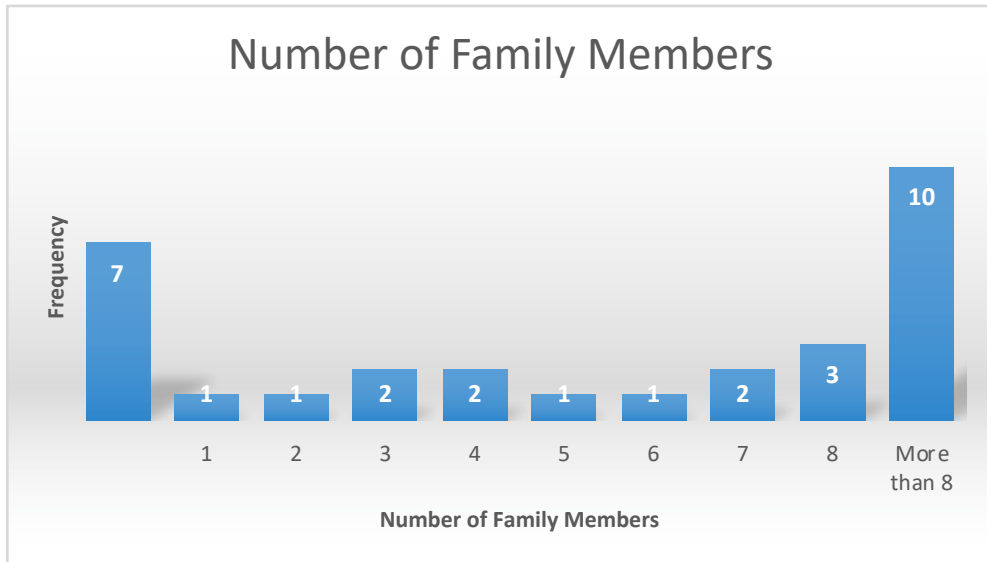


Figure 16: Number of family members

4.4.1 Presentation of Primary Findings in Relation to the Research Objectives

The findings are discussed in relation to the objectives formulated in chapter one. These objectives are as follows: to identify the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park, to identify the frequency/extent of that illegal hunting in this park, to identify the most common method of illegal antelope hunting in the park, to identify the methods that have been established to combat this illegal hunting act, and to explore the effectiveness of the prevention methods that have been established to combat it.

4.4.2 Factors Contributing to the Illegal Hunting of Antelope in the Maloti-Drakensberg Park

This section aims to answer the following research question: what are the factors contributing to the illegal hunting of antelope in the Maloti-Drakensberg Park? Therefore, all items related to answering this question will be presented. Thereafter, a summary will be provided, followed by a presentation of the primary findings regarding the next research questions.

Based on Figure 17, 86.7% (26) of the participants have never illegally hunted antelope in the Maloti-Drakensberg Park, and 13.3% (4) admitted to having taken part in such activities in the park (n = 30). The median measure was 2.00 (no), with a left negative skew of -2.273 and the bulk of the distribution falling to the right. The kurtosis was 3.386, indicating a sharp peak in

the distribution. These results reveal that most participants denied having ever taken part in illegal antelope hunting in the Maloti-Drakensberg Park.

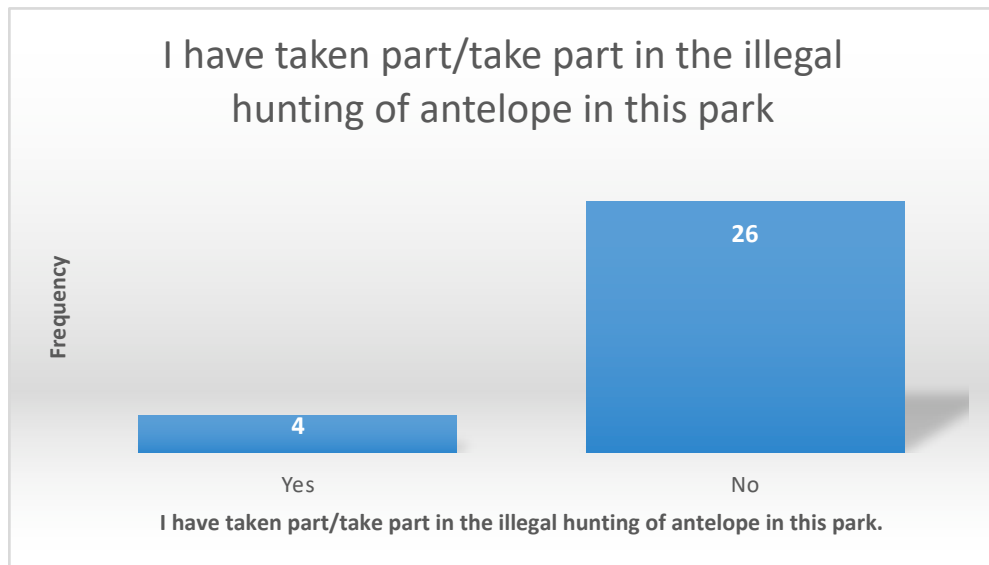


Figure 17: Answers to question 1

There is a significant, moderate, negative correlation between having taken part/still taking part in the illegal hunting of antelope in this park and thinking that other prevention methods need to be established to reduce the levels thereof ($r = -0.473$, $N = 30$, $p = 0.008$). This suggests that with an increase in participants admitting that they have taken part in the illegal hunting of antelope in the Maloti-Drakensberg Park, there is a decrease in them thinking that other prevention methods need to be established to reduce the levels of such hunting in this park.

From Figure 18, it can be seen that there is a significant difference between the various villages of residence regarding them having taken part/still taking part in the illegal hunting of antelope in the park ($H[2] = 8.286$, $p = 0.016$). All the residents from KwaMkhize denied having ever taken part in the illegal hunting of antelope. In addition, only one participant from Ezindonzeni and most of the participants from Emahlutshini denied having taken part in the illegal hunting of antelope.



Figure 18: Villages having taken part/still taking part in illegal antelope hunting

According to Table 6, 96.7% (29) of the participants understood that the killing of antelope is illegal in the Maloti-Drakensberg Park, and 3.3% (1) did not answer this question (n = 30). The median measure was 1.00 (yes). It is evident from the table that most of the interviewees understood that the killing of antelope is illegal in this park.

Table 6: Answers to question 2

Question2 I understand that poaching of antelope is illegal in this park.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	29	96,7	100,0	100,0
Missing	System	1	3,3		
Total		30	100,0		

Figure 19 depicts that most of the participants agreed (76.7%, n = 30) that poverty is the most common factor contributing to the illegal hunting of antelope in the Maloti-Drakensberg Park. Only 16.7% did not agree with this, and 6.7% of the respondents did not answer this question at all. The median measure was 1.00 (yes), with a right positive skew of 1.775 and the bulk of the distribution falling to the left. The kurtosis was 1.234, which indicates a peak in the distribution. Based on these results, the majority of the participants agreed that poverty is the most common reason that the illegal hunting of antelope has occurred/is still occurring in the park.

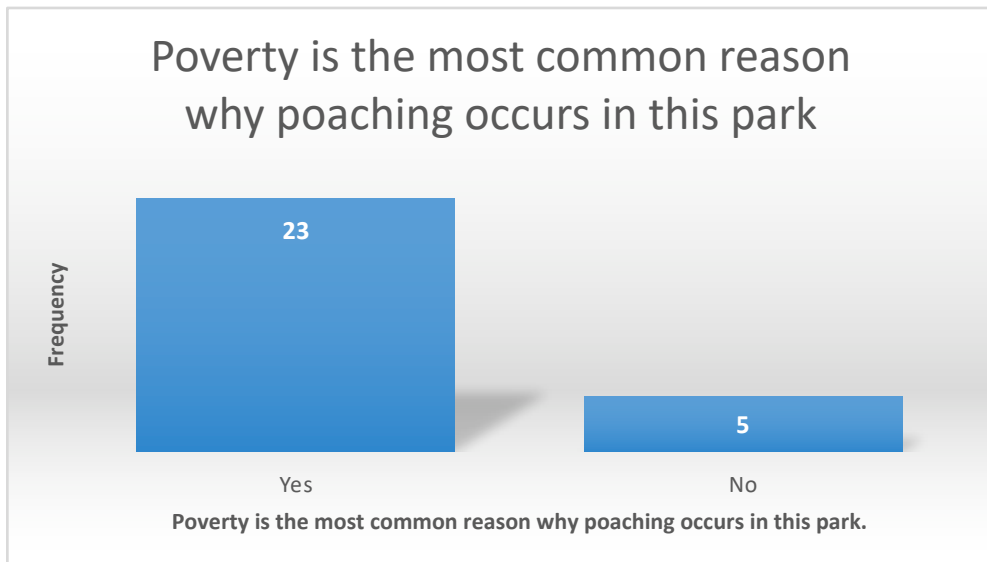


Figure 19: Answers to question 5

There is a significant, moderate to strong, positive correlation between poverty being the most common reason that the illegal hunting of antelope occurs in this park and thinking that the nature and extent of the illegal hunting of antelope is severe in the aforementioned park ($r = 0.737$, $N = 28$, $p < 0.001$). This suggests that with an increase in poverty, there will be an increase in the illegal hunting of antelope in the Maloti-Drakensberg Park.

There is a significant, moderate, positive correlation between duration of residence and poverty as the most common reason for illegal hunting in this park ($r = 0.436$, $N = 23$, $p = 0.038$). This suggests that the participants who have lived around the park the longest believe that poverty is the most common reason for such illegal hunting in the park.

There is a significant, moderate, positive correlation between number of family members and poverty being the most common reason that illegal hunting occurs in the park ($r = 0.470$, $N = 22$, $p = 0.027$). This suggests that the participants who have to support more family members than those who do not agree that poverty is indeed the most common reason for the above-mentioned illegal hunting of antelope in the park.

From Figure 20, 73.3% (22) of the participants denied and 26.7% (8) admitted ($n = 30$) that other members of their villages have taken part in the illegal hunting of antelope in the Maloti-Drakensberg Park. The median measure was 2.00 (no) with a left negative skew of -1.112, with the bulk of the distribution falling to the right. The kurtosis was -0.824, which indicates a highly dispersed distribution.

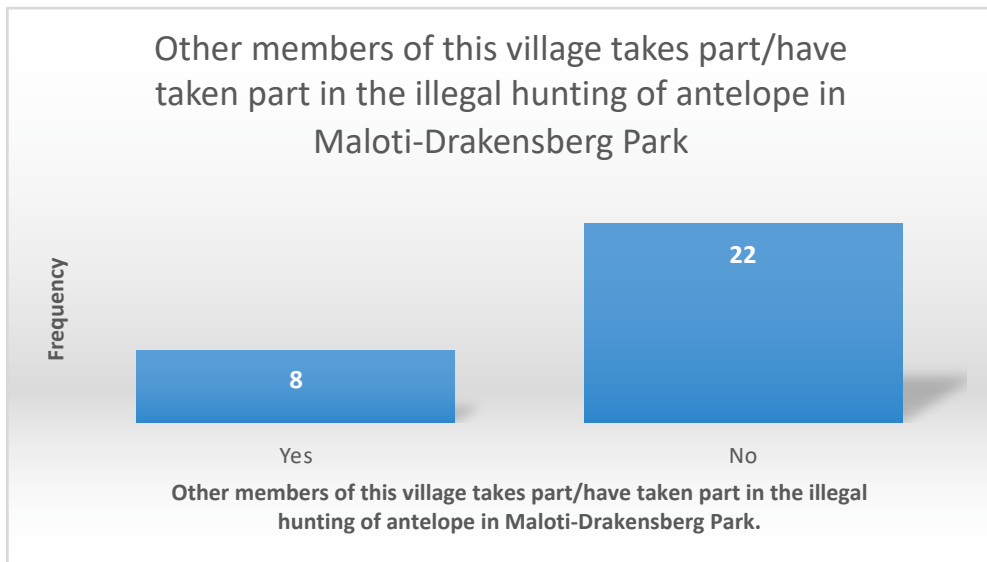


Figure 20: Answers to question 6

In addition, Figure 20 indicates that most of the participants denied that other members of their villages have taken part/still take part in the illegal hunting of antelope in the park. There is a significant, moderate to strong, negative correlation between other members of the villages taking part/having taken part in the illegal poaching of antelope within this park and the belief that it is the staff's responsibility to reduce the levels thereof ($r = -0.740$, $N = 29$, $p < 0.001$). This suggests that the participants who have taken part in the illegal hunting of antelope thought that it was not the staff's responsibility to reduce the levels of illegal hunting antelope in the park.

4.4.3 Frequency/Extent of the Illegal Hunting of Antelope in the Maloti-Drakensberg Park

This section aims to answer the following research question: what is the frequency/extent and nature of the illegal hunting of antelope in the Maloti-Drakensberg Park? As such, all items relating to answering this question will be presented. Then, a brief summary, accompanied by a presentation of the primary findings relating to the next research questions, will be provided.

From Figure 21, 70% (21) of the participants agree that the nature and extent of the illegal hunting of antelope is severe in the Maloti-Drakensberg Park, while 30% (9) thought it was not severe ($n = 30$). The median measure was 1.00 (yes) with a right positive skew of 0.920, with the bulk of the distribution falling to the left. The kurtosis was -1.242, which indicates a highly

dispersed distribution. The figure illustrates that most of the participants thought that the extent of illegal antelope hunting in the park is severe.

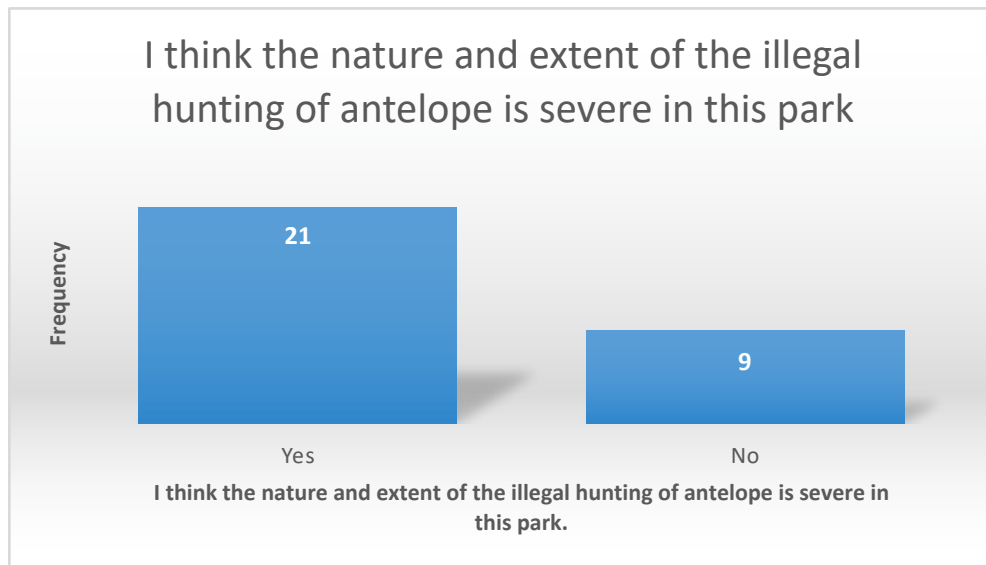


Figure 21: Answers to question 3

4.4.4 Current Prevention Methods to Combat the Illegal Hunting of Antelope in the Maloti-Drakensberg Park

This section aims to answer the following research questions: are there methods established to combat the illegal hunting of antelope in the Maloti-Drakensberg Park, and what are these methods? All items related to answering this question will be presented first, followed by a summary and a presentation of the primary findings regarding the next research questions.

Based on Figure 22, 86.7% (26) of the participants agreed that there are many existing prevention methods to combat the illegal hunting of antelope in the Maloti-Drakensberg Park, while 13.3% (4) thought that there are not (n = 30). The median measure was 1.00 (yes) with a right positive skew of 2.273, with the bulk of the distribution falling to the left. The kurtosis was 3.386, which indicates a peak in the distribution. Figure 22 illustrates that most of the participants agreed that there are already many current prevention methods in place.

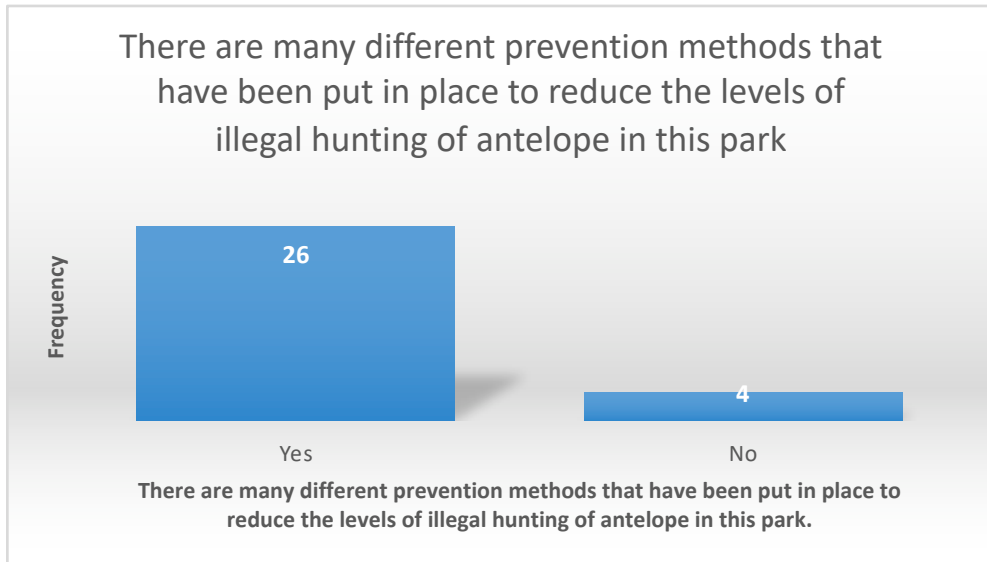


Figure 22: Answers to question 7

From Figure 23, 80% (24) of the participants agreed that it is the staff's responsibility to reduce the levels of illegal antelope hunting in the Maloti-Drakensberg Park, while 16.7% (5) did not agree with this statement, and 3.3% (1) did not answer this question ($n = 30$). The median measure was 1.00 (yes) with a right positive skew of 1.831, with the bulk of the distribution falling to the left. The kurtosis was 1.446, which indicates a peak in the distribution. Figure 23 illustrates that most of the participants agreed that the staff of the Maloti-Drakensberg's Park are responsible for combatting illegal antelope hunting.

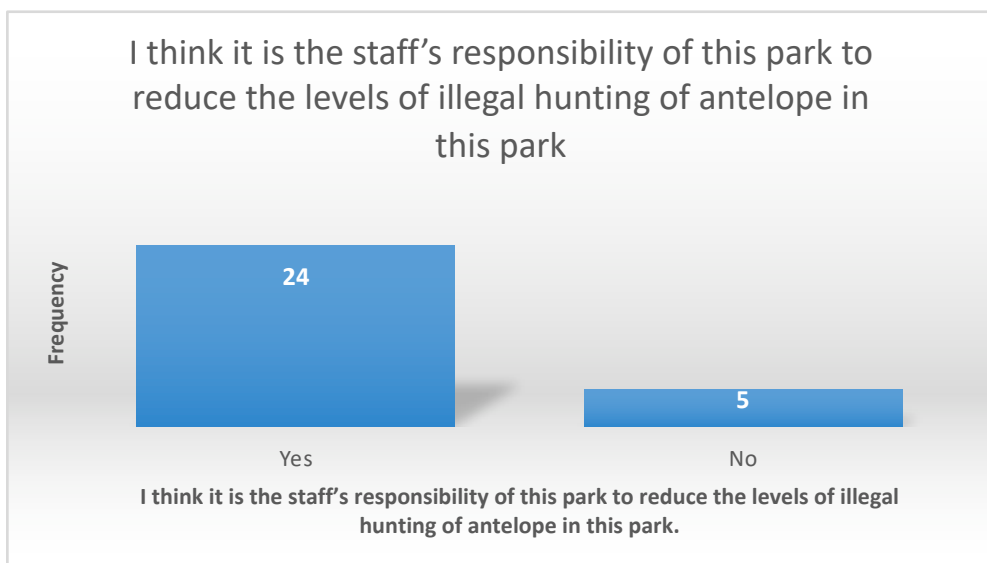


Figure 23: Answers to question 8

From Figure 24, 76.7% (23) of the participants believe that the members of their villages would be willing to work in partnership with an organisation to lower the levels of poverty to ultimately stop the illegal hunting of antelope in the Maloti-Drakensberg Park. However, 20% (6) did not agree, and 3.3% (1) did not answer this question (n = 30). The median measure was 1.00 (yes) with a right positive skew of 1.527, with the bulk of the distribution falling to the left. The kurtosis was 0.352, which indicates a peak in the distribution. Figure 24 illustrates that most of the participants believe that their villages would be willing to work in partnership with an organisation to work towards the previously mentioned outcome.



Figure 24: Answers to question 10

There is a significant, strong, negative correlation between participants' income and believing that villages would be willing to work in partnership with an organisation to lower the levels of poverty to ultimately stop illegal hunting from occurring ($r = -0.850$, $N = 27$, $p < 0.001$). This suggests that the more participants earned, the less they believed that members from their villages would display the aforementioned willingness.

There is a significant, strong, positive correlation between believing that villages would be willing to work in partnership with an organisation and that the unemployed residents of those villages would accept an employment opportunity if one was offered to them ($r = 0.905$, $N = 29$, $p < 0.001$). This suggests that the more people believed that the members from their villages would be willing to work in partnership with an organisation, the more they believed that the unemployed members from those villages would accept an employment opportunity if one was granted to them.

Based on Figure 25, there is a significant difference in believing that village members would be willing to work in partnership with an organisation between the various villages of residence ($H[2] = 28.000, p < 0.001$). All the participants from KwaMkhize did not believe that their village members would be willing, whereas all those from Emahlutshini and Ezindonzeni believed that the members from their villages would.

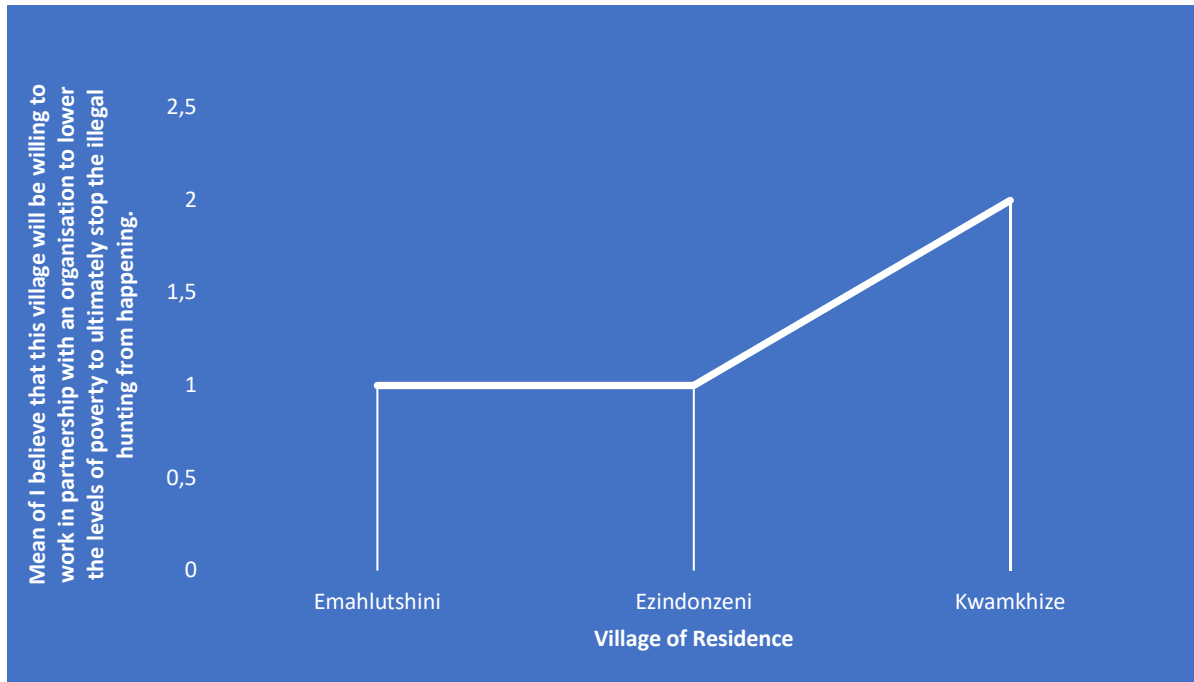


Figure 25: The mean of participants believing village members would be willing to co-operate

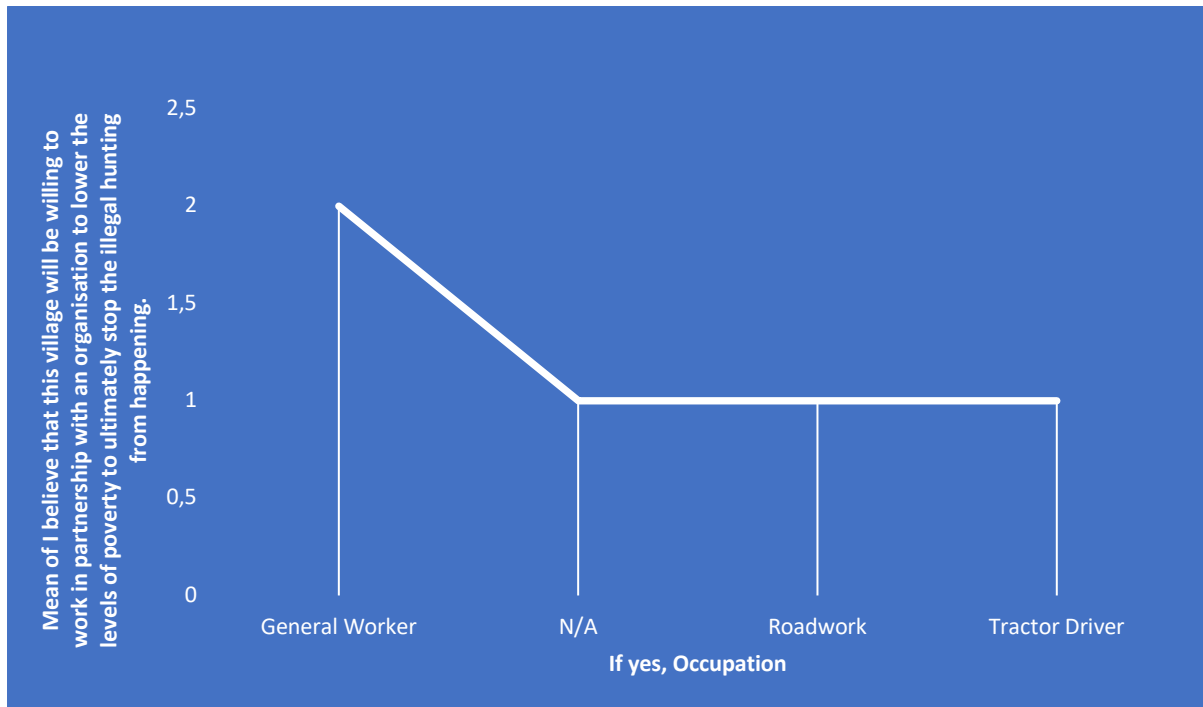


Figure 26: The mean of participants believing village members would be willing to co-operate – categorised by occupation

Figure 27 indicates that when it comes to participants of different monthly incomes ($H[23] = 21.357, p < 0.001$), there is a significant difference in the belief regarding village members' willingness to work in partnership with an organisation. All the interviewees who answered N/A (the unemployed participants) believed that members from their villages would be willing to collaborate with an organisation to lower the levels of poverty to ultimately stop illegal antelope hunting from happening in the Maloti-Drakensberg Park, while most of the participants who earned R600,00 did not believe this about their village members.

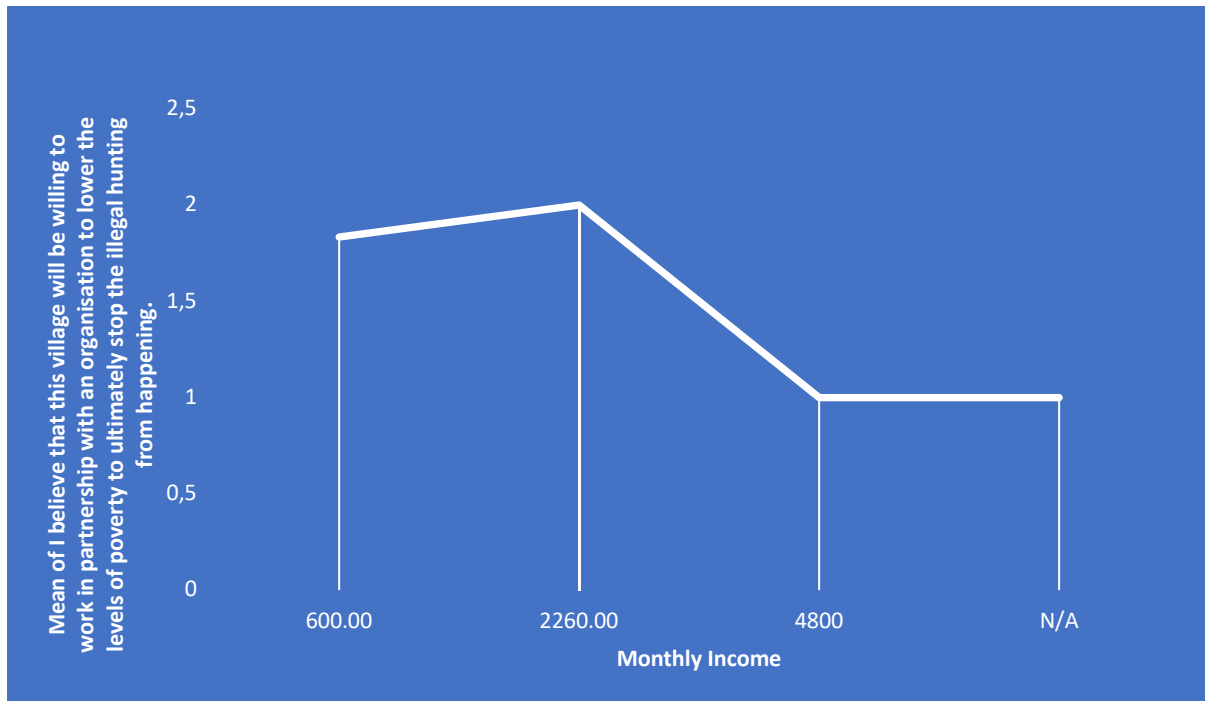


Figure 27: The mean of participants believing village members would be willing to co-operate – categorised by monthly income

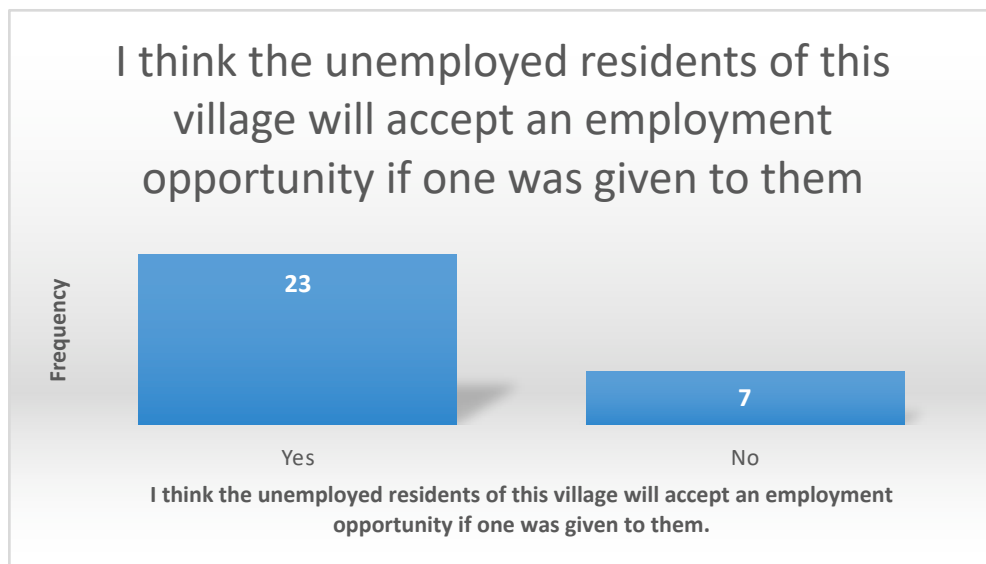


Figure 28: Answers to question 11

There is a significant, moderate, positive correlation between participants' employment status and belief that the unemployed residents of their respective villages would accept an employment opportunity if one was given to them ($r = 0.608$, $N = 29$, $p < 0.001$). This suggests that participants who were employed believed more that unemployed residents from their villages would be willing to accept an employment opportunity.

Figure 29 highlights that in relation to the different villages of residence ($H[2] = 23.854, p < 0.001$), there is a significant difference in thinking that unemployed residents of villages would accept an employment opportunity if one was awarded to them. All participants from Kwamkhize did not believe that the unemployed residents from their village would accept such an opportunity. In contrast, all participants from Ezindonzeni believed that their village's unemployed residents would, and only one participant from Emahlutshini did not believe this about his/her village's unemployed residents, whereas the rest did.



Figure 29: The mean of participants believing unemployed residents would accept employment opportunities – categorised by village

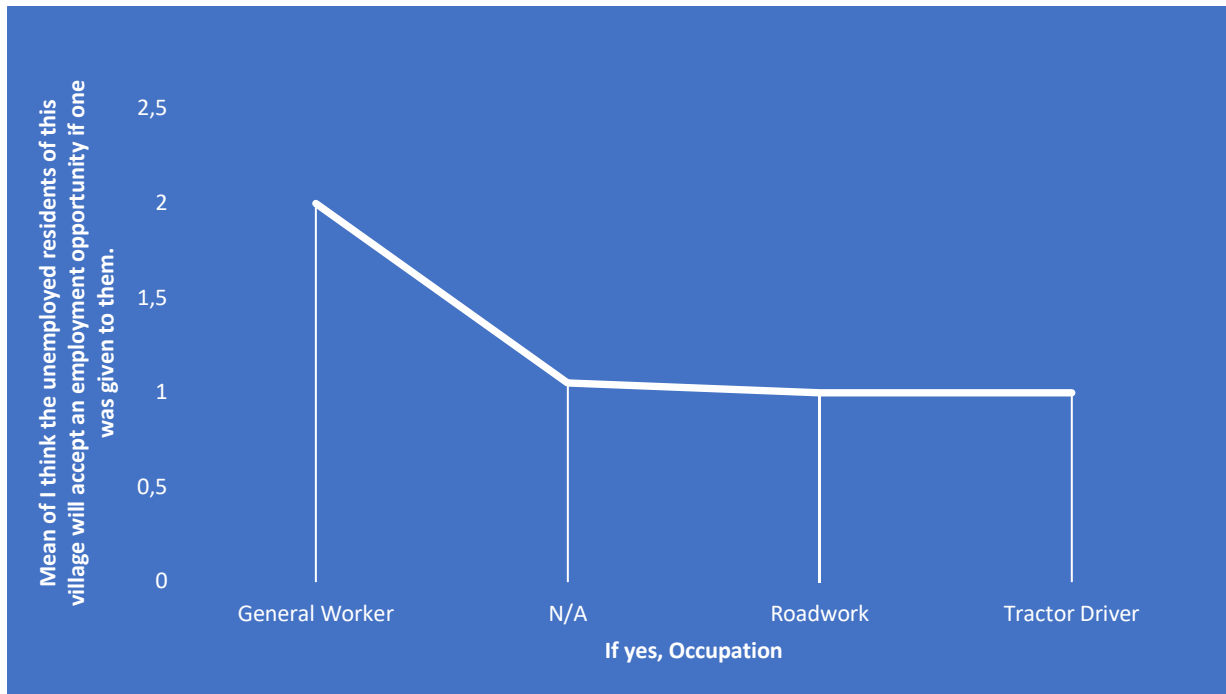


Figure 30: The mean of participants believing unemployed residents would accept employment opportunities – categorised by occupation

From Figure 31, there is a significant difference in the thought that the unemployed residents of villages would accept an employment opportunity if one was given to them between participants of different monthly incomes ($H[23] = 17.071, p = 0.001$). Only 1 participant who answered N/A (unemployed participant) did not think that the unemployed members from their village would accept such an opportunity; the rest did. Only 1 participant, who earned R600,00, believed that they would accept an employment opportunity, while the rest of them did not think so.

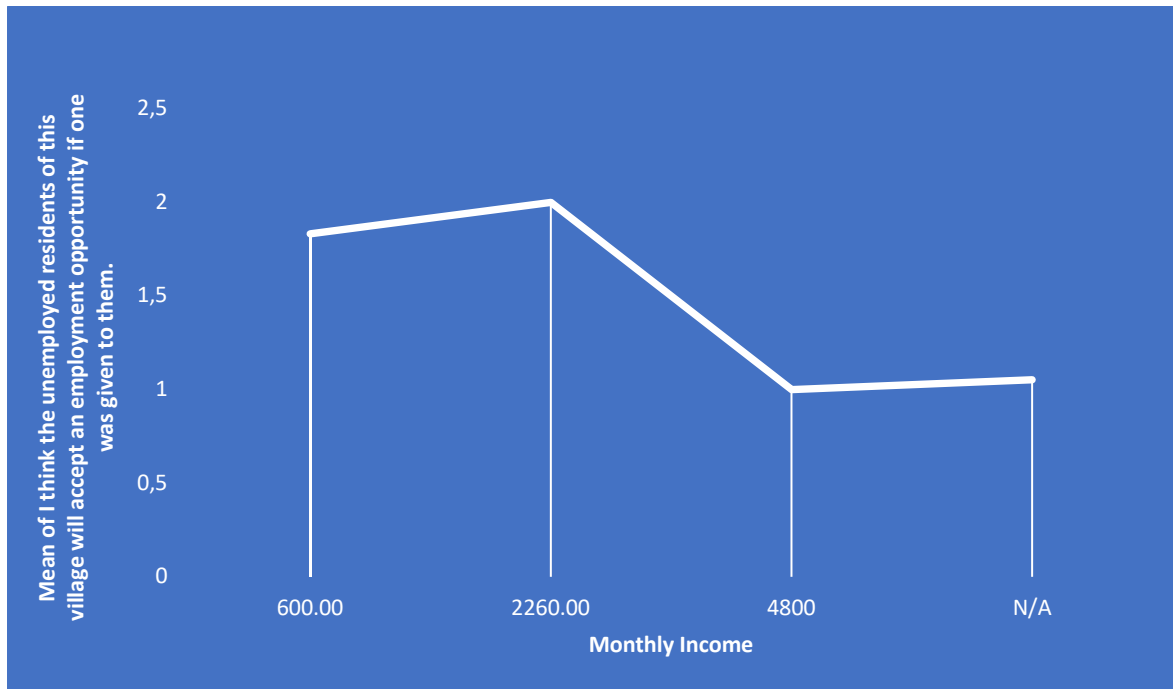


Figure 31: The mean of participants believing unemployed residents would accept employment opportunities – categorised by monthly income

4.4.5 The Most Common Method of Illegal Hunting of Antelope

This section aims to answer the following research question: what is the most common type of illegal hunting method used in the park? As such, all items relating to answering this question will be presented. Then, a brief summary, accompanied by a presentation of the primary findings relating to the next research questions, will be provided.

From Figure 32, 93.3% (28) of the participants stated that shooting was not the most common method of illegal hunting of antelope in the park, while only 6.7% (2) of the participants stated that it was the most common method ($n = 30$). The median measure was 2.00 (no), with a left negative skew of -3.660 and the bulk of the distribution falling to the right. The kurtosis was 12,207 indicating a sharp peak in the distribution. These results reveal that most of the participants did not agree that shooting was the most common method used to illegally hunt antelope in the park. It can be seen later in this chapter that it was stated in the interviews that dogs and homemade weapons are the most common methods used to illegally hunt antelope. This was the opinion of the participants from both groups.

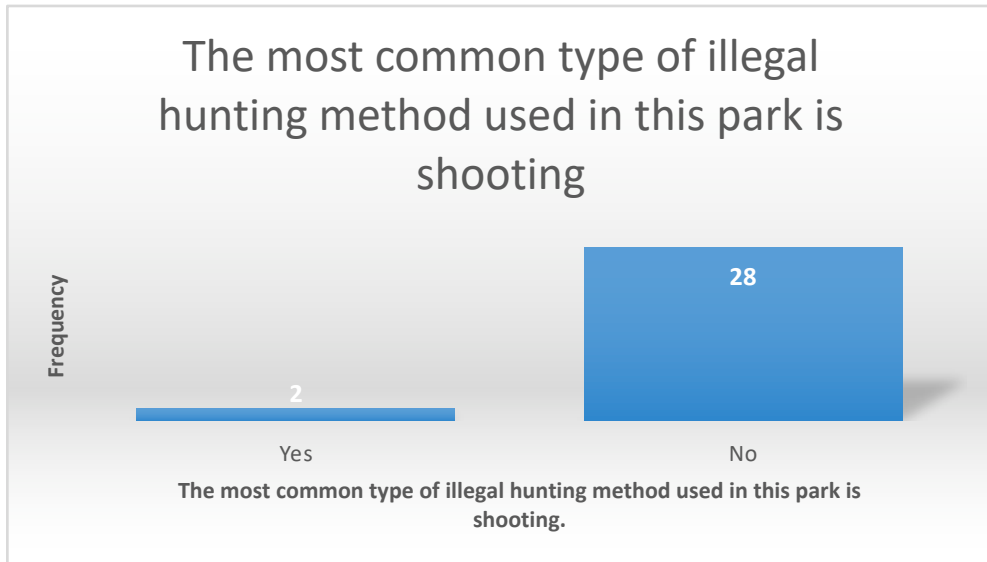


Figure 32: Answers to question 4

4.4.6 The Effectiveness of the Current Prevention Methods

This section aims to answer the following research question: are the current methods of combating the illegal hunting of antelope effective in the Maloti-Drakensberg Park? As such, all items related to answering this question will be presented first, followed by a summary and a presentation of the primary findings regarding the next research questions.

From Figure 33, 96.7% (29) of the participants believed that other prevention methods need to be established to combat the levels of illegal antelope hunting in the Maloti-Drakensberg Park, whereas 3.3% (1) did not agree with this (n = 30). The median measure was 1.00 (yes) with a right positive skew of 5.477, with the bulk of the distribution falling to the left. The kurtosis was 30.000, which indicates a highly peaked distribution. Figure 33 illustrates that most of the participants agreed that other prevention methods need to be established.

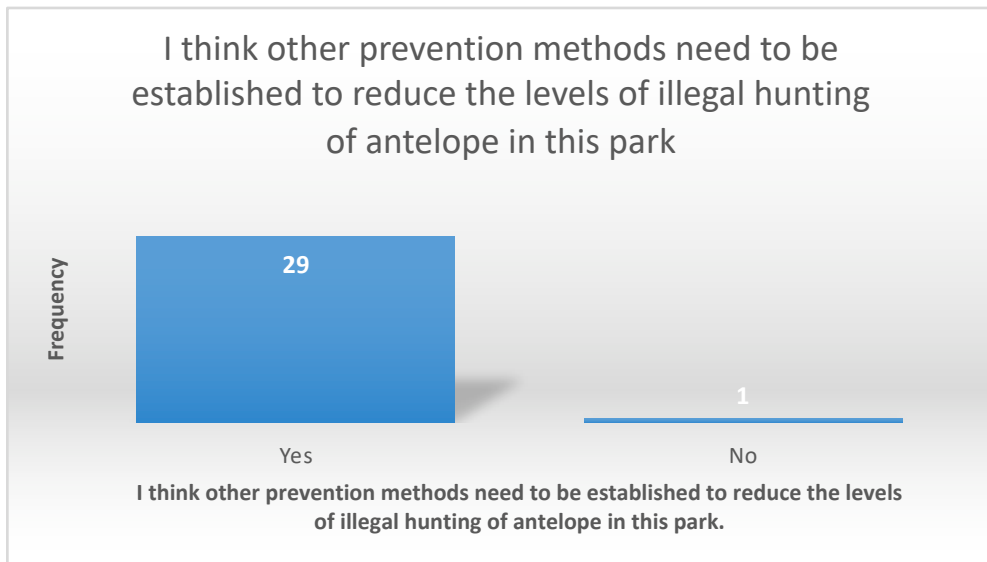


Figure 33: Answers to question 9

4.4.7 Staff-related Findings

Normality

As per Appendix H, both the Kolmogorov-Smirnov and Shapiro-Wilk tests are significant for most of the data. This means that those responses were not normally distributed, and as a result, non-parametric tests were used.

4.5 Research Instrument

Response Rate

Table 7: Staff response rate

Total Population	Unknown
Sample Available for Research	n = 19
Total Responses	19
Non-response Bias	
Usable Responses	19
Unusable Responses	0
Usable Response Rate	100%

Reliability

Cronbach's alpha is < 0.7 ; therefore, the research instrument was unreliable ($\alpha = 0.519$, $N = 11$). Potential reasons and sources of inconsistency could be attributable to the following: the sample of participants was too small, and the instrument measures different things, which makes it multidimensional. The KMO indicates that the sample was inadequate, and the item-total correlation indicates that each item contributes favourably to the overall alpha measure. Furthermore, no items specifically create inconsistency and therefore need to be dropped.

4.6 Sample Characteristics

The staff characteristics investigated included occupation, age, race, gender, country of citizenship, and province of citizenship. Further characteristics were whether the staff member is a resident of a surrounding village, the name of the village in which he/she resides, duration of residence in that village, duration of occupation at the Maloti-Drakensberg Park, monthly income, and the number of family members he/she supports.

From Figure 34, 5.3% (1) of the participants were camp attendants, 26.3% (5) were environmental monitors, 15.8% (3) were field rangers, 21.1% (4) were firefighters, 15.8% (3) were general assistants, 5.3% (1) were handymen, 5.3% (1) were labour supervisors, and 5.3% (1) were receptionists ($n = 19$). The median measure was 4.00 with a right positive skew of

0.681, with the bulk of the distribution falling to the left. The kurtosis was -0.019, which indicates a highly dispersed distribution.

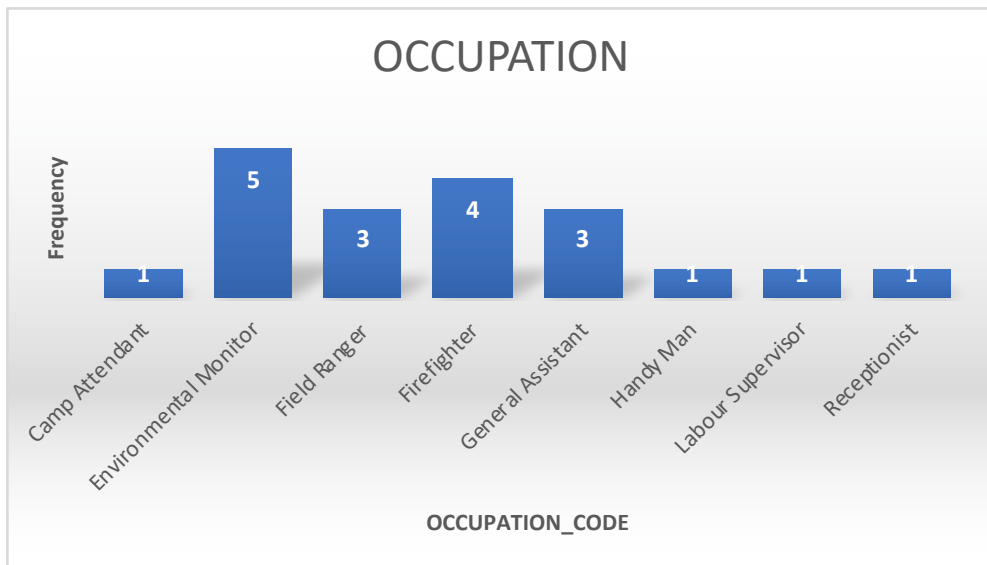


Figure 34: Occupation of participants

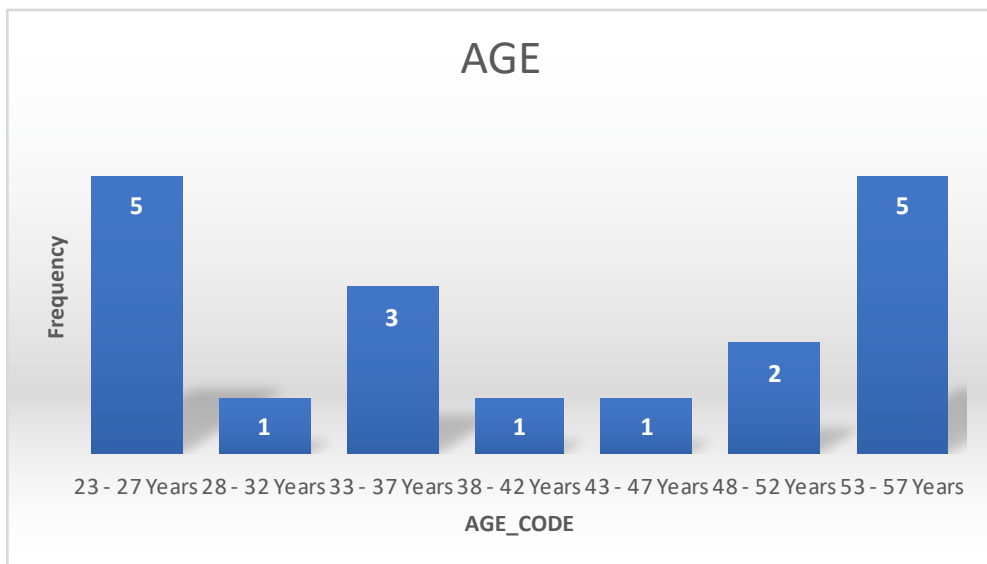


Figure 35: Age of participants

Table 8 indicates that 100% (19) of the participants were African (n = 19).

Table 8: Race of participants

RACE_CODE					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 African	19	100,0	100,0	100,0

From Figure 36, 68.4% (13) of the participants were male and 31.6% (6) were female (n = 19). The median measure was 2.00 with a left negative skew of -0.862, with the bulk of the distribution falling to the right. The kurtosis was -1.419, which indicates a highly dispersed distribution.

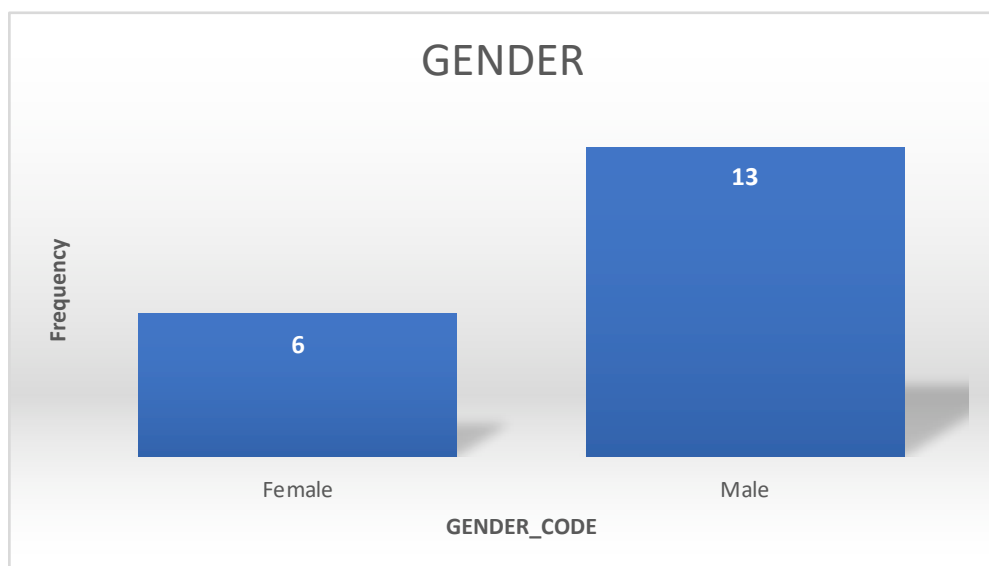


Figure 36: Gender of participants

From Table 9, it is clear that 100% (19) of the participants were citizens of SA (n = 19).

Table 9: Participants' country of citizenship

CITIZENSHIP_COUNTRY Country of Citizenship					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 South Africa	19	100,0	100,0	100,0

Table 10 reveals that 100% (19) of the participants were citizens of KZN (n = 19).

Table 10: Participants' province of citizenship

PROVINCE_CITZENSHIP Province of Citizenship					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 KwaZulu - Natal	19	100,0	100,0	100,0

Based on Figure 37, 68.4% (13) of the participants are from a surrounding village, and 31.6% (6) come from somewhere else in KZN (n = 19). The median measure was 2.00 (yes) with a left negative skew of -0.862, with the bulk of the distribution falling to the right. The kurtosis was -1.419, which indicates a highly dispersed distribution.

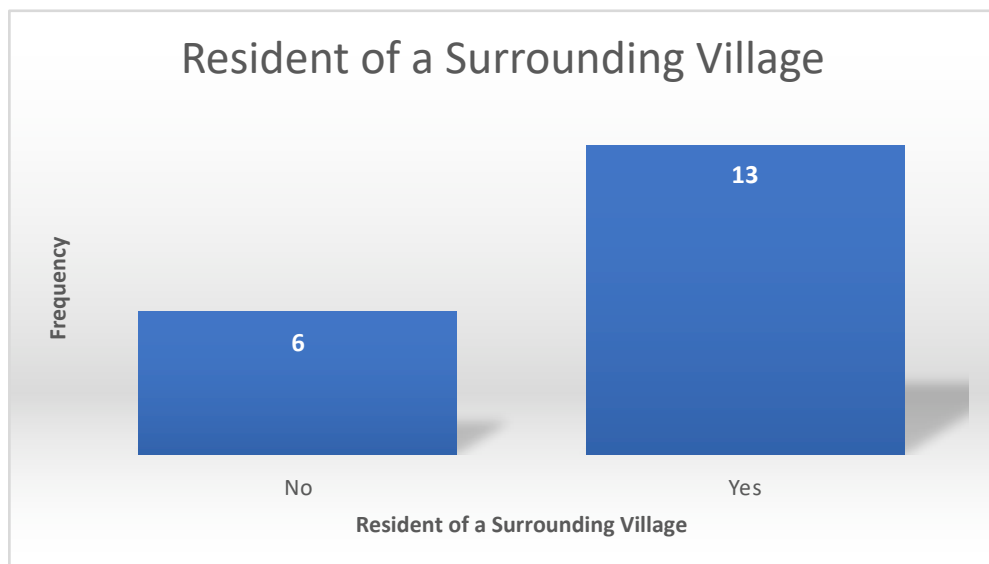


Figure 37: Resident of a surrounding village

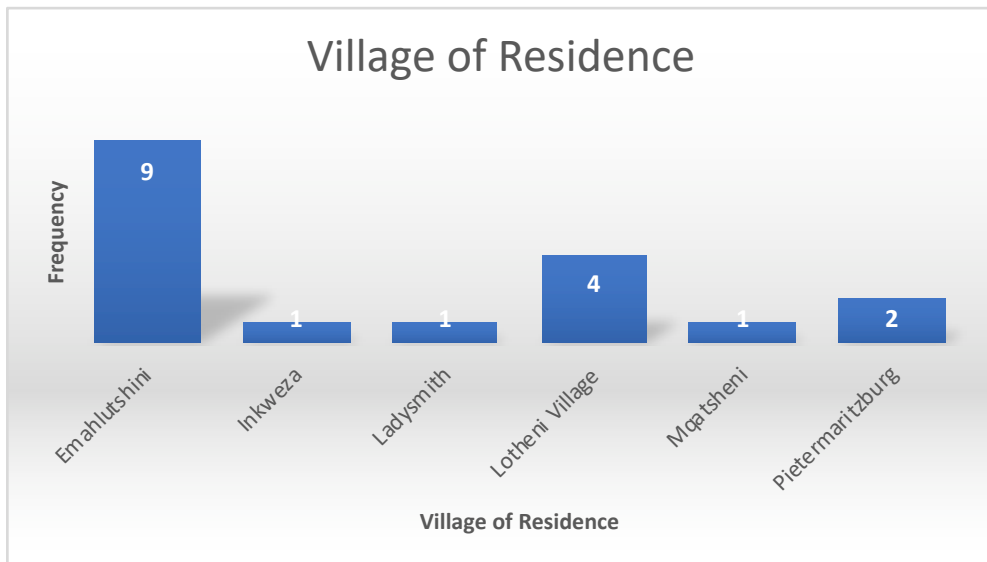


Figure 38: Participants' village of residence

From Figure 39, it is evident that 15.8% (3) of the participants have been living in their respective villages for between 0 and 5 years, 10.5% (2) for between 6 and 10 years, 5.3% (1) for between 11 and 15 years, 10.5% (2) for between 21 and 25 years, 10.5% (2) for between 26 and 30 years, 10.5% (2) for between 31 and 35 years, 15.8% (3) for between 36 and 40 years, and 10.5% (2) for more than 40 years. Furthermore, 10.5% (2) did not fill in this question on the questionnaire (n = 19). The median measure was 6.0000 with a left negative skew of -0.279, with the bulk of the distribution falling to the right. The kurtosis was -1.493, which indicates a highly dispersed distribution.

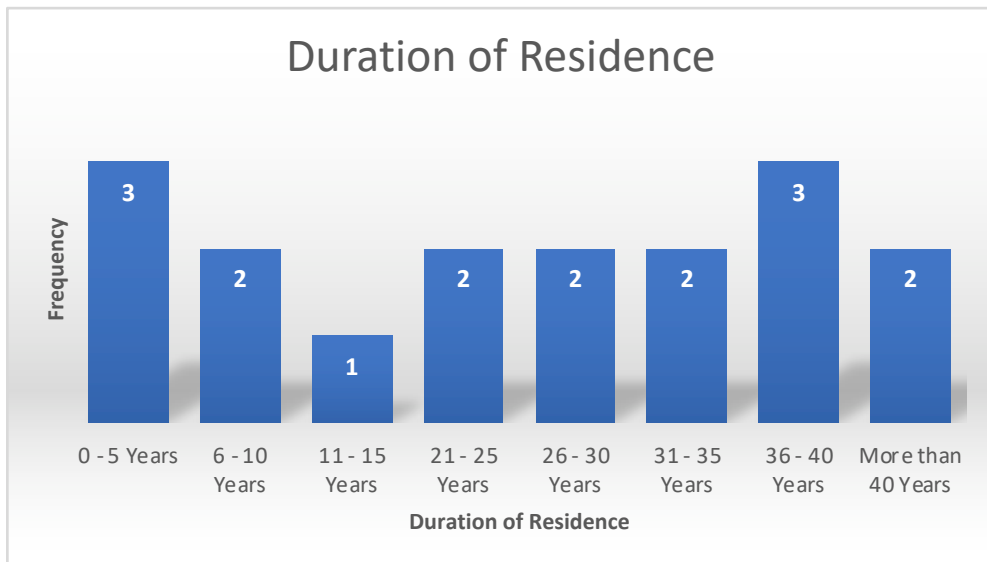


Figure 39: Participants' duration of residence

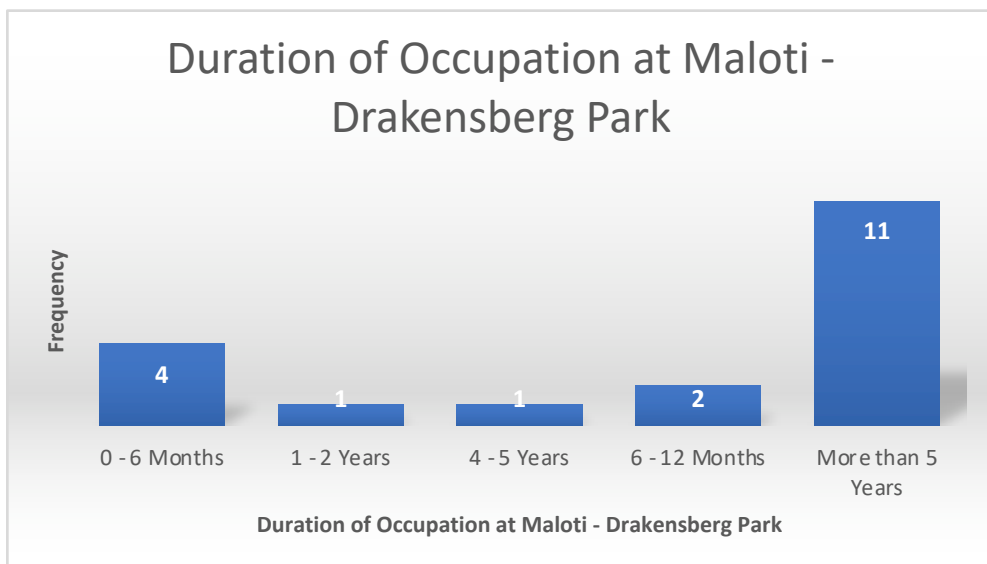


Figure 40: Participants' duration of occupation at the Maloti-Drakensberg Park

From Figure 41, 5.3% (1) of the participants support 4 family members, 21.1% (4) support 5 family members, 31.6% (6) support 6 family members, 5.3% (1) support 7 family members, and 36.8% (7) support more than 7 family members. The median measure was 3.00 with a left negative skew of -0.090, with the bulk of the distribution falling to the right. The kurtosis was -1.352, which indicates a highly dispersed distribution.

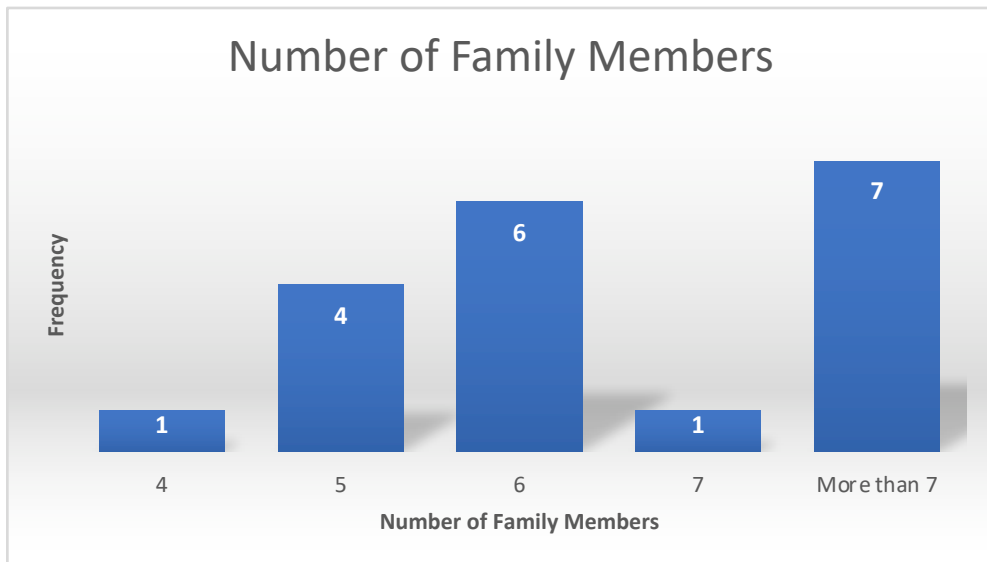


Figure 41: Number of family members supported by participants

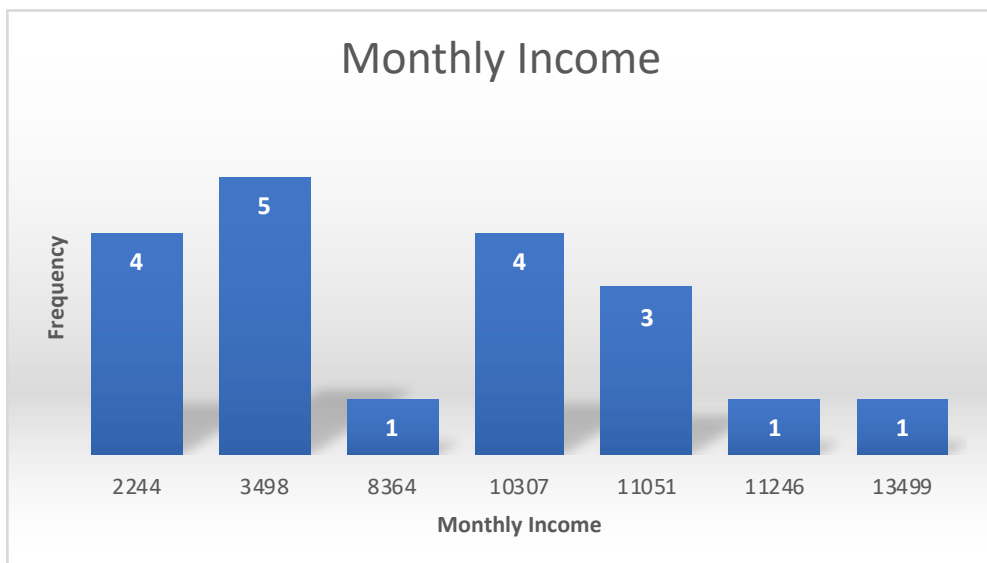


Figure 42: Monthly income of participants

4.6.1 Presentation of Primary Findings in Relation to Three of the Research Objectives

The findings are discussed in relation to the objectives formulated in chapter one. These objectives are as follows: to identify the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park, to identify the methods that have been established to combat this illegal hunting, and to explore the effectiveness of the prevention methods that have been established to combat it.

4.6.2 Factors Contributing to the Illegal Hunting of Antelope in the Maloti-Drakensberg Park

This section aims to answer the following research question: what are the factors contributing to the illegal hunting of antelope in the Maloti-Drakensberg Park? As such, all items related to answering this question will be presented first, followed by a brief summary and a presentation of the primary findings regarding the next research questions.

From Figure 43, 94.7% (18) of the participants agreed that they understand that hunting antelope is illegal in the Maloti-Drakensberg Park, and 5.3% (1) disagreed (n = 19). The median measure was 1.00 (yes) with a right positive skew of 4.359, with the bulk of the distribution falling to the left. The kurtosis was 19.000, which indicates a peak in the distribution. These results suggest that most of the participants understood that antelope hunting is illegal in the park.

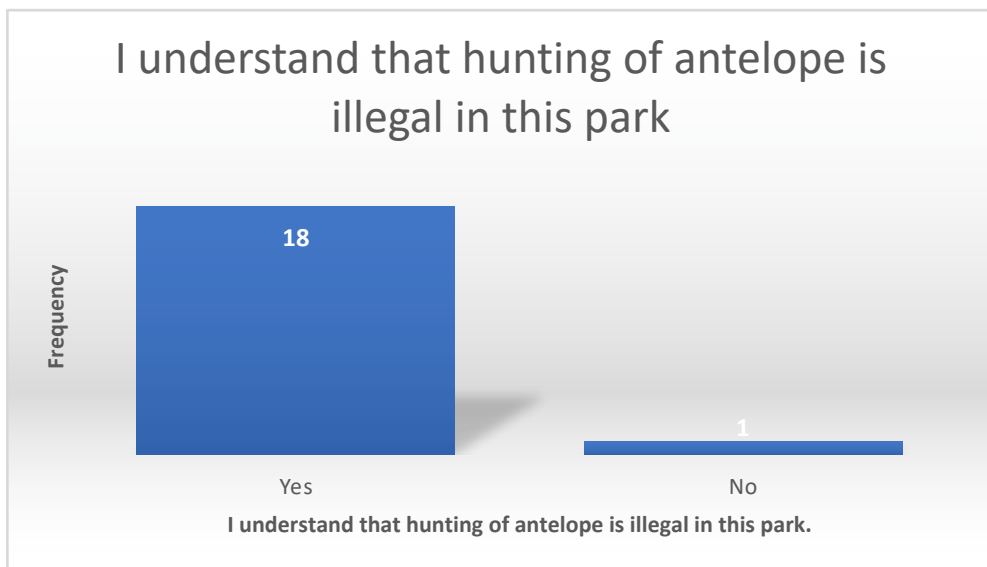


Figure 43: Answers to question 2

From Figure 44, 94.7% (18) of the participants agreed that the hunting of antelope must be illegal in the Maloti-Drakensberg Park, and 5.3% (1) disagreed with this (n = 19). The median measure was 1.00 (yes) with a right positive skew of 4.539, with the bulk of the distribution falling to the left. The kurtosis was 19.000, which indicates a peak in the distribution. These results reveal that most of the participants agreed with antelope hunting being illegal in the park.

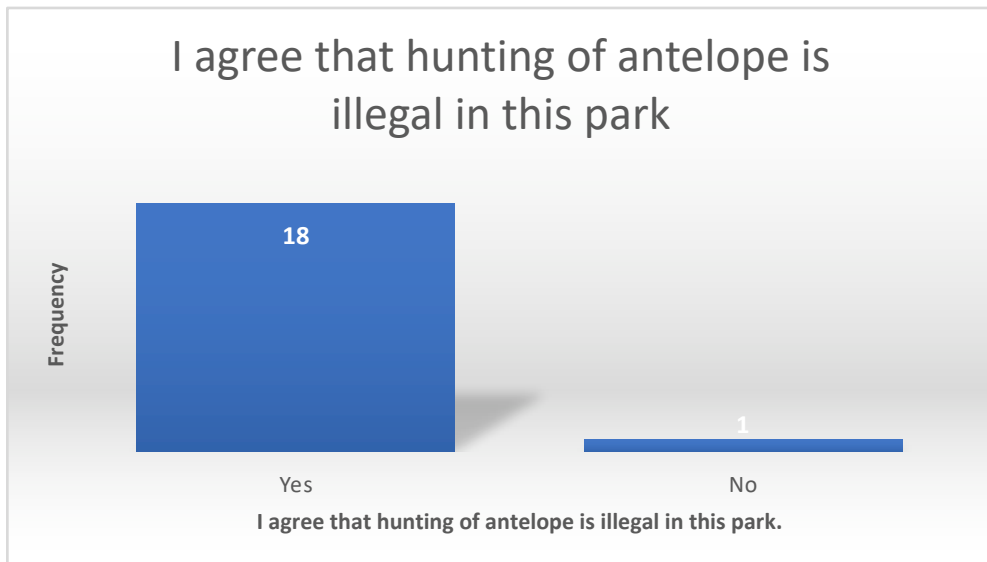


Figure 44: Answers to question 3



Figure 45: Answers to question 4

There is a significant, moderate, negative correlation between respondents' ages and thinking that illegal antelope hunting exists in this park because residents from the surrounding villages need food and money ($r = -0.574$, $N = 18$, $p < 0.0001$). This suggests that the older a participant was, the less he/she thought that poverty is the reason for the illegal hunting of antelope.

There is a significant, moderate, negative correlation between monthly income and the belief that illegal poaching of antelope exists in this park because residents from the surrounding villages need food and money ($r = -0.685$, $N = 19$, $p = 0.001$). This suggests that the more the participant earned, the less he/she thought that poverty is the cause of such illegal hunting.

From Figure 46, it is clear that there is a significant difference between participants from different occupations ($H[7] = 15.409$, $p = 0.031$) regarding beliefs about illegal antelope hunting existing in this park because residents from the surrounding villages need food and money. All of the environmental monitors, firefighters, and labour supervisors did not think that the reason for such illegal hunting is that residents from surrounding villages need food and money. Most of the participants in other occupations did think so.

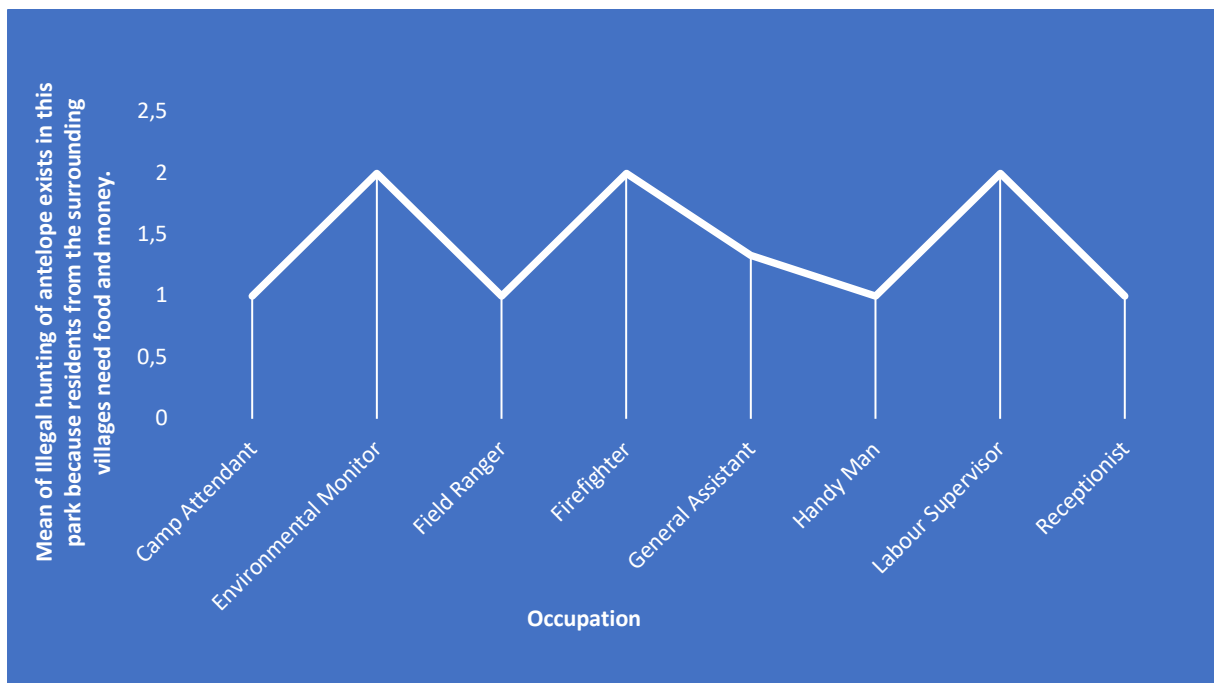


Figure 46: The mean of participants believing that illegal antelope hunting exists due to a need for food and money – categorised by occupation

Based on Figure 47, participants from different villages ($H[5] = 14.019$, $p = 0.015$) held significantly different beliefs about the illegal hunting of antelope existing in the Maloti-Drakensberg Park because residents from the surrounding villages need food and money. All the participants from Emahlutshini and Mqatsheni did not believe this, while most of the participants from other villages did.

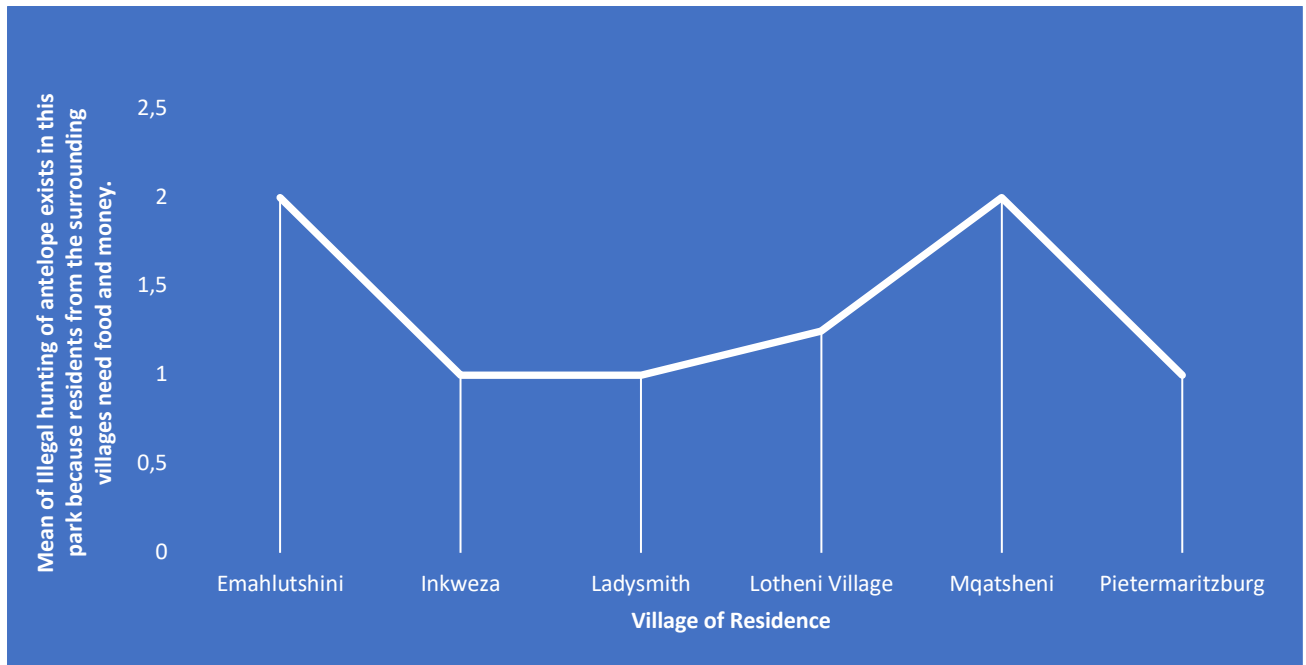


Figure 47: The mean of participants believing that illegal antelope hunting exists due to a need for food and money – categorised by village

From Figure 48, there is a significant difference between participants with different durations of occupation at the Maloti-Drakensberg Park ($H[4] = 9.521, p = 0.049$) regarding the belief that the illegal hunting of antelope exists in the park due to residents from surrounding villages needing food and money. Only eight participants who have been working at the park for more than five years thought that the above-mentioned need for food and money is the reason for such illegal hunting in the park. All of the other participants, who have been working there for less than five years, thought otherwise.

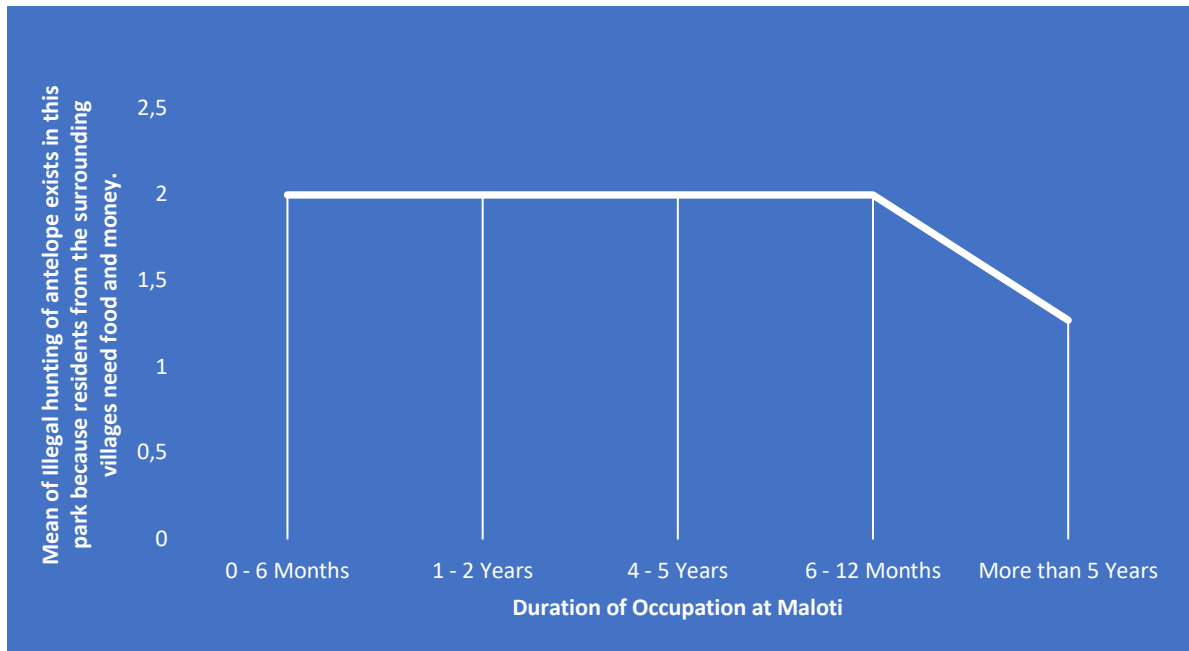


Figure 48: The mean of participants believing that illegal antelope hunting exists due to a need for food and money – categorised by duration of occupation at the park

From Figure 49, there is a significant difference in perceptions of illegal antelope hunting existing in this park because residents from surrounding villages need food and money between participants with different monthly incomes ($H[6] = 15.085$, $p = 0.020$). All the participants who earned R2 244,00, R3 498,00, and R11 246,00 did not think that the aforementioned need for food and money is the reason for the illegal hunting of antelope in the Maloti-Drakensberg Park. In contrast, most of the other participants did think so.

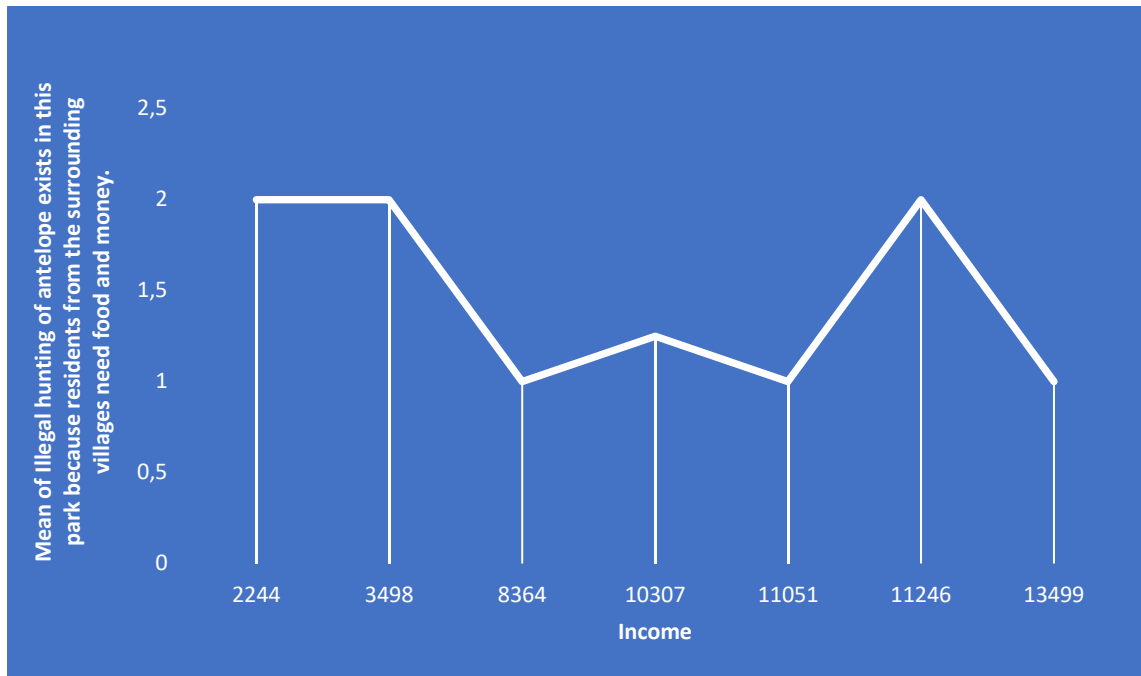


Figure 49: The mean of participants believing that illegal antelope hunting exists due to a need for food and money – categorised by monthly income

From Figure 50, 63.2% (12) of the participants denied having taken part in illegal antelope hunting in the Maloti-Drakensberg Park, and 36.8% (7) admitted to it (n = 19). The median measure was 2.00 (no) with a left negative skew of -0.593, with the bulk of the distribution falling to the right. The kurtosis was -1.856, which indicates a highly dispersed distribution. Figure 50 illustrates that most of the participants denied having ever taken part in this illegal activity in the park.

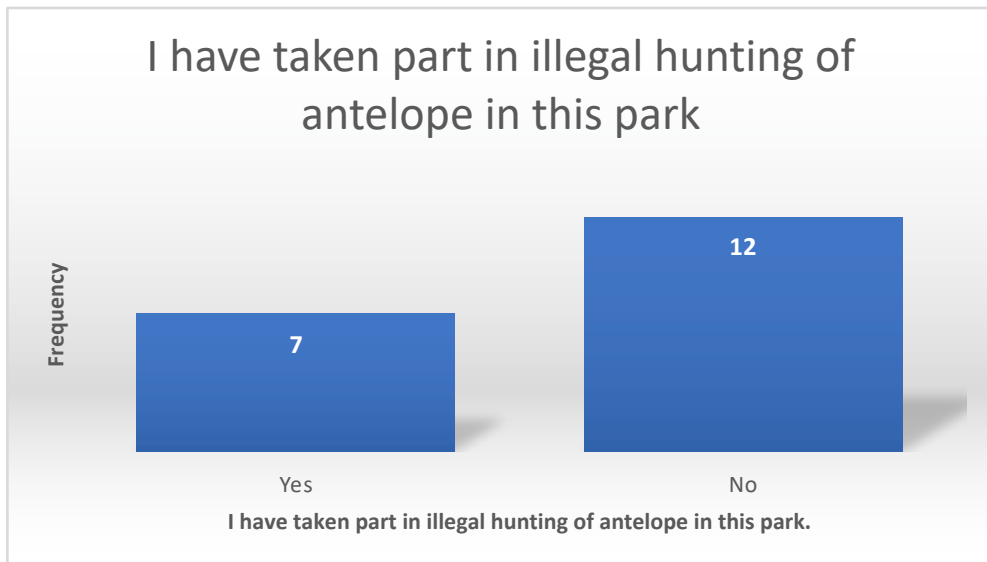


Figure 50: Answers to question 5

There is a significant, moderate to strong, negative correlation between respondents' ages and them having taken part in the illegal hunting of antelope in the park ($r = -0.709$, $N = 18$, $p < 0.0001$). This suggests that more of the older participants admitted to having taken part in such illegal hunting in the park.

Figure 51 demonstrates that there is a significant difference between participants of different ages ($H[6] = 14.351$, $p = 0.026$) in terms of them having taken part in the illegal hunting of antelope in the Maloti-Drakensberg Park. All of the participants aged between 38 and 42 years and between 53 and 57 years admitted to partaking in such illegal activities in the park. Only 1 participant aged between 3 and 37 years also admitted this; the rest of the participants denied having ever taken part.

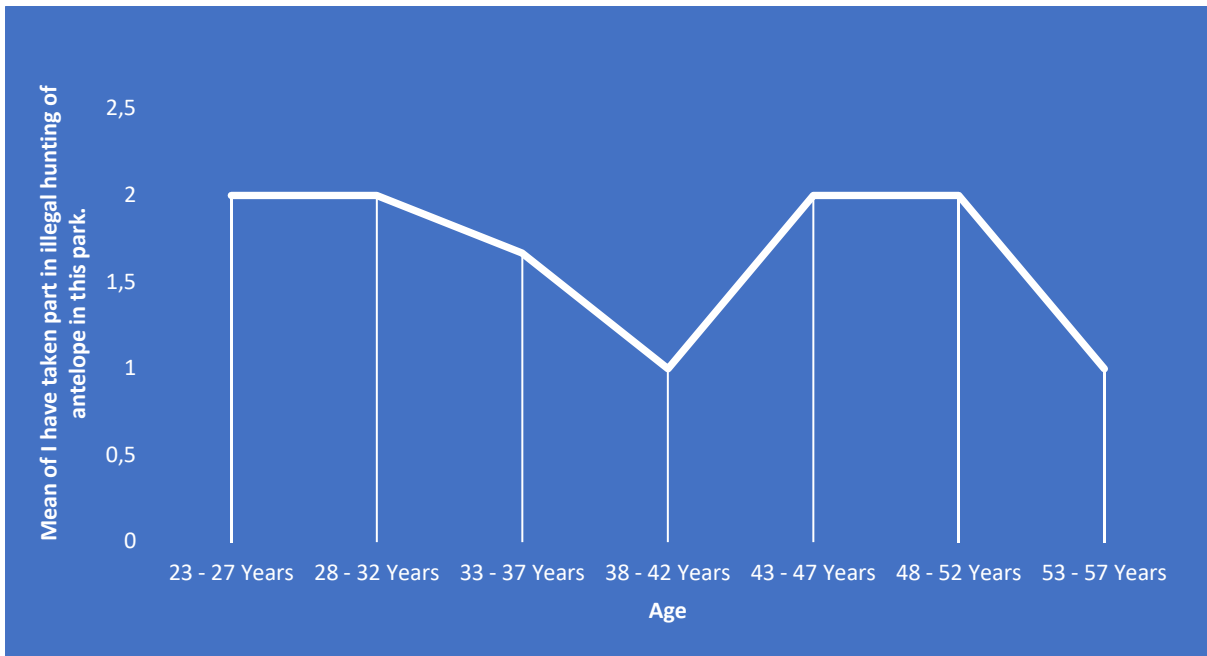


Figure 51: Interviewees' participation in illegal antelope hunting in the park – categorised by age

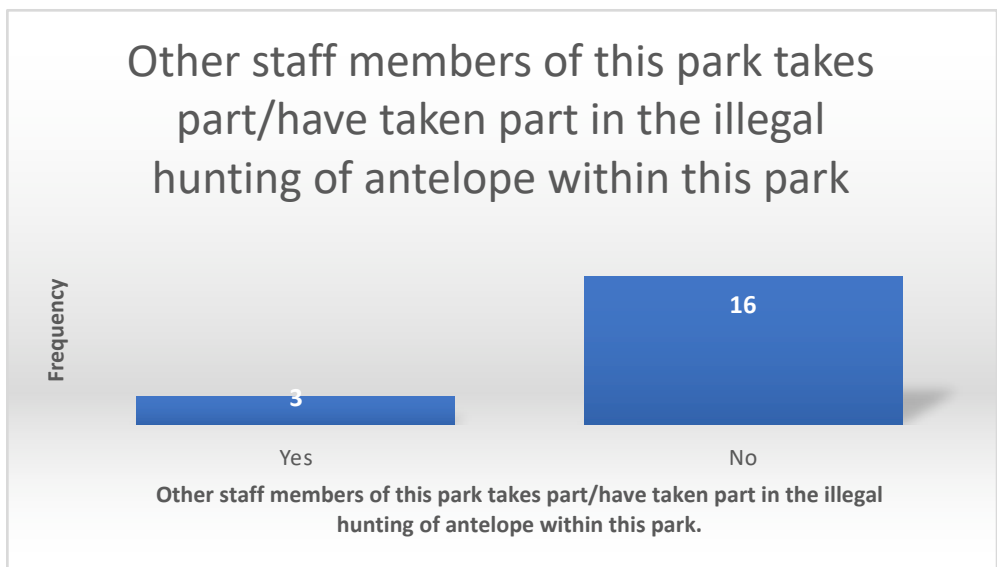


Figure 52: Answers to question 6

There is a significant, moderate, negative correlation between monthly income and other staff members taking part/having taken part in the illegal poaching of antelope within the park ($r = -0.538$, $N = 19$, $p = 0.018$). This suggests that the more the participants earned, the less they thought that other staff members from the park have partaken in the illegal hunting of antelope in the park.

From Figure 53, there is a significant difference between participants with different monthly incomes ($H[6] = 13.250, p = 0.039$) regarding their belief that other staff members of the Maloti-Drakensberg Park are taking part/have taken part in the illegal hunting of antelope within this park. All of the participants denied that other staff members from the park have done/still do this, with the exception of 2 of the participants, who earned R11 051,00, and 1 participant who earned R11 246,00.

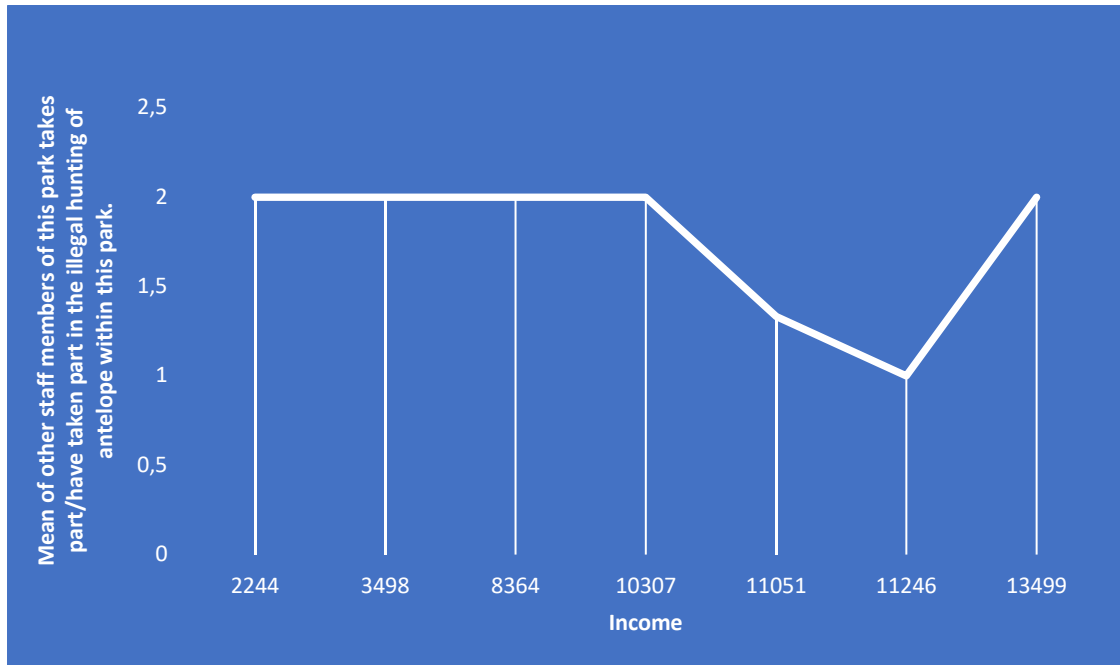


Figure 53: Number of responses regarding whether other staff members participate/d in illegal antelope hunting in the park – categorised by monthly income

4.6.3 Current Prevention Methods to Combat the Illegal Hunting of Antelope in the Maloti-Drakensberg Park

This section aims to answer the following research questions: are there methods established to combat the illegal hunting of antelope in the Maloti-Drakensberg Park, and what are these methods? As such, all items related to answering this question will be presented, followed by a summary and a presentation of the primary findings regarding the next research questions.

From Figure 54, 89.5% (17) of the participants said that there are many current prevention methods in place in the park to reduce the levels of illegal hunting of antelope, and 10.5% (2) said that there are not ($n = 19$). The median measure was 1.00 (yes) with a right positive skew

of 2.798, with the bulk of the distribution falling to the left. The kurtosis was 6.509, which indicates a peak in the distribution. Figure 54 thus illustrates that most of the participants agreed that there are various prevention methods in place.

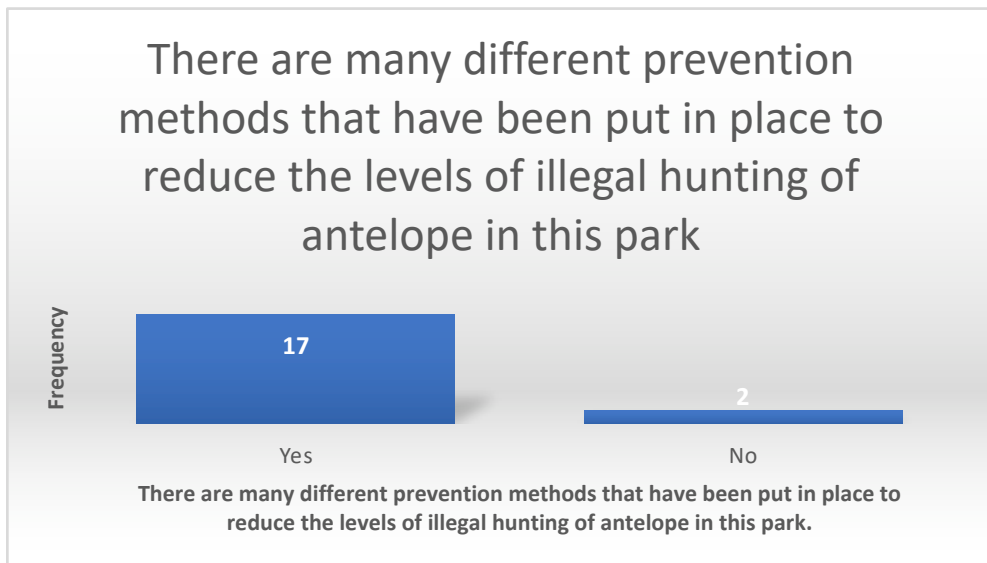


Figure 54: Answers to question 7

From Figure 55, there is a significant difference in participants' beliefs that many prevention methods exist to reduce the levels of illegal hunting of antelope in the park between those from different villages ($H[5] = 12.219, p = 0.032$). All the participants agreed that various prevention methods have been put in place, except for one participant from Inkweza and one from Pietermaritzburg.



Figure 55: The mean of participants believing that many prevention methods exist – categorised by village

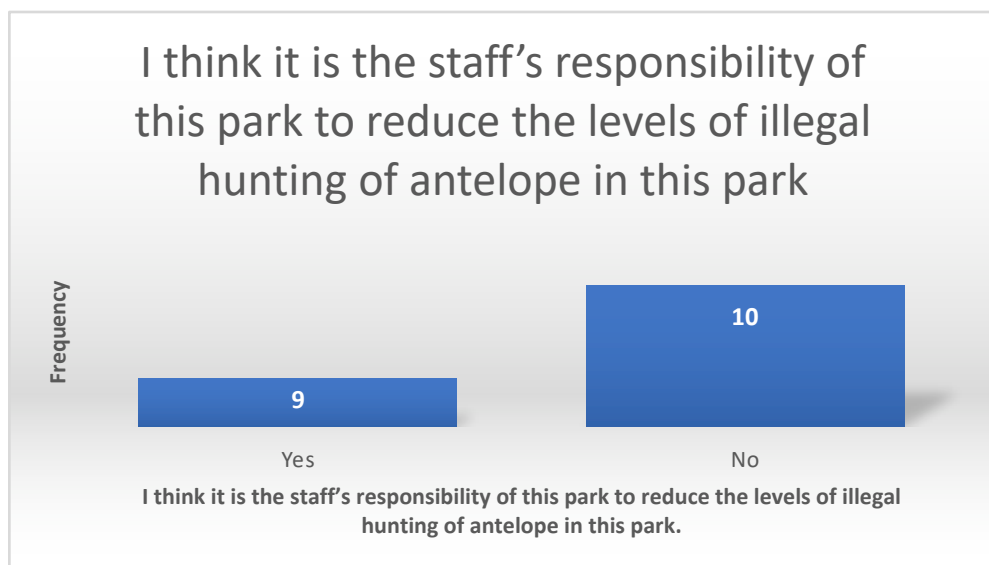


Figure 56: Answers to question 8

There is a significant, moderate, positive correlation between the duration of occupation at the Maloti-Drakensberg Park and the belief that it is the staff's responsibility to reduce the levels of illegal antelope hunting in this park ($r = -0.528$, $N = 19$, $p = 0.020$). This suggests that the longer the participant has been working at the park, the more he/she believes that the above-mentioned responsibility rests with the staff.

4.6.4 The Effectiveness of the Current Prevention Methods

This section aims to answer the following research question: are the current methods of combating the illegal hunting of antelope effective in the Maloti-Drakensberg Park? As such, all items related to answering this question will be presented first, followed by a brief summary and a presentation of the primary findings regarding the next research questions.

From Table 11, 100% (19) of the participants thought that more/other prevention methods need to be established to combat the illegal hunting of antelope in the Maloti-Drakensberg Park (n = 19). The median measure was 1.00 (yes).

Table 11: Answers to question 9

Question9 I think other prevention methods need to be established to reduce the levels of illegal hunting of antelope in this park				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19	100,0	100,0	100,0
1 Yes				

4.6.5 Cross Comparison

This section compares the findings from the resident participants and from the staff participants. Cases were weighted due to unequal sample sizes. Table 12 indicates that there was only one significant difference between the residents' and staff's answers.

Table 12: Cross comparison 1

		Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	of the Difference		
									Lower	Upper	
Question1 I have taken part/take part in the illegal poaching (hunting) of antelope in this park.	Equal variances assumed	13,824	0,001	1,957	47	0,056	0,235	0,120	-0,007	0,477	
	Equal variances not assumed			1,808	29,091	0,081	0,235	0,130	-0,031	0,501	
Question2 There are many different prevention methods that have been put in place to reduce the levels of illegal poaching of antelope in this park.	Equal variances assumed	0,335	0,565	0,286	47	0,776	0,028	0,098	-0,169	0,225	
	Equal variances not assumed			0,292	41,071	0,771	0,028	0,096	-0,166	0,222	
Question3 I think it is the staff's responsibility of this park to reduce the levels of illegal poaching of antelope in this park.	Equal variances assumed	13,419	0,001	-2,730	46	0,009	-0,354	0,130	-0,615	-0,093	
	Equal variances not assumed			-2,571	30,986	0,015	-0,354	0,138	-0,635	-0,073	
Question4 I think other prevention methods need to be established to reduce the levels of illegal poaching of antelope in this park.	Equal variances assumed	2,696	0,107	0,793	47	0,432	0,033	0,042	-0,051	0,118	
	Equal variances not assumed			1,000	29,000	0,326	0,033	0,033	-0,035	0,102	
Question5 I understand/agree that poaching of antelope is illegal in this park.	Equal variances assumed	6,924	0,012	-1,243	46	0,220	-0,053	0,042	-0,138	0,033	
	Equal variances not assumed			-1,000	18,000	0,331	-0,053	0,053	-0,163	0,058	
Question6 Other staff or community members of this park takes part/have taken part in the illegal poaching of antelope within this park.	Equal variances assumed	3,482	0,068	-0,878	47	0,384	-0,109	0,124	-0,358	0,140	
	Equal variances not assumed			-0,915	43,410	0,365	-0,109	0,119	-0,348	0,131	

With question 1, most of the participants from both groups denied having ever taken part in the illegal hunting of antelope in the park – this could be a lack of honesty as this is an extremely sensitive question. With question 2, most of the participants from both groups agreed that there were many different prevention methods that have been put in place to reduce the levels of such illegal hunting in the park. This is a good response because it demonstrates that they are aware of the problem and that they are trying to combat this crime in the park.

With question 3, most of the resident participants agreed that it was the staff's responsibility to reduce the levels of illegal antelope hunting; however, more of the staff participants did not believe it was their responsibility. This is an indication that there is a need to educate the staff that reducing the levels of illegal hunting in the park and protecting the animals are in fact their responsibilities.

With question 4, most of the participants from both groups agreed that more prevention methods need to be established to reduce the above-mentioned levels of illegal hunting in the park. This is a clear indication that different prevention methods need to be established, since the current ones are not working. With question 5, most of the participants from both groups stated that they agreed and understood that the hunting of antelope is illegal in the park. While this is a good response, there is a need to make more of the people there aware that it is illegal. Finally, with question 6, most of the participants from both groups denied that other staff or community members of this park have taken part in the illegal hunting of antelope – this could again be lack of honesty given the sensitive nature of the question, or it could be the truth, which is a good response.

From Table 13, there was a significant difference in assigning responsibility to staff to reduce the levels of illegal hunting of antelope in the park ($U = 356.000$, $p = 0.003$). The staff were more likely to answer no.

Table 13: Cross comparison 2

Test Statistics ^a						
	Question1 I have taken part/take part in the illegal poaching (hunting) of antelope in this park.	Question2 There are many different prevention methods that have been put in place to reduce the levels of illegal poaching of antelope in this park.	Question3 I think it is the staff's responsibility of this park to reduce the levels of illegal poaching of antelope in this park.	Question4 I think other prevention methods need to be established to reduce the levels of illegal poaching of antelope in this park.	Question5 I understand/agree that poaching of antelope is illegal in this park.	Question6 Other staff or community members of this park takes part/have taken part in the illegal poaching of antelope within this park.
Mann-Whitney U	436,000	554,000	356,000	551,000	522,000	508,000
Wilcoxon W	1177,000	1295,000	791,000	1292,000	957,000	973,000
Z	-2,166	-0,354	-2,945	-1,125	-1,245	-1,093
Asymp. Sig. (2-tailed)	0,030	0,723	0,003	0,260	0,213	0,274

4.6.6 Summary

Based on the data above, there was only one question where staff and residents disagreed. For the rest of the questions, they did agree and had similar answers. In the next section of this chapter, the qualitative findings from the interviews will be presented, followed by a discussion thereof.

4.7 Qualitative Findings

4.7.1 Introduction to Qualitative Findings

The objective of this section is to present, analyse, and discuss the study's primary findings. The purpose of this study was to explore the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park.

The qualitative data were collected from key informant interviews, and the findings are presented as verbatim quotations from participants. 18 participants were interviewed for the study. In keeping with the policy of anonymity discussed earlier and for reasons associated with the ethical considerations outlined in the previous chapters, individuals are not identified by name. Instead, participants are identified in numerical form: residents are labelled from 101 to 109, and staff are numbered from 201 to 209. This study conducted interviews with two

different groups, namely the staff from both Giant's Castle Game Reserve and Lotheni Nature Reserve and community members from Hlatikulu and Emahlutshini. The questions from these two groups were somewhat different; however, the findings will be discussed together.

Findings are discussed in relation to the four of the five objectives formulated in chapter one. While many of the themes overlap, the discussion has been clustered in terms of the following objectives and aims outlined in chapter one: to identify the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park, to identify the frequency/extent and nature of such illegal hunting in the park, to identify the most common method of illegal antelope hunting in the park, and to identify the methods that have been established to combat this illegal hunting.

These were further refined into the following four thematic issues reflected by the interview schedules (see annexures C and D):

1. the different reasons individuals are illegally hunting antelope in the Maloti-Drakensberg Park;
2. the frequency of antelope being illegally killed in the aforementioned park;
3. the most common methods of illegal antelope hunting in the park; and
4. the methods that have already been established to combat the illegal hunting of animals in the Maloti-Drakensberg Park, and whose responsibility it is to curb the issue.

Therefore, the study adopted a qualitative, inductive approach to the analysis, thus inductively coding themes. Thereafter, a backdrop with the literature is provided to further contextualise the findings.

4.7.2 Thematic Analysis of Data

According to Braun and Clarke (2006:6), a “thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data. It minimally organises and describes your data set in (rich) detail. However, it also often goes further than this, and interprets various aspects of the research topic”. The themes in this study could emerge from the data collected from the interviews.

4.7.3 Identification of Themes

From the inductive coding process, themes and nodes emerged from the text identified. At the same time, sub-themes and sub-nodes also emerged, and they will be incorporated into the discussion. The qualitative analysis software NVivo 10 was used for detailed observations to uncover trends and words that are similar in meaning to identify word trees and tag clouds and to form the main- and sub-themes.

4.7.4 Findings Related to Residents and Staff

4.7.4.1 The Different Reasons/Factors Contributing to the Illegal Hunting of Animals in the Maloti-Drakensberg Park

To find information pertinent to this research question, the following questions were posed to participants:

1. Do you know and understand that the killing of animals in the Maloti-Drakensberg Park is illegal?
2. What is the most common reason people illegally hunt animals in the Maloti-Drakensberg Park?
3. Do you believe that poverty contributes to the reasons people illegally hunt animals in the Maloti-Drakensberg Park?

Most of the participants from the staff and residents group agreed and understood that the killing of any animal in the Maloti-Drakensberg Park is illegal. The following responses from two of the resident participants are quoted verbatim, and no corrections have been made to the language: “*No, I don’t understand*” (105) and “*Yes, I understand and agree*” (106). The rest of the participants from that group agreed that they understood that it is illegal to kill any animal in the park.

Table 14: Participant's understanding regarding the illegality of illegal hunting

Interview	Designation = Community (9)	Designation = Park Worker (9)	Total (18)
No	1	1	2
Yes	8	9	17
Total (unique)	9	9	18

Most of the resident and staff participants thought that food and poverty are the most common reasons people illegally hunt antelope in the Maloti-Drakensberg Park. Two responses, one from a resident participant and the other from a staff participant, are as follows: *“For food for their families”* (101) and *“For food because they are unemployed and can’t afford to feed their families”* (206).

Other reasons included lack of money, lack of education and awareness, and boredom. The participant that answered money also stated that they kill the antelope and sell the meat for money. The response from a participant who cited a lack of education and awareness as the reason is as follows: *“They don’t understand that it is illegal ...”* (202).

Most of the participants highly agreed that poverty is one of the reasons the illegal hunting of antelope exists in the Maloti-Drakensberg Park, along with the reasons already mentioned above. A response from a participant confirmed this: *“Yes, definitely!”* (101).

Table 15: Respondents’ attributions regarding the existence of antelope hunting

Interview	Designation = Community (9)	Designation = Park Worker (9)	Total (18)
Boredom	1	0	1
Food	9	7	16
Lack of education and awareness	0	3	3
Money	0	1	1
Unemployment and Poverty	9	3	12
Total (unique)	9	9	18

4.7.4.2 The Frequency of Animals Being Illegally Killed in the Maloti-Drakensberg Park

To find information pertinent to this research question, participants were asked the following question:

1. As far as you know, how often do antelope get illegally hunted in the Maloti-Drakensberg Park?

Most of the participants from both groups said that antelope are not being killed often at the park. Only two participants did not know, and two of the staff participants stated that such killings occur often: *“It hasn’t happened often”* (204), *“I don’t know”* (105), and *“It has happened a lot since I started working here eleven months ago”* (203). Most of the participants either said that killings did not take place often or said they did not know.

Table 16: Participants’ responses regarding animal killings in the park

Interview	Designation = Community (9)	Designation = Park Worker (9)	Total (18)
Do not know	1	1	2
Not often	8	6	14
Often	0	2	2
Total (unique)	9	9	18

4.7.4.3 The Methods Already Established to Combat the Illegal Hunting of Animals in the Maloti-Drakensberg Park, and whose responsibility it is to curb the issue

The selected participants were asked the following questions about their perceptions of the methods that have been put in place to combat this crime. They were also asked to indicate whose responsibility they believe it is to curb the issue of the illegal hunting of antelope in the Maloti-Drakensberg Park.

1. Whose responsibility do you think it is to stop people from killing antelope in the Maloti-Drakensberg park?
2. Do you believe that this village will be willing to work in partnership with an organisation to lower the levels of poverty to ultimately stop the killing of antelope from happening?
3. Do you think the unemployed residents of this village will accept an employment opportunity?
4. What do you think can be done to reduce the killings of antelope in the Maloti-Drakensberg Park?
5. What measures are being undertaken to curb issues of these killings in the Maloti-Drakensberg Park?

All the resident participants and most of the staff participants felt that it was the community members’ responsibility to stop people from illegally hunting antelope in the park: *“The community members”* (108) and *“Everyone in the community”* (207). Most of the participants from both groups also felt that it was the park staff’s responsibility: *“The staff from the park”* (106) and *“Everyone! The staff of this park and the community members”* (202). Some of the

resident participants also felt that the police should be held responsible: *“The police, the community members, and the rangers working in the park”* (101).

Table 17: The people/entities that respondents believe are responsible for preventing illegal antelope killings

Interview	Designation = Community (9)	Designation = Park Worker (9)	Total (18)
Community Members	9	8	17
Park staff	6	8	14
Police	3	0	3
Total (unique)	9	9	18

All of the resident participants stated that they believe that their villages would be willing to work in partnership with an organisation to lower the levels of poverty to ultimately stop the killing of antelope in the Maloti-Drakensberg Park. Furthermore, all of them thought that the unemployed residents from their villages would accept an employment opportunity if one was offered to them: *“Yes”* (101, 102, 103, 104, 105, 106, 107, 108, and 109) and *“Yes, most of the community members are unemployed”* (105).

Recommendations to reduce the illegal hunting of antelope in the Maloti-Drakensberg Park included those outlined next. Some of the resident participants and most of the staff participants suggested that an increase in education, awareness, and understanding would help: *“More awareness must be raised for people that don’t know and understand that it is illegal”* (105), *“More awareness and education for the community members”* (106), *“Educating the community members that it is illegal and bad for the environment”* (201), and *“Teachings and programs for the community members. I know that most of them that don’t work in this park don’t know that it is illegal to kill animals”* (203).

More recommendations from most of the resident participants included increased park security: *“More security in the park”* (104). One last recommendation from some of the resident and staff participants was to provide more job opportunities: *“More job opportunities for the community members”* (102) and *“More employment opportunities”* (209).

Table 18: Participants' recommendations to reduce illegal antelope hunting

Interview	Designation = Community (9)	Designation = Park Worker (9)	Total (18)
Increased education, awareness and understanding	2	6	8
Increased park security	7	0	7
More job opportunities	3	3	6
Preventing boredom	0	1	1
Unemployed accept employment opportunity	9	0	9
Village partnership to alleviate poverty and killing	9	0	9
Total (unique)	9	9	18

Most of the staff participants stated that field rangers patrol the Maloti-Drakensberg Park in the evening and in the morning to combat the illegal hunting of antelope: “*Field rangers patrol the park*” (209) and “*The field rangers patrol in the morning and at night*” (202). Finally, one staff participant stated that he/she thinks that awareness is being raised in the communities.

4.7.4.4 The Most Common Method Used to Illegally Kill Animals in the Maloti-Drakensberg Park

To establish participants' opinions about the most common methods used to illegally hunt antelope in the park, the following question was asked:

1. What is the most common method used to illegally hunt animals in the Maloti-Drakensberg Park?

Most of the participants from both groups stated that dogs and homemade weapons, such as spears, were the most common methods.

Table 19: Answers regarding the most common methods for hunting antelope

Interview	Designation = Community (9)	Designation = Park Worker (9)	Total (18)
Dogs	7	8	15
Homemade spears and other weapons	8	5	13
Total (unique)	8	8	16

4.7.5 Discussion of Findings

This section presents the researcher's interpretation and discussion of the data collected during the key informant interviews with the participants. Data were interpreted with the objective of identifying the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park.

4.7.6 Interpretation of the Themes

During the analysis of the research data, several themes were identified. These themes are structured as sections in this chapter.

4.7.6.1 The Different Reasons/Factors Contributing to the Illegal Hunting of Animals in the Maloti-Drakensberg Park

Knowing the locals' different reasons people are illegally hunting antelope in the Maloti-Drakensberg Park is highly important in combating this crime in the area. Also, to establish strategies to reduce the levels of this criminal act, it is useful to determine whether people knew and understood that the killing of antelope is illegal in the park.

There were only two participants who did not understand that such killing is illegal. Although most of the participants agreed with and understood this, there is still a need for methods of educating the residents as well as the staff members working for the park about the fact that it is illegal to kill any animal in the Maloti-Drakensberg Park, not only antelope.

In addressing the questions of what the most common reason is for illegally hunting animals and whether poverty is a contributing factor, most of the participants thought that poverty and money were the two most common reasons the illegal hunting of antelope exists in the park. This is a clear indication that there is a high unemployment rate in that area and that jobs need to be established for the residents therein to combat this crime.

Other reasons the participants provided for the existence of illegal hunting in the park included a lack of money, since most of the people in that area are unemployed; a lack of education and awareness that this act is illegal; and boredom. All the reasons above suggest that there is a need for more jobs and methods of educating the residents of areas surrounding the park.

The Frequency of Animals Being Illegally Killed in the Maloti-Drakensberg Park

It is important to know how frequently antelope are killed in this area as it reveals how severe the problem is and how desperate residents are to find alternatives for food and money. In addressing this question, most of the participants stated that antelope are not being killed often at the Maloti-Drakensberg Park, and two participants stated that they did not know. This could be a lack of honesty as it contradicts their opinions about why the illegal hunting of antelope occurs in the park. The lack of honesty could be because the participants were afraid, since this is a highly sensitive topic.

Only two participants admitted that killings occur often, and both of them were staff members of the park. This number of participants – despite being small – indicates that there is in fact a problem in the park and that it needs to be addressed.

4.7.6.2 The Already Established Methods to Combat the Illegal Hunting of Antelope in the Maloti-Drakensberg Park, and whose Responsibility it Is to Curb the Issue

Knowing the methods that have already been established to combat the illegal hunting of antelope in the Maloti-Drakensberg Park is important in determining whether they are successful, and if not, it helps to establish new methods to combat this crime in the park. Furthermore, it is useful to be aware of the opinions of the staff and the community members regarding who they think is responsible for protecting the antelope.

In addressing the question of responsibility, all the resident participants and most of the staff participants felt that it was the community members' responsibility. This is a good result as it proves that the community members know that they have a responsibility. However, it also indicates that there is a need to educate them about how to protect the antelope in this park.

Most of the participants from both groups felt that it was the park staff's responsibility to protect the antelope. While this is also a good result, it also suggests that there is a need to educate all staff members to make any uncertain employees aware that it is their responsibility, whether they are rangers or not, and to educate them about how they are responsible.

With regard to the question of whether the participants believed that their respective villages would be willing to work in partnership with an organisation to ultimately stop the killing of antelope in the Maloti-Drakensberg Park, as well as the question of if they believed that the unemployed residents from their communities would accept an employment opportunity if one was given to them, all of the participants answered yes to both questions. This is a good result as it indicates a need for more employment opportunities in those villages.

In addressing the question of what the participants think can be done to reduce the killing of antelope in the Maloti-Drakensberg Park, some of the resident participants and most of the staff participants recommended an increase in education, awareness, and understanding that the killing of antelope – and all animals in the park – is illegal and that it is wrong and does not benefit the environment. This is a clear indication that there is a need and want for an organisation to step in and act.

Other recommendations included increased park security from the resident participants. This implies that the current park security is not sufficient and needs to be changed or increased. Finally, one last recommendation from both groups was to provide job opportunities. This clearly demonstrates again that there is a need to establish job opportunities for the members of these communities.

In answer to the question of what measures are being undertaken to curb the killing of antelope in the Maloti-Drakensberg Park, most of the staff participants stated that field rangers patrol the park in the evening and morning. Moreover, one staff participant stated that he/she thinks that awareness is being raised in the communities. It is thus evident that other prevention methods must be established in the park and that awareness needs to be raised in the communities.

4.7.6.3 The Most Common Method Used to Illegally Kill Animals in the Maloti-Drakensberg Park

Knowing the most common methods used by people to illegally hunt antelope in the Maloti-Drakensberg Park is important as it will also help field rangers to know what to look out for when they are patrolling the park. In addressing this question, most of the participants from both groups stated that dogs and homemade weapons are the most common methods.

4.7.7 Summary

Based on the above-mentioned information, most of the participants from both groups had the same responses to the questions asked. There were also a few recommendations from both groups to reduce the rate of unemployment, which is a clear indication that there are many people without jobs who are contributing to the illegal hunting of antelope in the park. The next section of this chapter will be a triangulation of the results from the qualitative and quantitative data.

4.8 Triangulation

This section of the chapter compares the results from the quantitative and qualitative data. Quantitative data were collected from questionnaires, and qualitative data were gathered from interviews.

Overall, most of the participants agreed and understood that killing antelope is illegal in the park. This is a good response; however, there is still a need to educate other staff and community members that the killing of any animal in the park is illegal.

While most of the participants agreed that it was the staff's responsibility to reduce the levels of illegal antelope hunting in the park, there were still a number of staff members who did not agree with this. This indicates that there is a need to educate staff that it is their responsibility to protect the animals, regardless of whether or not they are field rangers.

Most of the participants stated that there are existing prevention methods to combat the aforementioned crime. However, they also agreed that there is a need for more prevention methods as the current ones are not working.

4.9 Summary

This chapter presented the findings from both groups – first for the quantitative data and then for the qualitative data. The questions posed to the participants were presented, analysed, interpreted, and discussed in line with the legislative, policy, and theoretical frameworks that underpin this study. Based on the feedback from the participants, the most important indications are that methods are required for educating people that animal hunting is illegal in the Maloti-Drakensberg Park and that more employment opportunities need to be created. The next chapter presents a conclusion that can be derived from the foregoing discussion, followed by the overall recommendations and proposed future research paths.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the study and the conclusions drawn from the data relating to the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park. Based on the findings, recommendations are presented for how to reduce the levels of such illegal hunting.

5.2 Conclusions Pertaining to the Fulfilment of the Aims of the Study

Below is an outline of the various conclusions that can be derived from the previously described analysis of the illegal hunting of antelope in the park.

Factors Contributing to the Illegal Hunting of Antelope in the Maloti-Drakensberg Park

The first aim of the study was to identify these factors. From the analysis of both quantitative and qualitative data, it was evident that most of the participants denied having ever taken part in the hunting of antelope and that they understood and agreed that it is illegal. Most of the participants also denied that other community members and staff members take part in this crime, but this could be a lack of honesty. Most of them stated that they believed poverty is the most common reason that illegal antelope hunting exists in the park, since people from the surrounding villages need food and money. Other reasons included boredom and a lack of awareness that it is illegal.

Frequency/Extent of the Illegal Hunting of antelope in the Maloti-Drakensberg Park

From the analysis of the quantitative data, most of the participants thought that the nature and extent of illegal hunting is severe in the park. However, based on the assessment of the qualitative data, most of the respondents stated that antelope do not get killed often in the park. This could be a lack of honesty as it contradicts their opinions about why the illegal hunting of antelope occurs in the park. This lack of honesty could be because participants were afraid, since this is a highly sensitive topic.

Current Prevention Methods to Combat the Illegal Hunting of Antelope in the Maloti-Drakensberg Park, and whose Responsibility it Is to Curb the Issue

From the analysis of both the quantitative and qualitative data, it was evident that most of the participants agreed that many prevention methods are already in place to combat the illegal hunting of antelope and that the staff are responsible for combating this crime. Then, based on the analysis of the qualitative data, most of the participants from both groups agreed that it was also the community members' responsibility. However, many staff members did not agree with this.

Most of the participants believed that their villages would be willing to work with an organisation to reduce the levels of poverty to ultimately stop the illegal hunting of antelope. They also thought that the unemployed residents from those villages would accept an employment opportunity if one was offered to them. Another recommendation to curb this crime was increased park security.

The Effectiveness of the Current Prevention Methods

From the analysis of the data, most of the participants agreed that more prevention methods need to be established in the park to combat the illegal hunting of antelope. This is a clear indication that although there are current prevention methods, more need to be established.

The Most Common Methods Used to Illegally Kill Antelope in the Park

From the analysis of the data, shooting was not a common method of illegally hunting antelope. The most common methods turned out to be the use of dogs and homemade weapons.

5.3 Recommendations

The results of this study may be used as a guide, especially by the staff of the Maloti-Drakensberg Park and community members, to combat the illegal hunting of antelope. In this section, recommendations are made regarding this issue in the park.

Education and Awareness

It emerged during the interviews and questionnaires that not all the participants knew that the killing of animals – not only antelope – is illegal in the Maloti-Drakensberg Park. This calls for the staff of the park as well as the community members surrounding it to be educated about the fact that it is illegal and about the consequences if caught. One of the reasons the illegal

hunting of antelope exists in the park is because many community members did not know that it is illegal and wrong. This implies that education and awareness are necessary. In addition, there is a need to inform community members that they are also responsible for combating this crime and to explain how they can go about doing so.

Finally, with regard to responsibility, most of the staff did not believe it rested with them. This indicates that there is a need to make them aware that they — and not only the field rangers and community members — are responsible for the protection of all the animals in the park.

Employment Opportunities

The most common reason the illegal hunting of antelope exists in this park is because of poverty. Community members feel that they have no other choice but to hunt for food to provide for their families. This is a clear indication that more employment opportunities are required for unemployed residents.

After analysing the data, it was also clear that most of the participants agreed that their villages would be willing to work in partnership with an organisation to lower the levels of poverty. Furthermore, they believed that their unemployed community members would accept an employment opportunity if one was awarded to them.

Proposed Further Research Paths

In addressing the question of how frequently antelope are killed in the Maloti-Drakensberg Park, there was a difference between the participants' responses. The questionnaire answers indicated that it occurred often, whereas the interview responses suggested that it almost never happens. This calls for further investigation to determine whether there is a lack of honesty, and if there is, why. Finally, utilising a larger sample size to represent the whole population is another research recommendation.

5.4 Conclusion

This study explored and described the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park and what can be done to reduce these levels of killings. It emerged that poverty is the most common reason this activity is taking place and that more employment opportunities are required for the community members. There is also a need to educate the staff and community members that it is illegal to kill animals in the park and that they are all responsible for reducing the levels of these killings.

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ANNEXES

ANNEXURE A: SURVEY QUESTIONS – RESIDENTS OF THE SURROUNDING VILLAGE

LIKERT SCALE

Demographical Information:

For each of the Demographical Information below, tick one answer.

For occupation, please fill in what you are in one of the boxes.

For monthly income, fill in what you earn.

Level of Education:	Below Grade 7	Below grade 10	Below Grade 12	Grade 12	Tertiary				
Age Range:	18-22 Years	23-27 Years	28-32 Years	33-37 Years	38-42 Years	43-47 Years	48-52 Years	53-57 Years	57 or Older
Gender:	Male	Female							
Race:	African	Indian	Coloured	White	Other				
Country of Citizenship:	South Africa	African Country	Other						
Province of Citizenship (If South African Citizen):	KwaZulu-Natal	Eastern Cape	Western Cape	Free State	Gauteng	North West	Limpopo	Northern Cape	Mpumalanga
The Name of the Village in which you reside:									
Are you employed:	Yes	No							
Occupation (If employed):									

Monthly Income (if employed) (ZAR):									
How many family members do you support:	1	2	3	4	5	6	7	8	More than 8
Duration of resident of this village:	0-5 Years	6-10 Years	11-15 Years	16-20 Years	21-25 Years	26-30 Years	31-35 Years	36-40 Years	More than 40 Years

For each of the questions below, respond with a number in the answer column that best characterizes how you feel about the statement, where: 1 = Yes and 2 = No.

Question:	Answer:
I have taken part/take part in the illegal poaching (hunting) of antelope in this park.	
I understand that poaching of antelope is illegal in this park.	
I think the nature and extent of the illegal poaching of antelope is severe in this park.	
The most common type of poaching method used in this park is shooting.	
Poverty is the most common reason why poaching occurs in this park.	
Other members of this village take part/have taken part in the illegal poaching of antelope within this park.	
There are many different prevention methods that have been put in place to reduce the levels of illegal poaching of antelope in this park.	
I think it is the responsibility of this park's staff to reduce the levels of illegal poaching of antelope in this park.	
I think other prevention methods need to be established to reduce the levels of illegal poaching of antelope in this park.	
I believe that this village will be willing to work in partnership with an organisation to lower the levels of poverty to ultimately stop the illegal poaching from happening.	
I think the unemployed residents of this village will accept an employment opportunity if one was given to them.	

**ANNEXURE B: SURVEY QUESTIONS – STAFF OF MALOTI-DRAKENSBERG
PARK**

LIKERT SCALE

Demographical Information:

For each of the Demographical Information below, tick one answer.

For occupation, please fill in what you are in one of the boxes.

If you reside in one of the villages, please fill in which one where it asks which one.

Occupation:									
Age Range:	18-22 Years	23-27 Years	28-32 Years	33-37 Years	38-42 Years	43-47 Years	48-52 Years	53-57 Years	57 or Older
Gender:	Male	Female							
Race:	African	Indian	Coloured	White	Other				
Country of Citizenship:	South Africa	African Country	Other						
Province of Citizenship (If South African Citizen):	KwaZulu- Natal	Eastern Cape	Western Cape	Free State	Gauteng	North West	Limpopo	Northern Cape	Mpumalanga
Do you reside in one of the surrounding villages?	Yes	No							
If yes, which one:									
If yes, how long have you lived in this village?	0-5 Years	6-10 Years	11-15 Years	16-20 Years	21-25 Years	26-30 Years	31-35 Years	36-40 Years	More than 40 Years
Duration of Occupation at Maloti – Drakensberg Park:	0-6 Months	6-12 Months	1-2 Years	2-3 Years	3-4 Years	4-5 Years	More than 5 Years		
How many family members do you support:	None	1	2	3	4	5	6	7	More than 7

For each of the questions below, respond with a number in the answer column that best characterizes how you feel about the statement, where: 1 = Yes and 2 = No.

Question:	Answer:
I came to Durban for employment.	
I understand that poaching (hunting) of antelope is illegal in this park.	
I agree that poaching of antelope is illegal in this park.	
Illegal poaching of antelope exists in this park because residents from the surrounding villages need food and money.	
I have taken part in illegal poaching of antelope in this park.	
Other staff members of this park take part/have taken part in the illegal poaching of antelope within this park.	
There are many different prevention methods that have been put in place to reduce the levels of illegal poaching of antelope in this park.	
I think it is the responsibility of this park's staff to reduce the levels of illegal poaching of antelope in this park.	
I think other prevention methods need to be established to reduce the levels of illegal poaching of antelope in this park.	

ANNEXURE C: INTERVIEW QUESTIONS – RESIDENTS OF THE SURROUNDING VILLAGE

Semi-structured interview

1. Demographics:
 - a. What is your gender?
 - b. What is your nationality?
 - c. What is your age range?
 - d. What is your level of education? (below grade 12; Grade 12; Tertiary)
 - e. Are you employed?
 - f. If yes, what is your occupation?
 - g. What is the name of the village that you reside in?
 - h. How long have you lived in this village? (year range)
 - i. Monthly income (ZAR)?
 - j. How many children do you support?
2. What is your understanding of illegal hunting of animals in Maloti-Drakensberg Park?
3. As far as you know, how often do animals get illegally killed in Maloti-Drakensberg Park?
4. What is the most common method used to kill animals in Maloti-Drakensberg Park?
5. What is the most common reason why people kill animals in Maloti-Drakensberg Park?
6. Do you believe that poverty contributes to the reasons why illegal hunting occurs in Maloti-Drakensberg Park?
7. Whose responsibility do you think it is to stop people from killing animals in Maloti-Drakensberg Park?
8. Do you think the staff from Maloti-Drakensberg Park also takes part in killing the animals?
9. Do you believe that this village will be willing to work in partnership with an organisation to lower the levels of poverty to ultimately stop the illegal hunting from happening?
10. Do you think the unemployed residents of this village will accept an employment opportunity if one was given to them?
11. What do you think can be done to reduce the illegal hunting of animals in the Game Reserve?
12. Is there anything more that you wish to add?

ANNEXURE D: INTERVIEW QUESTIONS- MALOTI-DRAKENSBERG PARK STAFF

Semi-structured interview

13. Demographics:

- k. Occupation
- l. Age range
- m. Gender
- n. Race

14. Is South Africa your country of citizenship?

15. Which Province are you from?

16. What motivated you to work for this park?

17. Do you understand that the killing of wildlife animals is illegal?

18. Why do you think people illegally kill animals in this park?

19. Have you ever taken part in the illegal hunting of animals in this Game Reserve?

20. Do you think other staff members of this Game Reserve takes part in the illegal hunting of animals?

21. What do you think of the nature and extent of the illegal killing of antelope in Maloti – Drakensberg Park?

22. What measures are being undertaken to curb issues of these killings in this Game Reserve?

23. What are the most common methods of illegal hunting in this Game Reserve?

24. Whose responsibility do you think it is to prevent illegal hunting in this Game Reserve?

25. What do you think can be done to reduce the levels of illegal hunting in this Game Reserve?

26. Is there anything more that you wish to add?

ANNEXURE E: CONSENT FORM FROM EZEMVELO

E 22/1



SCIENTIFIC SERVICES ECOLOGICAL ADVICE

Ezemvelo KwaZulu-Natal Wildlife
Scientific Services
1 Peter Brown Drive, Montrose
Pietermaritzburg, 3202

30 May 2017

Ms Lindie Schutte
University of KwaZulu-Natal
Criminology and Forensic Studies Discipline

Dear Ms Schutte

RE: CONFIRMATION OF PROJECT REGISTRATION

Thank you for your interest in conducting research in Ezemvelo KwaZulu-Natal Wildlife's (Ezemevelo) protected areas. We are pleased to inform you that your project, "An exploration of the factors that contribute to illegal poaching of antelope in the Maloti-Drakensberg Park in KwaZulu-Natal" has been registered, with myself as the project coordinator. Your project registration number is W/2112/05 and should be quoted on all correspondence and reports relating to the project. A vehicle display card and researcher identification card are enclosed for your use.

The Officers in Charge (OICs) of Highmoor, Giants Castle and uMkhomazi are responsible for their respective management units of the Maloti-Drakensberg Park, and have been informed of your project. Please make a point of always contacting the Officer in Charge telephonically at least 48 hrs before visiting their protected area and present yourself to them upon arrival. The Officer in Charge is responsible for security and discipline in their protected area, and researchers are expected to acquaint themselves with the local regulations before starting their work. The Community Conservation Officers (CCOs) have also been informed of your project and will assist you with the relevant contact details of authorities of the communities outside the Park. The Compliance Officer for the Park has also been given a copy of your proposal for his information and comment. Contact details for the relevant management staff within the Park have been attached.

Please ensure that you have signed an Ezemvelo Researcher Indemnity form and that you carry the vehicle display card and researcher identification card with you while you are in the Park.

The researcher may regard any data collected as their own for the purpose of completing the registered research project. However, the data may not be used to compile a permanent database without Ezemvelo authority. Two copies of the raw data (one printed and one electronic format)


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www.kznwildlife.com

collected for the project are to be supplied to Ezemvelo with the final report. Data requests from Ezemvelo need to be made on the official Data Request Form and submitted to data@kznwildlife.com. The collecting records and sample data you will be asked to submit as a condition of your project's registration is incorporated into our biodiversity database. Even if you request that this data not be distributed outside of Ezemvelo, by submitting your information you will be contributing directly to nature conservation efforts as this information forms the basis of the KwaZulu-Natal Systematic Biodiversity Conservation Plan.

As a condition of being allowed to conduct work in Ezemvelo's protected areas you will be asked for a copy of your final report/thesis. Two copies of any publications, reports or theses emanating from the project should be sent to the Ezemvelo coordinator for assessment as soon as they have been published (papers) or are in final form (reports and theses). If there are sufficient implications or applied recommendations, you may be invited to attend a field day/meeting at which these will be discussed.

Any problems that arise relating to executing the project and any proposed alterations to the project objectives, areas of activity or proposed completion dates should be discussed with the Ezemvelo coordinator. I wish you success with your project. Please contact me if you require any further assistance.

Yours Sincerely



Sonja Krüger (Dr.)
Park Ecologist: Maloti-Drakensberg Park World Heritage Site

MALOTI-DRAKENSBERG PARK CONTACT DETAILS

GIANTS CASTLE OIC – Ntombenhle Mthethwa	036 353 3727 071 570 1816	Private Bag X 7055, Escourt, 3310 Ntombenhle.Mthethwa@kznwildlife.com
HIGHMOOR OIC – Thanduxolo Nomatshila	033-2677240 (telephone) 072 1909612 033 2677240 (fax)	P.O. Box 51, Rosetta, 3301 Thanduxolo. Nomatshila@kznwildlife.com
LOTHENI OIC – Micca Khoza	033-7020061 072 8205958 (Micca Khoza)	P. O. Box 14, Himeville, 3256 Sibongiseni. Khoza@kznwildlife.com
UMKHOMAZI (202801) OIC – Micca Khoza	See above	P. O. Box 105, Nottingham Road, 3280 Sibongiseni. Khoza@kznwildlife.com
CCO SOUTH MDP WHS (uMkhomazi area) CCO – Ntombifuthi Khumalo	079 2718559 Fax to email 086 7758001	P. O. Box 115, Himeville, 3256 Ntombifuthi.Khumalo@kznwildlife.com
CCO NORTH MDP WHS (Giants Castle and Highmoor) CCO – Zandile Mtambo	036 488 1634 (telephone) 0716727769 086 697 9190 (Fax to Email)	Private Bag X01, Winterton, 3340 Zandile.Mtambo@kznwildlife.com
Compliance Officer Wayne Evans	0823216843	

ANNEXURE F: UKZN ETHICAL CLEARANCE



16 August 2017

Ms Lindie Schutte (213529402)
School of Applied Human Sciences – Criminology
Howard College Campus

Dear Ms Schutte,

Protocol reference number: HSS/1188/017M

Project title: An exploration of illegal poaching of antelope in the Maloti-Drakensberg Park, KwaZulu-Natal

Approval Notification – Expedited Application

In response to your application received on 21 July 2017, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Dr Shamla Naidoo (Deputy Chair)

/ms

Cc Supervisor: Siyanda Dlamini
Cc Academic Leader Research: Dr Jean Steyn
Cc School Administrator: Ms Ayanda Ntuli

Humanities & Social Sciences Research Ethics Committee

Dr Shenuka Singh (Chair)

Westville Campus, Govan Mbeki Building

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Website: www.ukzn.ac.za



Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville

ANNEXURE G: NORMALITY OF RESIDENT FINDINGS

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Question1 I have taken part/take part in the illegal poaching (hunting) of antelope in this park.	0,535	27	0,000	0,294	27	0,000
Question2 I understand that poaching of antelope is illegal in this park.		27			27	
Question3 I think the nature and extent of the illegal poaching of antelope is severe in this park.	0,460	27	0,000	0,549	27	0,000
Question4 The most common type of poaching method used in this park is shooting.	0,539	27	0,000	0,193	27	0,000
Question5 Poverty is the most common reason why poaching occurs in this park.	0,495	27	0,000	0,476	27	0,000
Question6 Other members of this village takes part/have taken part in the illegal poaching of antelope within this park.	0,460	27	0,000	0,549	27	0,000
Question7 There are many different prevention methods that have been put in place to reduce the levels of illegal poaching of antelope in this park.	0,511	27	0,000	0,427	27	0,000
Question8 I think it is the staff's responsibility of this park to reduce the levels of illegal poaching of antelope in this park.	0,511	27	0,000	0,427	27	0,000
Question9 I think other prevention methods need to be established to reduce the levels of illegal poaching of antelope in this park.	0,539	27	0,000	0,193	27	0,000
Question10 I believe that this village will be willing to work in partnership with an organisation to lower the levels of poverty to ultimately stop the illegal poaching from happening.	0,478	27	0,000	0,516	27	0,000
Question11 I think the unemployed residents of this village will accept an employment opportunity if one was given to them.	0,460	27	0,000	0,549	27	0,000

a. Lilliefors Significance Correction

ANNEXURE H: NORMALITY OF STAFF FINDINGS

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Question1 I came to Durban for employment.	0,482	19	0,000	0,507	19	0,000
Question2 I understand that poaching (hunting) of antelope is illegal in this park.	0,538	19	0,000	0,244	19	0,000
Question3 I agree that poaching of antelope is illegal in this park.	0,538	19	0,000	0,244	19	0,000
Question4 Illegal poaching of antelope exists in this park because residents from the surrounding villages need food and money.	0,376	19	0,000	0,633	19	0,000
Question5 I have taken part in illegal poaching of antelope in this park.	0,403	19	0,000	0,616	19	0,000
Question6 Other staff members of this park takes part/have taken part in the illegal poaching of antelope within this park.	0,505	19	0,000	0,445	19	0,000
Question7 There are many different prevention methods that have been put in place to reduce the levels of illegal poaching of antelope in this park.	0,525	19	0,000	0,362	19	0,000
Question8 I think it is the staff's responsibility of this park to reduce the levels of illegal poaching of antelope in this park.	0,348	19	0,000	0,641	19	0,000
Question9 I think other prevention methods need to be established to reduce the levels of illegal poaching of antelope in this park.		19			19	

a. Lilliefors Significance Correction

ANNEXURE I: INFORMED CONSENT FORM

School of Applied Human Science, College of
Humanities,
University of KwaZulu-Natal,
Howard College Campus,

Dear Participant

INFORMED CONSENT LETTER

My name is Lindie Schutte. I am a Criminology Masters student studying at the University of KwaZulu-Natal, Howard College Campus; South Africa.

I am interested in learning about the factors that contribute to the illegal poaching of Antelope in Maloti – Drakensberg Park in KwaZulu-Natal. To gather the information, I am interested in asking you some questions.

Please note that:

- Your confidentiality is guaranteed as your inputs will not be attributed to you in person, but reported only as a population member opinion.
- The interview may last for about 1 hour and may be split depending on your preference.
- Any information given by you cannot be used against you, and the collected data will be used for purposes of this research only.
- Data will be stored in secure storage and destroyed after 5 years.
- You have a choice to participate, not participate or stop participating in the research. You will not be penalized for taking such an action.
- The project is designed to gather information on the factors that contribute to illegal poaching of wildlife. Your involvement is purely for academic purposes only, and there are no financial benefits involved.
- If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

	willing	Not willing
Audio equipment		
Photographic equipment		
Video equipment		

I can be contacted at:

Email: lindieschutte17@gmail.com

Cell: +27 71 627 3745

My supervisor is Mr Siyanda Dlamini who is located at the Department of Criminology & Forensic Studies, Howard College campus of the University of KwaZulu-Natal.

Contact details: email: Dlaminis16@ukzn.ac.za

You may also contact the Research Office through:

P. Mohun

HSSREC Research Office,

Tel: 031 260 4557 E-mail: mohunp@ukzn.ac.za

Thank you for your contribution to this research.

ANNEXURE J: EDITING CERTIFICATE

Editing Certificate

This certificate serves to confirm that Lindie Schutte's dissertation related to the factors that contribute to the illegal hunting of antelope in the Maloti-Drakensberg Park has been edited.

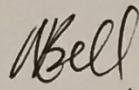
The scope of the edit was as follows:

- Language editing (correcting spelling, grammar, punctuation, consistency, flow of sentences, etc.)
- Removing repetition and redundancy
- Document structure, layout, and formatting
- Correcting and cross-checking references in the main body of the text and in the list of references

Name of Editor: Neshika Bell

Qualifications: Bachelor of Arts in Brand Communication and Bachelor of Arts in Marketing Communications

Signature:



Date Issued: 13 November 2018

The editor will not be held accountable for any later additions or changes to the document that were not edited by the editor, nor if the client rejects/ignores any of the changes, suggestions or queries, which he/she is free to do. The editor can also not be held responsible for errors in the content of the document or whether or not the client passes or fails. It is the client's responsibility to review the edited document before submitting it for evaluation.